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# INDEX OF PATENTS

ISSUED FROM

## THE UNITED STATES PATENT OFFICE

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# 1963



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<sup>1</sup> Includes 7 patents withdrawn.

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## LIST OF PATENTEEES

This list includes reissue patentees

Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

### Errata

Previous Edition

In the "Index of Patents," vol. 1962, p. 180, under "Chemetals Corp." strike out "Baer, Robert A., Slattery, and Tripp. 3,030,494." and "Beverly, Henry W. 3,019,110." and insert the same under "Chemetron Corp.," same p. 180.

In the "Index of Patents," vol. 1962, p. 784, under "P-M Associates" strike out "Castel, Jacques H., and Edwards. 3,068,400.," and "Jaassen, Hermann. 3,068,401." and insert the same under "PGAC Development Co.," same p. 784.

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- Abildgaard, William H., to Plastomeric Products Corp. Plastic glove. 3,094,704, 6-25-63, Cl. 2-167.
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Manchester, Donald F., Hossain, Gilwood, and Mindler. 3,083,078.
- Abitibi Power & Paper Co., Ltd.: *See*—  
Stokes, Joseph L., and Yan. 3,115,431.
- Abkowitz, Stanley: *See*—  
Dickinson, Clayton D., Abkowitz, and Nylen. 3,114,632.
- Abkowitz, Stanley, and R. A. Woodall, to Special Metals, Inc. Hot workable nickel base alloy. 3,107,167, 10-15-63, Cl. 75-171.
- Able Container Co., The: *See*—  
Imielinski, Alan S. 3,101,652.
- Able, Edward T., to B. K. Sweeney Mfg. Co. Torque wrench. 3,076,362, 2-5-63, Cl. 81-52.4.
- Abolins, Andrew: *See*—  
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- Abos, Ralph L., and B. H. Hadley. Diaphragm valve. 3,083,941, 4-2-63, Cl. 251-46.
- Abplanalp, Hans, Jr. Brake for coffin-lowering apparatus. 3,095,066, 6-25-63, Cl. 188-97.
- Abplanalp, Robert H. Method of and apparatus for dispensing aerosol materials. 3,113,698, 12-10-63, Cl. 222-1.
- Abplanalp, Robert H., and J. R. Focht, to Precision Valve Corp. Valve buttons for pressurized dispensers and dies for making the same. 3,083,917, 4-2-63, Cl. 239-468.
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- Abraham, Bernard M., to United States of America, Atomic Energy Commission. Tritium production by neutron irradiation of aluminum-lithium alloys. 3,100,184, 8-6-63, Cl. 204-154.2.
- Abraham, Edward D., to The Osborn Mfg. Co. Blow and squeeze molding machine and method of molding. 3,089,206, 5-14-63, Cl. 22-36.
- Abraham, Edward P.: *See*—  
Florey, Howard W., Abraham, Newton, Burton, Kelly, Hale, and Miller. 3,094,527.
- Abraham, Edward P., and G. G. F. Newton, to National Research Development Corp. Cephalosporin C. 3,093,638, 6-11-63, Cl. 260-243.
- Abraham, George. Multistable circuit employing devices in cascade connection to produce a composite voltage-current characteristic with a plurality of negative resistance regions. 3,089,039, 5-7-63, Cl. 307-88.5.
- Abraham, Leonard G., to Bell Telephone Laboratories, Inc. Line protection in radio relay systems. 3,072,748, 1-8-63, Cl. 179-15.
- Abraham, Lothar: *See*—  
Harman, Cameron G., and Abraham. 3,071,455.
- Abramitis, Walter W.: *See*—  
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- Abramo, John G.: *See*—  
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- Abramo, John G., to Monsanto Chemical Co. Polymers of hydroxyalkyl vinylbenzyl ethers. 3,079,369, 2-26-63, Cl. 260-80.3.
- Abramo, John G., to Monsanto Chemical Co. Vinyl aromatic oxymethyl oxy compounds. 3,100,804, 8-13-63, Cl. 260-611.
- Abramo, John G., and E. C. Chapin, to Monsanto Chemical Co. Alkylene-aromatic-acetamides. 3,073,862, 1-15-63, Cl. 260-558.
- Abramo, John G., and E. C. Chapin, to Monsanto Chemical Co. Beta-cyano alkylbenzyl alcohols. 3,074,995, 1-22-63, Cl. 260-465.
- Abramo, John G., and E. C. Chapin, to Monsanto Chemical Co. Copolymers of vinylbenzyl alcohol with vinyl compound. 3,093,622, 6-11-63, Cl. 260-85.5.
- Abramo, John G., and E. C. Chapin, to Monsanto Chemical Co. Alpha-cyanoalkyl-aromatic-methyl compounds and their production. 3,093,676, 6-11-63, Cl. 260-465.
- Abramopoulos, John. Combined positive displacement engine and positive displacement rotary compressor apparatus. 3,101,888, 8-27-63, Cl. 230-22.
- Abramowicz, Maurice S. Lubricant dispenser for attachment to a sewing machine. 3,109,398, 11-5-63, Cl. 112-218.
- Abramowitz, William L.: *See*—  
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Tatel, Howard E. 3,091,765.
- Abramowski, Hans J., to Khoury Bros., Inc. Furniture fastening device. 3,114,460, 12-17-63, Cl. 211-134.
- Abrams, Daniel, and A. Vachitis, to Gulton Industries, Inc. Potentiometer correction circuit. 3,106,686, 10-8-63, Cl. 330-87.
- Abrams, Harry J.: *See*—  
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- Abrams, Herbert C. Power cylinder and control unit. 3,106,870, 10-15-63, Cl. 91-26.
- Abrams, Jack, to The Concepts Co. Locking device for shopping carts. 3,090,470, 5-21-63, Cl. 188-110.
- Abrams, Philip J.: *See*—  
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- Abrams, Ralph, to Cable Electric Products, Inc. Time lag fuses. 3,089,012, 5-7-63, Cl. 200-123.
- Abrams, Ralph, to Cable Electric Products, Inc. Night light with swivel electrical connector. 3,092,695, 6-4-63, Cl. 200-51.
- Abrams, Ryman, to Thomases & Co. Brief case fastener. 3,078,896, 2-26-63, Cl. 150-1.6.
- Abrams, Victor R. Winter front for automotive radiators. 3,095,147, 6-25-63, Cl. 236-35.2.
- Abramson, Abraham, to Raylite Electric Corp. Decorative simulated Christmas tree constructions. 3,115,435, 12-24-63, Cl. 161-24.
- Abramson, Bernard: *See*—  
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- Abramson, Bernard, N. L. Grief, and J. E. Silson, to Revlon, Inc. Aerosol composition. 3,095,355, 6-25-63, Cl. 167-54.
- Abramson, Elmer D., to Central States Paper & Bag Co. Closure bag for shot-holes. 3,106,159, 10-8-63, Cl. 102-30.



- Abramson, Nathan. Bolted open-web structural assemblies. 3,106,995, 10-15-63, Cl. 189-37.
- Abramson, Norman M., to International Business Machines Corp. Single error correcting system utilizing maximum length shift register sequences. 3,114,130, 12-10-63, Cl. 340-146.1.
- Abt, Walter, to Afco S.A. Method of making a dredger. 3,084,396, 4-9-63, Cl. 18-55.
- Acas International Ltd.: *See*—  
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- Accessory Products Co.: *See*—  
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- Acciarri, Jerry A.: *See*—  
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- Accountus, Oliver E., to Chilean Nitrate Sales Corp. Oil purification process. 3,097,157, 7-9-63, Cl. 208-182.
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- Accurate Products Co., Inc.: *See*—  
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- Ace Electronics Associates, Inc.: *See*—  
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- Ace Fastener Corp.: *See*—  
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- Ace Glass Inc.: *See*—  
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- Ace Tank and Heater Co.: *See*—  
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- Ace Tool Engineering Co., Inc.: *See*—  
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- Acetylene Cylinder Corp.: *See*—  
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- Acheson Industries, Inc.: *See*—  
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- Achilich, John H., to United States of America, Navy. Instrument lighting device. 3,077,855, 2-19-63, Cl. 116-129.
- Achorn, Glenwood B., Jr., E. R. Bokesch, E. R. Dapper, R. W. Leberz, Jr., J. L. Schwab, J. R. E. Smith, A. J. Rawson, and S. N. Metcalfe, Jr. Process for culturing organisms. 3,075,888, 1-29-63, Cl. 195-127.
- Achterberg, Arthur C., and M. B. Luckner, to Auto Specialties Mfg. Co. Lifting jack. 3,110,475, 11-12-63, Cl. 254-109.
- Achtmeyer, George B., and F. M. Potter, to Sperry Rand Corp. Winding apparatus for dynamo electric machines. 3,104,070, 9-17-63, Cl. 242-1.1.
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- Acieres de Pompey, Societe des: *See*—  
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- Acitelli, Mario A., and G. E. Blair, to Bausch & Lomb Inc. Radiation dosimetry and plastic compositions therefor. 3,102,197, 8-27-63, Cl. 250-83.
- Ackaret, Robert L., to Phillips Petroleum Co. Hot runner for molding machine. 3,095,604, 7-2-63, Cl. 18-5.
- Ackell, Joseph J., H. L. Paulding, and R. T. Yu, to Dow Jones & Co., Inc. Control system for line casting machines. 3,074,537, 1-22-63, Cl. 199-23.
- Acker, Donald S., and D. C. Blomstrom, to E. I. du Pont de Nemours and Co. Derivatives of 1,4-bismethylene cyclohexane and 1,4-bismethylene cyclohexadiene and process of preparation. 3,115,506, 12-24-63, Cl. 260-396.
- Acker Drill Co., Inc.: *See*—  
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- Acker, Ellsworth G., and M. G. Sanchez, to W. R. Grace & Co. Process for preparing fine size silica. 3,081,154, 3-12-63, 23-182.
- Acker, William L., to Acker Drill Co., Inc. Automatic chucking device for drill pipe. 3,076,245, 2-5-63, Cl. 24-263.
- Ackerman, Arthur. Apparatus for skiving abrasive bands for formation of abrasive belts therefrom. 3,090,167, 5-21-63, Cl. 51-34.
- Ackerman, Carl A.: *See*—  
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- Ackerman, Dolletta. Cosmetic applicator. 3,081,769, 3-19-63, Cl. 128-65.
- Ackerman, Dolletta M., to Pharma-Craft Corp. Liquid dispenser and applicator. Re. 25,380, 5-7-63, Cl. 15-572.
- Ackerman, Joseph F., and E. C. Haskell, to Interchemical Corp. Method of packaging beverages and containers therefor. 3,087,824, 4-30-63, Cl. 99-182.
- Ackerman, Lionel D. Coffee brewing element. 3,089,405, 5-14-63, Cl. 99-308.
- Ackerman, Mary C.: *See*—  
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- Ackerman, Nathan. Hydropneumatic feed device. 3,107,581, 10-22-63, Cl. 91-275.
- Ackermann, Franz, M. Duennenberger, and A. E. Siegrist, to Ciba Ltd. Certain benzoxazole-2-acrylic acids. 3,076,812, 2-5-63, Cl. 260-307.
- Ackermann, Guenter R., to The Atlantic Refining Co. Method for the production of isoprene. 3,105,857, 10-1-63, Cl. 260-681.
- Ackles, Robert N., to A. M. Stackhouse. Process for foaming panels in situ. 3,090,078, 5-21-63, Cl. 18-59.
- Ackles, Virgil E. Tumbling machine. 2,102,052, 8-27-63, Cl. 118-19.
- Ackroyd, Frederick O.: *See*—  
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- Acla-Werke Aktiengesellschaft: *See*—  
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- Acloque, Paul, to Compagnie de Saint-Gobain. Heat treatment of glass and product. 3,107,196, 10-15-63, Cl. 161-164.
- Acloque, Paul H., to Compagnie de Saint-Gobain. Apparatus for the optical determination of stresses. 3,082,664, 3-26-63, Cl. 88-14.
- Acme Air Appliance Co., Inc.: *See*—  
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- Acme-Hamilton Mfg. Corp., The: *See*—  
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- Acme Highway Products Corp.: *See*—  
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- Acme Homes Metal Works, Inc.: *See*—  
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- Acme Juicer Mfg. Co.: *See*—  
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- Acme Manufacturing Co., Inc.: *See*—  
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- Acme Steel Co.: *See*—  
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- Acme Visible Records, Inc.: *See*—  
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- Aconsky, Leonard: *See*—  
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- Acosta, Allan J., to The Task Corp. Flow control mechanism. 3,111,142, 11-19-63, Cl. 138-46.
- Acosta, Jorge A. Chance controlled game board. 3,111,320, 11-19-63, Cl. 273-135.
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- Acoustica Associates, Inc.: *See*—  
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- Acoustron Corp.: *See*—  
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- Aeres, Alexander D. Devices for the holding and driving of screws or like fasteners. 3,115,168, 12-24-63, Cl. 145-50.
- Acrometal Products, Inc.: *See*—  
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- Acs, Katherine and P. Exercise device comprising portable handles. 3,115,338, 12-24-63, Cl. 272-57.
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- Acton, Daniel D.: *See*—  
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- Acton, Frank J., and P. Kaye, to International Staple and Machine Co. Apparatus for centering cartons. 3,102,627, 9-3-63, Cl. 198-29.
- Acton Laboratories, Inc.: *See*—  
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- Acton, Russel D. Hydraulic power devices. 3,106,063, 10-8-63, Cl. 60-52.
- Actor, Phillip A., R. W. Semar, and J. F. Pagano, to Olin Mathieson Chemical Corp. Composition for combatting coccidiosis and method of using same. 3,087,856, 4-30-63, Cl. 167-53.1.
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- Adair, Harley J.: See—  
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- Adair, John D., to American Meter Co., Inc. Gas meter prover. 3,101,605, 8-27-63, Cl. 73-3.
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- Adam, Hermann, to Anker-Phoenix Nähmaschinen AG. Round-bobbin case for sewing machines. 3,087,447, 4-30-63, Cl. 112-231.
- Adam, Howard W., to International Minerals & Chemical Corp. Wet beneficiating of phosphate ores. 3,099,620, 7-30-63, Cl. 209-12.
- Adam, John N., Jr.: See—  
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- Adam, Robert G. Collapsible tow hitch. 3,105,706, 10-1-63, Cl. 280-491.
- Adamant Laboratories (Proprietary) Ltd.: See—  
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- Adams, Albert: See—  
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- Adams, Albert H.: See—  
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- Adams, Albert H., to General Electric Co. Electrical bus conductor. 3,096,131, 7-2-63, Cl. 339-22.
- Adams, Alfred B., E. Farkas, F. J. Mardulier, and D. L. Shanklin, to W. R. Grace & Co. Cement grinding aid and pack set inhibitor. 3,094,425, 6-18-63, Cl. 106-90.
- Adams, Arthur A., J. J. Arvai, L. J. Bartson, C. A. Dudzinski, H. C. Grant, and G. M. McNulty, to Ford Motor Co. Nodular iron production. 3,113,019, 12-3-63, Cl. 75-130.
- Adams, Arthur R., to Adams Rite Mfg. Co. Escutcheon mounted lock actuator handle. 3,104,906, 9-24-63, Cl. 292-336.3.
- Adams, Bert N.: See—  
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- Adams, Campbell V., to Vulcan Iron Works Inc. Power hammer. 3,096,831, 7-9-63, Cl. 173-127.
- Adams, Cecil E., to American Brake Shoe Co. Fluid pressure energy translating devices. 3,076,414, 2-5-63, Cl. 103-136.
- Adams, Cecil E., to American Brake Shoe Co. Dual direction relief or sequence type valve. 3,090,398, 5-21-63, Cl. 137-491.
- Adams, Cecil E., to American Brake Shoe Co. Rotary vane hydraulic power unit. 3,102,494, 9-3-63, Cl. 103-136.
- Adams, Charles R., to Pierce Trailer & Equipment Co. Braking arrangement for a trailer dolly. 3,101,959, 8-27-63, Cl. 280-432.
- Adams, Clarence R., to Boeing Airplane Co. High load hydrostatic bearing. 3,101,224, 8-20-63, Cl. 308-122.
- Adams, Clarence R., to The Boeing Co. Fluid bearings. 3,112,140, 11-26-63, Cl. 308-122.
- Adams, Clark E.: See—  
Corbett, Luke W., Adams, and Hamner. 3,087,887.  
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- Adams, Dennis A. W., and A. K. Sarker, to Hickson & Welch Ltd. Stilbyl-acenaphthenotriazole brighteners. 3,101,333, 8-20-63, Cl. 260-240.
- Adams, Dustin S., to E. I. du Pont de Nemours and Co. Textile. 3,102,323, 9-3-63, Cl. 28-82.
- Adams, Dustin S., to E. I. du Pont de Nemours and Co. Nubby yarns. 3,115,437, 12-24-63, Cl. 28-81.
- Adams, Elmer C., to Reynolds Oil Well Pumps, Inc. Fluid pump construction. 3,109,384, 11-5-63, Cl. 103-179.
- Adams, Elmer L.: See—  
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- Adams, Elmer L., to Owens-Illinois Glass Co. Screwless extruder with multiple speed rotating disc. 3,079,635, 5-2-63, Cl. 18-12.
- Adams, Elmer L., to Owens-Illinois Glass Co. Elimination of neck flash on blown plastic articles. 3,080,614, 3-12-63, Cl. 18-55.
- Adams, Elmer L., to Owens-Illinois Glass Co. Plastic accumulator. 3,089,192, 5-14-63, Cl. 18-30.
- Adams, Elmer L., R. O. Zeigler, and R. H. Rex, to Owens-Illinois Glass Co. Method for driving a conventional extruder by means of a hydraulic motor. 3,114,595, 12-17-63, Cl. 18-55.
- Adams Engineering Co.: See—  
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- Adams, Ernest C., Jr., and J. A. Peterson, to Miles Laboratories, Inc. Stable blood detecting composition. 3,092,463, 6-4-63, Cl. 23-253.
- Adams, Ernest C., Jr., and J. A. Peterson, to Miles Laboratories, Inc. Blood detecting composition. 3,092,464, 6-4-63, Cl. 23-253.
- Adams, Ernest C., Jr., and R. R. Smeby, to Miles Laboratories, Inc. Diagnostic test device for blood sugar. 3,092,465, 6-4-63, Cl. 23-253.
- Adams, Ernest P., to Crown Zellerbach Corp. Carton end closure. 3,104,795, 9-24-63, Cl. 229-39.
- Adams, Franklin L.: See—  
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- Adams, Frederick G., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,101,432, 8-20-63, Cl. 317-13.
- Adams, George L. Casting splashier. 3,076,284, 2-5-63, Cl. 43-43.1.
- Adams, George L., to The Salem Tool Co. Stepper type tramming support for mining equipment. 3,114,425, 12-17-63, Cl. 180-8.
- Adams, George L., and C. T. Govin, to The Salem Tool Co. Lump producing head for coal augering. 3,074,703, 1-22-63, Cl. 262-26.
- Adams, George L., and C. T. Govin, to The Salem Tool Co. Auger mining machine. 3,091,439, 5-28-63, Cl. 262-26.
- Adams, George L., and C. T. Govin, to The Salem Tool Co. Machines for simultaneously drilling and inserting pipe lines. 3,107,741, 10-22-63, Cl. 175-122.
- Adams, George M., to Union Carbide Corp. Ink comprising a methacrylate polymer and a nitroalkane solvent and vinyl chloride polymer printed therewith. 3,091,545, 5-28-63, Cl. 117-38.
- Adams, George R.: See—  
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- Adams, George R., and T. R. Cleary, to Sperry Rand Corp. Electroluminescent mark sensing. 3,092,726, 6-4-63, Cl. 250-219.
- Adams, Harold E., to Nash Engineering Co. Booster pumps. 3,080,823, 3-12-63, Cl. 103-113.
- Adams, Harold E., to Nash Engineering Co. Pumping means for distillation unit. 3,102,083, 8-27-63, Cl. 202-52.
- Adams, Harold E., to Nash Engineering Co. Combined booster pump and centrifugal separator. 3,102,491, 9-3-63, Cl. 103-113.
- Adams, Harold P.: See—  
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- Adams, Harold R. H., to The British Oxygen Co. Ltd. Die casting and moulding machine. 3,093,871, 6-18-63, Cl. 22-68.
- Adams, Howard R.: See—  
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- Adams, Inc.: See—  
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- Adams, Jack B. Traction attachments for tractors and trucks. 3,093,423, 6-11-63, Cl. 305-56.
- Adams, James E., to The Bishop and Babcock. Spacer fastener. 3,110,373, 11-12-63, Cl. 189-36.
- Adams, James H. Resistance welding apparatus. 3,076,086, 1-29-63, Cl. 219-78.
- Adams, James M.: See—  
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- Adams, John D. Liquid dispensing device and method. 3,107,031, 10-15-63, Cl. 222-1.
- Adams, John E. Stop combination control system for organs. 3,103,141, 9-10-63, Cl. 84-343.
- Adams, John M., J. E. Cummings, W. F. Dalton, and F. C. Gaudet, to International Business Machines Corp. Frame member. 3,085,664, 4-16-63, Cl. 189-34.
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- Adams, Leland J., to Walt Disney Productions. Panoramic motion picture projection apparatus. 3,107,577, 10-22-63, Cl. 88-16.6.
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- Adams, Paul R., G. B. Speen, and D. E. Brannon, to International Telephone and Telegraph Corp. Gyroscope. 3,110,187, 11-12-63, Cl. 74-5.1.



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- Adams, Ronald A. C. Process for electrolytically graining aluminum lithographic plates. 3,073,765, 1-15-63, Cl. 204—141.
- Adams, Rudolph R. Machine for uniting rod ends. 3,086,573, 4-23-63, Cl. 153—1.
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- Adams, Wayne W., to Frontier Mfg. Co. Telephone alarm device. 3,095,478, 6-25-63, Cl. 179—5.
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- Adamski, Adolph A., to General Dynamics Corp. Clickless listening and ringing key. 3,071,657, 1-1-63, Cl. 200—1.
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- Adamson, Arthur P., to General Electric Co. Measuring device and method. 3,080,876, 3-12-63, Cl. 139—9.
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- Adamson, Arthur P., and K. Berman, to General Electric Co. Rocket motor. 3,112,612, 12-3-63, Cl. 60—35.6.
- Adamson, Arthur P., and H. E. Gerlaugh, to General Electric Co. Thrust vectoring and modulating device. 3,112,616, 12-3-63, Cl. 60—35.54.
- Adamson, Bliss, Jr., to Halliburton Co. Combination projectile and shaped charge well perforating apparatus. 3,075,462, 1-29-63, Cl. 102—20.
- Adamson, Floyd E., to Westinghouse Electric Corp. Arc welding gun. 3,093,728, 6-11-63, Cl. 219—130.
- Adamson, Floyd E., and R. R. Giler, to Westinghouse Electric Corp. Arc-welding apparatus. 3,082,317, 3-19-63, Cl. 219—130.
- Adamson, Robert A. Electrically heated soldering irons. 3,093,723, 6-11-63, Cl. 219—26.
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- Adee, Lawrence E., to Continental Oil Co. Manufacture of petroleum coke. 3,116,231, 12-31-63, Cl. 208—46.
- Adee, Raymond A., and A. A. White, to Hesston Mfg. Co., Inc. Crop conditioner. 3,085,384, 4-16-63, Cl. 56—1.
- Adelaar, Hans H., to International Standard Electric Corp. Pulse delay circuit. 3,081,409, 3-12-63, Cl. 307—108.
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- Adelman, Barnett R., and H. T. Lawrence, to United Aircraft Corp. Solid propellant rocket. 3,088,273, 5-7-63, Cl. 60—35.6.
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- Adeit, Carl W. Chimney cap construction. 3,115,820, 12-31-63, Cl. 98—60.
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- Adler, Harry M. Mattresses. 3,083,380, 4-2-63, Cl. 5—345.
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Hawley, John B. 3,074,666.

Akron Standard (Engineers) Ltd.: *See*—

Goodwin, John. 3,081,959.

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Bishop, Earl L., and Pelkey. 3,081,743.

Aktieselskabet de Danske Sukkerfabrikker: *See*—

Maaløe, Johannes. 3,095,098.

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Hamberg, Holger J. E. 3,112,843.

Aktieselskabet Thomas Ths. Sabroe & Co.: *See*—

Villadsen, Vagn H. 3,099,388.

Akustische u. Kino-Gerate Gesellschaft m.b.H.: *See*—

Gorike, Rudolf. 3,082,298.

Akutowicz, Frank. Marine propulsion fin. 3,091,210, 5-28-63, Cl. 115-28.

Akwell Corp., The: *See*—

Poviace, Lawrence. 3,076,297.

Alabor, Paul. Drawing stands or the like. 3,089,275, 5-14-63, Cl. 45-131.

Aladdin Industries, Inc.: *See*—

Bramming, Carl. 3,110,408.

Greenhouse, Harold. 3,072,576.

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Comer, Marvin H. Re. 25,416.

Miles, Charlie A. 3,098,368.

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Alba-Waldensian, Inc.: *See*—

Garrou, James E. 3,097,770.

Alban, Clarence P., to W. M. Chace Co. Thermostat metal. 3,102,793, 9-3-63, Cl. 29-195.5.

Albanese, Damian, F. Beisel, Jr., J. Kearney, and E. Norton, Jr., to International Telephone and Telegraph Corp. Aircraft guiding system. 3,090,957, 5-21-63, Cl. 343-112.

Albany Felt Co.: *See*—

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Dutt, William H. 3,080,637.

Reed, Everett C. 3,074,144.

Albedyll, Joachim V.: *See*—

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Albee, Percy F., Jr., to Q-Panel Corp. Wall element. 3,077,056, 2-12-63, Cl. 50-142.

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Albers, Gus A., and E. B. Williams, Jr., to A and B Metal Mfg. Co., Inc. Jet nozzle. 3,111,179, 11-19-63, Cl. 175-393.

Albers, Teunis. Cow washing device. 3,108,574, 10-29-63, Cl. 119-159.

Albers-Schoenberg, Ernst, to Indiana General Corp. Ferrite for memory core. 3,110,876, 11-12-63, Cl. 252-62.5.

Albersheim, Walter J., to United States of America, Army. Twin target resolver. 3,089,136, 5-7-63, Cl. 343-16.

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Albert, Charles G., to Minerals Chemicals Philipp Corp. Smoking composition containing alumina and smoking unit containing same. 3,076,728, 2-5-63, Cl. 131-17.

Albert, Douglas, to Albert Air Conveyor Corp. Pneumatic conveyor for pulverant materials. 3,099,497, 7-30-63, Cl. 302-52.

Albert, Felix, to Siemens & Halske Aktiengesellschaft. Socket contact for printed circuits and the like. 3,114,586, 12-17-63, Cl. 339-17.

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Albert, Harry E., to The Firestone Tire & Rubber Co. Reaction products of a sulfur chloride and N,N'-dialkylphenylenediamines. 3,100,765, 8-13-63, Cl. 260-132.

Albert, James L. Baseball practice device. 3,086,775, 4-23-63, Cl. 273-26.

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Alberts, Herbert, and E. W. Bernt. Flexible solid strip type zipper made from plastic. 3,072,991, 1-15-63, Cl. 24-205.13.



- Alberts, Sydney S. Maternity garment. 3,080,869, 3-12-63, Cl. 128-542.
- Alberts, Thomas W., to The Sharples Corp. Process for the recovery of protein solids from animal fat. 3,078,165, 2-19-63, Cl. 99-18.
- Albertson, Charles P., and W. E. Strittmatter, to Grumman Aircraft Engineering Corp. Method for testing fluids for particle contamination. 3,093,998, 6-18-63, Cl. 73-61.
- Albertson & Co., Inc.: See—  
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- Albertson, Jonathan Y., L. H. Lange, L. E. Lord, R. Schempp, and J. W. Steck, to FMC Corp. Box-wrapping system for loose-wrap work. 3,086,428, 4-23-63, Cl. 93-54.
- Albertson, Noel F., to Sterling Drug Inc. Esters of benzyloxy-carbonylaminoacyanoacetic acid and process. 3,102,132, 8-27-63, Cl. 260-465.
- Albertson, William C., Jr., to Erie Mop and Wringer Co. Mop. 3,090,059, 5-21-63, Cl. 15-119.
- Albertson, William C., Jr., to The Mosaic Tile Co. Method and apparatus for sorting objects by size. 3,106,293, 10-8-63, Cl. 209-91.
- Albani, Lido, to Korris Products, Inc. Toy construction. 3,082,569, 3-26-63, Cl. 46-17.
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- Albiez, Manfred, to Hoffman Maschinen G.m.b.H., Firma. Garment finishing machines for ironing or pressing the curved portions of garments. 3,080,099, 3-5-63, Cl. 223-57.
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- Albrecht, Alexander J., to Brunswick Corp. Bowling ball return. 3,108,806, 10-29-63, Cl. 273-49.
- Albrecht, Carl F., to Gould-National Batteries, Inc. Battery terminal post and cover construction. 3,113,892, 12-10-63, Cl. 136-168.
- Albrecht, Donald. Hand held powered rotary self cleaning brush with suction means. 3,079,627, 3-5-63, Cl. 15-344.
- Albrecht, Hans J., and F. E. Allen, to Casco Products Corp. Heat-resistant flash chamber coatings and method for applying same. 3,101,561, 8-27-63, Cl. 38-77.
- Albrecht, Harold J., to Radio Corp. of America. Electron tube grid and method of making. 3,101,100, 8-20-63, Cl. 140-71.5.
- Albrecht, Howard W.: See—  
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- Walkup, Lewis E., and Albrecht. 3,109,367.
- Albrecht, Joseph A. Recessed wall cabinet. 3,095,249, 6-25-63, Cl. 312-242.
- Albrecht, Paul H. Pier. 3,094,848, 6-25-63, Cl. 61-48.
- Albrecht, Ransom C., and E. G. Heyl, to Crown Cork & Seal Co., Inc. Impact extrusion process for making collapsible tubes and preform for use therein. 3,074,115, 1-22-63, Cl. 18-55.
- Albrecht, Robert J.: See—  
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- Albrecht, Rudolf: See—  
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- Albrecht, William J., and E. S. Minard, to Chemetron Corp. Valve control mechanism for receptacle filling machines. 3,073,359, 1-15-63, Cl. 141-142.
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- Albright, Charles J. Broiler. 3,087,418, 4-30-63, Cl. 99-386.
- Albright, Clayton M., Jr., and A. W. Larchar, to E. I. du Pont de Nemours and Co. Spray method for making metallic flake pigmented films. 3,073,719, 1-15-63, Cl. 117-105.
- Albright, Henry J., to The Vendo Co. Article ejection mechanism for vending machines. 3,102,663, 9-3-63, Cl. 221-275.
- Albright, James C.: See—  
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- Sutton, Earl W., and Albright. 3,115,602.
- Albright, James C., E. W. Sutton, D. J. Timko, and B. F. Bohor, to Continental Oil Co. Electrical well logging device. 3,075,142, 1-22-63, Cl. 324-1.
- Albright, John D.: See—  
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- Albright, John R.: See—  
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- Albright, John R., to Roper Hydraulics, Inc. Apparatus for extruding plastic materials. 3,105,268, 10-1-63, Cl. 18-12.
- Albright, John W., and E. E. Bianco, to General Electric Co. Bus duct connection. 3,096,391, 7-2-63, Cl. 174-18.
- Albright, William R., and H. F. Szczepanski. Layout gauge. 3,096,586, 7-9-63, Cl. 33-26.
- Albright & Wilson Ltd.: See—  
Coates, Harold, and Chalkley. 3,096,201.
- Albrighton, Reginald F., and W. R. Smith, to General Signal Corp. Air traffic control system. 3,110,006, 11-5-63, Cl. 340-23.
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- Albro, Lewis P.: See—  
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- Zenitz, Bernard L., and Albro. 3,082,208.
- Zenitz, Bernard L., and Albro. 3,094,526.
- Alburger, James R. Apparatus for the measurement of fluorescent tracer sensitivity. 3,107,298, 10-15-63, Cl. 250-71.
- Alburn, Harvey E., to American Home Products Corp. Alginic acid methyl ester sulfates, preparation and molecular weight fractionation thereof. 3,115,488, 12-24-63, Cl. 260-209.6.
- Alcalde, Raul. Can stamping machine. 3,071,068, 1-1-63, Cl. 101-44.
- Alcan Co., Inc.: See—  
Clark, Homer E., Jr. 3,088,405.
- Clark, Homer E., Jr. 3,095,817.
- Alcaro, Francis A. Flexible coupling and method of manufacture. 3,071,942, 1-8-63, Cl. 64-15.
- Alco Products, Inc.: See—  
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- Tilney, Ralph B. 3,103,795.
- Tilney, Ralph B., and Schenk. 3,111,816.
- Alcolac Chemical Corp.: See—  
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- Alcorn, Robert L., Jr., to Chambersburg Engineering Co. Ram construction. 3,080,778, 3-12-63, Cl. 78-43.
- Aldag, Howard W., to The Bendix Corp. Turbine control. 3,075,742, 1-29-63, Cl. 253-59.
- Alden, Anders G. L.: See—  
Hallgren, Carl T. M., and Alden. 3,101,787.
- Alden Research Foundation: See—  
Cross, Edward D. Re. 25,468.
- Alder, James E., and Pecina, to Abbott Laboratories. Polypropylene film package. 3,107,784, 10-22-63, Cl. 206-63.2.
- Alderfer, Sterling W. Fastener for adjacent surfaces. 3,102,314, 9-3-63, Cl. 24-204.
- Alderfer, Sterling W. Magnetically adherent resilient articles. 3,111,728, 11-26-63, Cl. 20-69.
- Alderfer, Sterling W. Process for making magnetic faced foam articles. 3,112,163, 11-26-63, Cl. 18-59.
- Alderman, Frank E., and N. D. Whitman, Jr. Expansion joint unit and method of installing the same. 3,073,065, 1-15-63, Cl. 50-80.
- Alderman, Harry M., to Burlington Rerailers, Inc. Railroad car replacer. 3,112,711, 12-3-63, Cl. 104-272.
- Alderman, Robert E., to The Singer Mfg. Co. Rotary solenoid actuated switches. 3,097,278, 7-9-63, Cl. 200-105.
- Alderson, Geoffrey W.: See—  
Yeo, Alan A., Hambling, and Alderson. 3,084,206.
- Alderson, Richard O.: See—  
Eckey, Eddy W., and Alderson. 3,093,481.
- Alderson, Ross C., to Minneapolis-Honeywell Regulator Co. Adjustable apparatus for attitude stabilization of aircraft. 3,072,369, 1-8-63, Cl. 244-77.
- Alderson, Thomas, and R. V. Lindsey, Jr., to E. I. du Pont de Nemours and Co. Process for producing alkanediols. 3,081,357, 3-12-63, Cl. 260-635.
- Aldersvil Corp.: See—  
Casanave, Jean C. 3,094,755.
- Aldington, Elmer T., to American Can Co. Reinforced container closure. 3,109,575, 11-5-63, Cl. 229-43.
- Aldous, Arnold V., to The Automatic Electrical Control Co. Ltd. Rotary cams and electric switches incorporating such cams. 3,104,298, 9-17-63, Cl. 200-153.
- Aldredge, Howard D. and R. L., to Container Service Co. Material handling device. 3,085,702, 4-16-63, Cl. 214-302.
- Aldredge, Howard D. and R. L., to Container Service Co., Inc. Latch mechanism. 3,094,236, 6-18-63, Cl. 217-60.
- Aldredge, Howard L.: See—  
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- Aldredge, Robert L.: See—  
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- Aldrich, Adelbert, R. Schwarz, Jr., and W. H. Gottschalk, to Falcon Plastic Products. Plastic ware for scientific use. 3,097,070, 7-9-63, Cl. 23-253.
- Aldrich, Barry I., R. Frew, J. R. Miller, and P. C. Rayner, to The Colonial Sugar Refining Co. Ltd. Extracting sucrose from sugar cane. 3,107,605, 10-22-63, Cl. 100-75.
- Aldrich, Lewis C., Jr.: See—  
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- Hunter, Edward A., and Aldridge. 3,082,267.
- Hunter, Edward A., and Aldridge. 3,102,150.
- Aldridge, Clyde L., to Esso Research and Engineering Co. Aldehydes synthesis. 3,091,644, 5-28-63, Cl. 260-604.
- Aldridge, Clyde L., to Esso Research and Engineering Co. Waterproofing agents and waterproofed materials. 3,112,984, 12-3-63, Cl. 8-115.5.



- Aldridge, Clyde L., and N. L. Cull, to Esso Research and Engineering Co. Preparation of oxygenated compounds. 3,098,101, 7-16-63, Cl. 260-604.
- Aldridge, Reginald, to Slumberland Group Ltd. Feeding means for coiled springs. 3,115,990, 12-31-63, Cl. 221-95.
- Aldrin, Henry W., and A. A. H. Johnson, to Aktiebolaget Gofors. Suspension device for a track-laying vehicle. 3,111,182, 11-19-63, Cl. 180-9.54.
- Aleks, Vytant, to The Breatley Co. Portable standup type bathroom scale. 3,101,804, 8-27-63, Cl. 177-239.
- Aler, Richard P. Convertible wheel traction aid. 3,089,528, 5-14-63, Cl. 152-216.
- Aler, Richard P. Wheel traction aid. 3,089,529, 5-14-63, Cl. 152-216.
- Alessio, Louis F. Inflatable plumber's test plug with drain. 3,091,259, 5-28-63, Cl. 138-90.
- Alessio, Sergio, to Scam Instrument Corp. Annunciator system. 3,112,475, 11-26-63, Cl. 340-226.
- Alex, Max, to Sparkletts Drinking Water Corp. Water cooler. 3,088,289, 5-7-63, Cl. 62-3.
- Alexander, Ben, and J. F. Sullivan, to International Telephone and Telegraph Corp. Storage device. 3,104,377, 9-17-63, Cl. 340-173.2.
- Alexander, Bruce, R. A. Andrews, and D. R. James, to Brown Citrus Machinery Corp. Citrus juice extracting machine with flavedo-albedo separating means. 3,103,239, 9-10-63, Cl. 146-3.
- Alexander, Charles F., Jr., to Kiekhaefer Corp. Outboard propulsion unit exhaust system. 3,092,185, 6-4-63, Cl. 170-135.71.
- Alexander, Charles I., to Socony Mobil Oil Co., Inc. Recording of well logging data. 3,076,518, 2-5-63, Cl. 181-5.
- Alexander, Charles K. Hydraulic power steering apparatus. 3,084,945, 4-9-63, Cl. 277-47.
- Alexander, Donald F.: See—  
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- Alexander, Doyle L.: See—  
Scott, John N., Jr., Alexander, and Peters. 3,091,803.
- Alexander, Edwin S. Boiler furnace ash hopper seal. 3,094,953, 6-25-63, Cl. 110-171.
- Alexander, Ezra M.: See—  
Searight, Charles E., and Alexander. 3,071,480.
- Alexander, Ford I. Quick release rotary drive for well pipe. 3,092,181, 6-4-63, Cl. 166-46.
- Alexander, Frank J., and L. A. Harriman, to United States of America, Army. Prevention of off-flavors in radiation-sterilized beef. 3,093,489, 6-11-63, Cl. 99-217.
- Alexander, Frank M., and W. H. Canter, Jr., to Industrial Nucleonics Corp. Sheet profile gauging and recording system. 3,108,844, 10-29-63, Cl. 346-46.
- Alexander, Guy B., to E. I. du Pont de Nemours and Co. Ceramic material bonded to metal having refractory oxide dispersed therein. 3,110,571, 11-12-63, Cl. 29-195.
- Alexander, Guy B., and P. C. Yates, to E. I. du Pont de Nemours and Co. Process for producing a dispersion of an oxide in a metal. 3,082,084, 3-19-63, Cl. 75-206.
- Alexander, Guy B., and P. C. Yates, to E. I. du Pont de Nemours and Co. Process for dispersing a refractory metal oxide in another metal. 3,085,876, 4-16-63, Cl. 75-206.
- Alexander, Guy B., and W. H. Pasfield, to E. I. du Pont de Nemours and Co. Iron group metals having submicron particles of refractory oxides uniformly dispersed therein. 3,087,234, 4-30-63, Cl. 29-182.5.
- Alexander, Harold G. Truck loading assembly with detachable container. 3,077,278, 2-12-63, Cl. 214-517.
- Alexander, James G., P. W. Wagner, and X. L. Bean, to Morris Bean & Co. Molding composition and method. 3,074,802, 1-22-63, Cl. 106-38.3.
- Alexander, James W.: See—  
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Davis, Charles L., Alexander, and Wallace. 3,112,288.
- Alexander, John E., C. H. Comstock, Jr., R. P. Burnett, and L. B. McKinney. Perforated water jet boat hull construction. 3,076,426, 2-5-63, Cl. 115-14.
- Alexander, Lewis W., to Polymer Processes, Inc. Permanently self-aligned bearing installation. 3,115,373, 12-24-63, Cl. 308-22.
- Alexander Mfg. Co.: See—  
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- Alexander, Norman J., and H. A. Krug, to Liberty Fabrics of New York, Inc. Molded brassiere cups and method of forming them from flat interlocked fabric. 3,070,870, 1-1-63, Cl. 28-74.
- Alexander, Raymond, F. A. Schupan, and J. Abbott, to The Kendall Co. Method of severing web material at predetermined locations. 3,094,027, 6-18-63, Cl. 83-37.
- Alexander, Roy P.: See—  
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- Alexander, Roy P., and J. A. Reid, to Olin Mathieson Chemical Corp. Organoboron cyclic ketones and their preparation. 3,109,028, 10-29-63, Cl. 260-586.
- Alexander, Warren A.: See—  
Burns, Kay N., and Alexander. 3,104,469.
- Alexander, Warren A., and J. F. Bayhl, to Jersey Production Research Co. Seismic exploration. 3,088,541, 5-7-63, Cl. 181-5.
- Alexander, Warren A., and R. L. Wilcox, to Jersey Production Research Co. Automatic correction of seismic records. 3,095,552, 6-25-63, Cl. 340-15.5.
- Alexander, Warren A., and B. F. McCoy, to Jersey Production Research Co. Method for analyzing geophysical records. 3,108,248, 10-22-63, Cl. 340-15.5.
- Alexander, William G., to Ryan Transdata, Inc. Data card recording system. 3,111,887, 11-26-63, Cl. 95-1.1.
- Alexander, William G., to General Dynamics Corp. Bright display system. 3,115,075, 12-24-63, Cl. 95-1.7.
- Alexander, William O.: See—  
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- Alexanderson, Ernst F. W. Electric motor control apparatus. 3,082,367, 3-19-63, Cl. 318-347.
- Alexanderson, Howard A.: See—  
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- Alexanderson, Harald V., to Telefonaktiebolaget L M Ericsson. Code relay selector. 3,089,011, 5-7-63, Cl. 200-104.
- Alexanderson, Harald V., and A. K. Dietsch, to Ericsson, L M, Telefonaktiebolaget. Multi-contact switching device. 3,096,422, 7-2-63, Cl. 200-166.
- Alexandrovich, George, to Fairchild Recording Equipment Corp. Compensated tone arms. 3,088,742, 5-7-63, Cl. 274-23.
- Alexeff, Alexander V.: See—  
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- Alexeff, Alexander V., to Industrial Ovens, Inc. Deflection minimizing double shell heat exchanging rolls. 3,086,279, 4-23-63, Cl. 29-123.
- Alexiou, Christos G. Collapsible utility stool and the like. 3,084,896, 4-9-63, Cl. 248-431.
- Alexis, Robert W.: See—  
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- Alexis, Roger, and V. Biggi, to Compagnie Generale de Telegraphie Sans Fil. Frequency modulation systems. 3,072,864, 1-8-63, Cl. 332-19.
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- Alfano, Salvatore, to Chas. Pfizer & Co., Inc. Process for removing copper-containing iron oxide scale from metal surfaces. 3,072,502, 1-8-63, Cl. 134-3.
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- Alfieri, Giuseppe, to Marelli S.p.A., Fabbrica Italiana Magneti. Triplex compressed air distributor, particularly for vehicle pneumatic braking systems. 3,073,653, 1-15-63, Cl. 303-53.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Gear change with auxiliary pneumatic servocontrol. 3,074,291, 1-22-63, Cl. 74-335.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Pressure control device, particularly in motor vehicle installations. 3,074,382, 1-22-63, Cl. 121-38.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. System and pneumatic device for varying the chassis level of vehicles equipped with compressed air suspensions. 3,074,739, 1-22-63, Cl. 280-124.
- Alfieri, Giuseppe, to Marelli S.p.A., Fabbrica Italiana Magneti. Compressed air distributor. 3,075,814, 1-29-63, Cl. 303-53.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Air spring control valve for motor vehicles. 3,079,170, 2-26-63, Cl. 280-124.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Braking arrangement with a pair of subsequently operated brake initiating means. 3,085,835, 4-16-63, Cl. 303-53.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Failure protection plural brake valve system. 3,088,780, 5-7-63, Cl. 303-29.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Automatic relay valve means for pneumatic braking installations. 3,092,422, 6-4-63, Cl. 303-29.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Fluid actuated control mechanism for brake and similar apparatus. 3,093,115, 6-11-63, Cl. 121-38.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Pneumatic suspension device. 3,094,341, 6-18-63, Cl. 280-124.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Braking plant for a towable vehicle. 3,095,245, 6-25-63, Cl. 303-14.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Automatic relay valve apparatus for pneumatic braking installations on towed vehicles. 3,095,246, 6-25-63, Cl. 303-40.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Pneumatic device to brake or unbrake a trailer. 3,097,020, 7-9-63, Cl. 303-29.
- Alfieri, Giuseppe, to Fabbrica Italiana Magneti Marelli S.p.A. Pressure regulator for compressed air installations for motor vehicles. 3,105,517, 10-1-63, Cl. 137-540.
- Alfieri, Giuseppe, and R. Moriondo, to Fabbrica Italiana Magneti Marelli S.p.A. Servo control pneumatic clutch release apparatus with gear change follow up link valve. 3,104,742, 9-24-63, Cl. 192-3.5.
- Alfille, Lucien, to Commissariat a l'Energie Atomique. Nuclear reactor duct structure. 3,090,743, 5-21-63, Cl. 204-193.2.
- Alford, Andrew. Island antenna for installation on aircraft. 3,086,204, 4-16-63, Cl. 343-708.
- Alford, Andrew. Coaxial choke coupler. 3,089,105, 5-7-63, Cl. 333-73.



- Alford, Andrew. Wing type dipole antenna with U-shaped director. 3,114,913, 12-17-63, Cl. 343-795.
- Alford, Carl C. Chair tray. 3,097,884, 7-16-63, Cl. 297-153.
- Alford, Harvey E., and F. Veatch, to The Standard Oil Co. Light-weight structural unit. 3,086,898, 4-23-63, Cl. 154-22.
- Alfrey, Norval K.: *See*—  
Bridger, Grover L., and Alfrey. 3,111,304.
- Alfsen, Christian A., to Republic Aviation Corp. Auxiliary vehicle wheel. 3,083,063, 3-26-63, Cl. 301-38.
- Alfvén, Hannes O. G. Generation of extremely high temperature. 3,074,875, 1-22-63, Cl. 204-193.2.
- Alger, Robert G., to Acton Laboratories, Inc. Precision electrical resistors. 3,112,222, 11-26-63, Cl. 117-217.
- Algas Industries: *See*—  
Smith, Harold W., Luxon, and Cowie. 3,106,956.
- Algatt, George E., and W. G. Otto, to Western Electric Co. Inc. Apparatus for finishing and mounting terminals on lamp bulbs. 3,079,666, 3-5-63, Cl. 29-25.19.
- Algatt, George E., and W. G. Otto, to Western Electric Co., Inc. Apparatus for advancing like elongated finishing bars. 3,099,348, 7-30-63, Cl. 193-218.
- Algazi, Vidal R.: *See*—  
Roberts, Roland W., Rosa, Algazi, and Abrams. 3,080,486.
- Algemeine Kunstzude Unie N.V.: *See*—  
Smit, Hendrikus J. 3,092,955.
- Algino, Joseph M., to The Dole Valve Co. Constant flow mixing valve. 3,078,872, 2-26-63, Cl. 137-605.
- Alim Corp.: *See*—  
Quelle, Gerrit, Redfarn, and Thompson. 3,077,458.
- Alimanesiano, Constantin. Entertainment system. 3,091,661, 5-28-63, Cl. 178-6.8.
- Alis, Max. Fan attachment for sewing machines. 3,071,315, 1-1-63, Cl. 230-252.
- Alkis, Christofas: *See*—  
Capron, Nicholas J., and Alkis. 3,111,426.
- All American Engineering Co.: *See*—  
Cotton, Robert B. 3,096,055.  
Cotton, Robert B. 3,113,751.  
Walsh, Robert R. 3,111,669.
- Allan, Arthur R.: *See*—  
Self, Richard E., and Allan. 3,088,442.
- Allan, Charles G., to J. M. and S. G. Taylor. Mailbox. 3,106,335, 10-8-63, Cl. 232-17.
- Allan, David: *See*—  
Polovtseff, Boris, Allan, and Childs. 3,109,767.
- Allan, Earl E.: *See*—  
Cable, George M., Jr., and Allan. 3,088,557.
- Allan, Lionel V., to Imperial Chemical Industries Ltd. Improved free-flowing coated antimalarial salts in particulate form. 3,082,154, 3-19-63, Cl. 167-82.
- Allan, Ronald S.: *See*—  
Menkart, John H., and Allan. 3,072,635.
- Allan, William J.: *See*—  
Hubacker, Earl F., James, and Allan. 3,113,438.
- Allander, Claes, and S. Wallin, to Svenska Flaktfabriken Aktiebolaget. Guiding air-borne webs. 3,070,901, 1-1-63, Cl. 34-156.
- Allander, Claes, B. Lanne, and S. Wallin, to Aktiebolaget Svenska Flaktfabriken. Threading web material. 3,085,346, 4-16-63, Cl. 34-10.
- Allard, Eugene R.: *See*—  
Eolkin, Dave, and Allard. 3,115,433.
- Allard, Gerard A., to General Electric Co. Constant current source. 3,114,872, 12-17-63, Cl. 323-4.
- Allard, Ingrid J. C.: *See*—  
Karlstrom, Karl A. S., and Ostberg. 3,081,980.
- Karlstrom, Karl A. S., and Ostberg. 3,104,868.
- Allard Instrument Corp.: *See*—  
Skrobisch, Alfred. 3,096,594.
- Allard, Pierre J.-M. T. Retractable unloader. 3,091,353, 5-28-63, Cl. 214-89.
- Allard, Pierre J.-M. T., to Societe Francaise de Construction de Bennes Automatiques Benoto. Boring apparatus whose opening is adjustable. 3,113,629, 12-10-63, Cl. 175-238.
- Allardt, Ernst W., and A. M. De Stephen, to The Babcock & Wilcox Co. Weld inspection device support and manipulator. 3,077,768, 2-19-63, Cl. 73-67.8.
- Allaria, Eugenio, to Fabbrica Italiana Magneti Marelli S.p.A. Emergency hand control device for the raising and lowering of automobile door windows. 3,103,830, 9-17-63, Cl. 74-625.
- Allbaugh, Harold V. Method of making composite musical instrument strings. 3,099,595, 7-30-63, Cl. 156-172.
- Allbright-Nell Co., The: *See*—  
Gillman, Harold K. 3,106,744.
- Aldritt, Lawrence L. Roof ventilator. 3,101,662, 8-27-63, Cl. 98-43.
- Allegheny Ludlum Steel Corp.: *See*—  
Bills, Floyd T. 3,099,853.  
Borneman, Paul R. 3,077,397.  
Dunn, Robert F., and Baechtel. 3,092,679.  
Dyrkacz, Wasił W., Hastings, and Pitler. 3,097,092.  
Graf, Richard B. 3,111,430.  
Kneppshield, Leroy H. 3,080,783.  
Laine, Edward A. 3,087,505.  
Laine, Edward A. 3,091,844.
- Allegette, Joseph W., to General American Transportation Corp. Railway tank car dome platforms. 3,084,638, 4-9-63, Cl. 105-358.
- Allegretti, Albert J.: *See*—  
Allegretti, Joseph A. and A. J. 3,086,596.
- Allegretti, Joseph A. and A. J. Lawn trimmer and edger. 3,086,596, 4-23-63, Cl. 172-15.
- Allegrini, Aldo P.: *See*—  
Malone, Thomas S., and Allegrini. 3,079,333.
- Allegrini, Aldo P., and T. A. Cecil, to Minerals & Chemicals Philipp Corp. Sugar refining adsorbent. 3,098,045, 7-16-63, Cl. 252-455.
- Alleman, Carl E., and L. W. Adams, to Phillips Petroleum Co. Water removal from refrigeration units. 3,113,437, 12-10-63, Cl. 62-85.
- Alleman, Ray S., J. D. Baker, W. S. Daniel, and R. C. Struthers, to Electro Sonic Industries, Inc. Activation of ferroelectric elements. 3,108,211, 10-22-63, Cl. 317-262.
- Alleman, Denman K.: *See*—  
Dukes, John R., and Alleman. 3,087,061.
- Allen, Albert: *See*—  
Bowditch, Hoel L., and Allen. 3,080,561.  
Bowditch, Hoel L., and Allen. 3,105,508.
- Allen, Albert, and J. H. Ewing, to The Foxboro Co. Pneumatic pressure rectifier. 3,111,959, 11-26-63, Cl. 137-251.
- Allen, Anneke S.: *See*—  
Allen, Donald R. and A. S. 3,079,324.
- Allen, Arthur C., J. P. Magerl, B. J. Sadoff, Jr., and H. P. Wertheimer, to Stewart-Warner Corp. Speed governing systems. 3,089,501, 5-14-63, Cl. 137-53.
- Allen, Benjamin C., M. W. Mote, and A. M. Sabroff, to United Aircraft Corp. Method of making foamed metal. 3,087,807, 4-30-63, Cl. 75-20.
- Allen-Bradley Co.: *See*—  
Boysen, Gerd C. 3,096,416.  
Budny, Bernard R. 3,105,209.  
Ford, David E., Jr., and Hudson. 3,081,427.  
Moser, Joseph R., and Struger. 3,114,870.  
Schlicke, Heinz M., Rey, and Weidmann. 3,093,803.  
Walters, Robert E. 3,096,415.
- Allen, Bruce B.: *See*—  
Laughlin, Kenneth C., and Allen. 3,071,807.
- Allen, Charles F. H., and B. D. Wilson, to Eastman Kodak Co. Bis-pyrazoles as antifogants for photographic silver halide emulsions. 3,106,467, 10-8-63, Cl. 96-109.
- Allen, Charles M., R. C. Geiger, and D. A. Meeker, to The Hobart Mfg. Co. Drain and inlet hose arrangement for dishwasher. 3,092,134, 6-4-63, Cl. 137-355.17.
- Allen, Chester, Jr., and F. Berkloo, to A. O. Smith Corp. Strip winding apparatus. 3,099,190, 7-30-63, Cl. 93-80.
- Allen, Clarence B.: *See*—  
Grobe, Ralph E., and Allen. 3,077,629.
- Allen, Clayton H., and G. Körtz, to Bolt Beranek and Newman Inc. Apparatus for silencing vibrational energy. 3,113,635, 12-10-63, Cl. 181-42.
- Allen, Clifford W., and H. A. Knight, to Westinghouse Air Brake Co. Electro-pneumatic translator. 3,072,147, 1-8-63, Cl. 137-597.
- Allen, David S.: *See*—  
Whitley, Stanley, and Allen. 3,079,203.  
Whitley, Stanley, and Allen. 3,082,009.
- Allen, Donald R., to The Dow Chemical Co. Dehydration of inorganic fluoride hydrates with liquid hydrogen fluoride. 3,096,150, 7-2-63, Cl. 23-14.5.
- Allen, Donald R. and A. S., to The Dow Chemical Co. Apparatus for production of uranium. 3,079,324, 2-26-63, Cl. 204-246.
- Allen, Edward A.: *See*—  
Healy, Francis P., and Allen. 3,075,413.
- Allen, Edward L., and J. A. Moore, to Ingersoll-Rand Co. Wire cutting and insulation stripping device. 3,103,837, 9-17-63, Cl. 81-9.5.
- Allen, Edward M., and F. E. Benner, Jr., to Pittsburgh Plate Glass Co. Process for producing titanium oxide pigments. 3,105,742, 10-1-63, Cl. 23-202.
- Allen, Edwin L. Eyeball replacement buried muscle cone motility implant body with post-surgical conformer prosthesis. 3,070,808, 1-1-63, Cl. 3-13.
- Allen, Elmer A. New porphyrinic and chlorophylllic compositions and process therefor. 3,102,891, 9-3-63, Cl. 260-314.
- Allen, Elvy W. Vial holder. 3,072,362, 1-8-63, Cl. 243-35.
- Allen, Ernest L.: *See*—  
Charlton, George H., and Allen. 3,076,622.
- Allen, Frank M., F. C. Archer, and W. S. Shira, to Barber-Greene Co. Rotary impact crusher. 3,096,035, 7-2-63, Cl. 241-32.
- Allen, Frederick E.: *See*—  
Albrecht, Hans J., and Allen. 3,101,561.
- Allen, George, and D. M. Venison, to Matthew Hall & Co. Ltd. Sprinkler alarm valve. 3,098,527, 7-23-63, Cl. 169-19.
- Allen, George H. Sealing arrangement. 3,097,855, 7-16-63, Cl. 277-188.
- Allen, George J.: *See*—  
Matuszak, Alfred H., Allen, and Metro. 3,090,753.
- Allen, George R., Jr.: *See*—  
Bernstein, Seymour, and Allen. 3,111,516.
- Allen, Gerald L.: *See*—  
Harvey, George W., and Allen. 3,108,325.  
Pyle, Robert J., and Allen. 3,073,717.
- Allen, Gordon H.,  $\frac{1}{2}$  to J. L. Tremper and  $\frac{1}{2}$  to G. B. Smith. Locating elements of construction beneath the surface of earth soils. 3,115,861, 12-31-63, Cl. 116-114.



- Allen, Gordon S. J., D. H. Mawby, and D. C. Gresham, to Crosfield Electronics Ltd. Flying spot scanner color printer with color correction. 3,096,394, 7-2-63, Cl. 178-5.2.
- Allen, Gordon S. J., D. H. Mawby, and D. C. Gresham, to Crosfield Electronics Ltd. Colour printer with colour correction. 3,110,761, 11-12-63, Cl. 178-5.2.
- Allen & Hanburys Ltd.: *See*—  
Groom, Walter. 3,086,530.
- Wilkinson, George R., and Peacock. 3,086,837.
- Allen-Harper, Inc.: *See*—  
Allen, Kenneth M., and Harper. 3,080,961.
- Allen, Harry E.: *See*—  
Williams, Philip B., Allen, and Hohmann. 3,073,916.
- Allen, Harvey G., to Westinghouse Electric Corp. Centrifugal pump. 3,077,161, 2-12-63, Cl. 103-87.
- Allen, Herbert, to Rockwell Mfg. Co. Gate. 3,071,342, 1-1-63, Cl. 251-171.
- Allen, Herbert, to Cameron Iron Works, Inc. Lubricated valve. 3,080,883, 3-12-63, Cl. 137-246.13.
- Allen, Herbert, to Cameron Iron Works, Inc. Through conduit type valve apparatus. 3,95,007, 6-25-63, Cl. 137-330.
- Allen, Herbert, to Cameron Iron Works, Inc. Ram type valve apparatus. 3,102,709, 9-3-63, Cl. 251-1.
- Allen, Herbert, and M. R. Jones, to Cameron Iron Works, Inc. Wellhead equipment for suspending multiple tubing strings. 3,097,869, 7-16-63, Cl. 285-137.
- Allen, Herman C., to Bird & Son, Inc. Pallet and support station useful in pallets and the like. 3,115,105, 12-24-63, Cl. 108-56.
- Allen, Howard G., to Bostitch, Inc. Staple. 3,078,533, 2-26-63, Cl. 24-30.5.
- Allen Industries, Inc.: *See*—  
White, Marion M. 3,102,835.
- Allen Iron & Steel Co., The: *See*—  
Cassel, Harrison H. 3,072,262.
- Cassel, Harrison H., and Stoddart. 3,095,975.
- Cassel, Harrison H., and Turnicky. 3,086,659.
- Allen, James F.: *See*—  
Stange, Hugo, and Allen. 3,086,985.
- Allen, James F., and H. K. Latourette, to FMC Corp. Novel chlorinated ethyl sulfones. 3,094,455, 6-18-63, Cl. 167-22.
- Allen, James M., and B. Katz, to Empsco Co. Packaging machine. 3,106,049, 10-8-63, Cl. 53-177.
- Allen, John D., to Fawick Corp. Power steering device with symmetrical valving. 3,114,242, 12-17-63, Cl. 60-54.5.
- Allen, John D., to Fawick Corp. Demand type flow divider. 3,114,380, 12-17-63, Cl. 137-101.
- Allen, John E. Self lighting cigarette. 3,080,870, 3-12-63, Cl. 131-7.
- Allen, John G., Jr., and T. W. Rees, to Bell Aerospace Corp. Cryogenic storage and insulation means. 3,104,758, 9-24-63, Cl. 206-6.
- Allen, John W., to The Budd Co. Electromagnetic testing apparatus using an eccentrically mounted annular test coil whose axis is rotated about the workpiece axis. 3,110,860, 11-12-63, Cl. 324-37.
- Allen, John W., to Stanray Corp. Cask construction for radioactive material. 3,113,215, 12-3-63, Cl. 250-108.
- Allen, Joseph A., to Preway, Inc. Circulating hot air furnace. 3,090,374, 5-21-63, Cl. 126-110.
- Allen, Joseph B.: *See*—  
Lee, William F., and Allen. 3,106,356.
- Allen, Joseph C., to Texaco Inc. Oil well treatment to overcome water coning. 3,093,192, 6-11-63, Cl. 166-21.
- Allen, Joseph C., and H. E. Hall, Jr., to The Texas Co. Radioactive well logging. 3,100,259, 8-6-63, Cl. 250-43.5.
- Allen, Kenneth C., to The Hobart Mfg. Co. Weighing scales. 3,071,318, 1-1-63, Cl. 235-58.
- Allen, Kenneth C., to The Hobart Mfg. Co. Computing scale. 3,084,754, 4-9-63, Cl. 177-210.
- Allen, Kenneth C., to The Hobart Mfg. Co. Automatic conveyor and weighing scale system. 3,085,640, 4-16-63, Cl. 177-3.
- Allen, Kenneth C., to The Hobart Mfg. Co. Weighing scales. 3,095,054, 6-25-63, Cl. 177-3.
- Allen, Kenneth C., to The Hobart Mfg. Co. Recording scale. 3,104,806, 9-24-63, Cl. 235-58.
- Allen, Kenneth C., to The Hobart Mfg. Co. Scale comprising a multiplier for using a precomputed table and fractional multiplication. 3,109,091, 10-29-63, Cl. 235-161.
- Allen, Kenneth M., and C. H. Harper, to Allen-Harper, Inc. Reversing vibrating conveyor. 3,080,961, 3-12-63, Cl. 198-220.
- Allen, Louis B.: *See*—  
Stein, Sidney J., and Allen. 3,107,197.
- Allen, Malcolm H., H. A. Balinski, C. E. Garton, S. E. Hubbard, and I. D. Olson, to Structural Clay Products Research Foundation. Multi-story mason's corner pole and accessories therefor. 3,101,184, 8-20-63, Cl. 248-222.
- Allen, Milton J., to Ciba Corp. Certain 2(4-halophenyl) 3-pyridylbutane-diols. 3,098,077, 7-16-63, Cl. 260-297.
- Allen, Naomi B.: *See*—  
Allen, Philip S. 3,077,190.
- Allen, Oliver L., to Electrolux Corp. Flexible conduits. 3,082,289, 3-19-63, Cl. 174-47.
- Allen, Oliver L., J. T. Ferraris, W. P. Ritzau, and W. P. Vermeulen, to Electrolux Corp. Vacuum cleaner nozzles. 3,108,310, 10-29-63, Cl. 15-356.
- Allen, Philip H., and B. J. Chromy. Registers. 3,104,316, 9-17-63, Cl. 235-160.
- Allen, Philip J. Device for independent control of ellipticity and orientation of polarized electromagnetic waves. 3,089,104, 5-7-63, Cl. 333-11.
- Allen, Philip J. Polarization modulation apparatus. 3,092,828, 6-4-63, Cl. 343-5.
- Allen, Philip J. Polarimeter. 3,093,825, 6-11-63, Cl. 343-100.
- Allen, Philip J., to United States of America, Navy. Waveguide feed with septum for directional antenna. 3,109,996, 11-5-63, Cl. 333-6.
- Allen, Philip S., deceased; N. B. Allen, executrix. Solar water heating apparatus. 3,077,190, 2-12-63, Cl. 126-271.
- Allen, Ralph G., Jr. Trajectory guide. 3,086,705, 4-23-63, Cl. 235-61.5.
- Allen, Richard E., and G. M. Deegan, to Corning Glass Works. Solid delay line improvements. 3,111,741, 11-26-63, Cl. 29-25.35.
- Allen, Richard E., and A. Herczog, to Corning Glass Works. Transparent high dielectric constant material, method and electroluminescent device. 3,114,066, 12-10-63, Cl. 313-108.
- Allen, Robert C., Jr., and L. J. Mitter, to General Motors Corp. Latching means for french doors. 3,091,232, 5-28-63, Cl. 126-190.
- Allen, Robert D. Sewage treating device. 3,116,347, 12-31-63, Cl. 261-26.
- Allen, Robert E. Shooting vest. 3,105,241, 10-1-63, Cl. 2-94.
- Allen, Robert L., to Georgia Tech Research Institute. Fluid pressure responsive control mechanism. 3,073,348, 1-15-63, Cl. 137-785.
- Allen, Robert L., to Georgia Tech Research Institute. Fuel injection system. 3,077,872, 2-19-63, Cl. 123-140.
- Allen, Robert L., to Georgia Tech Research Institute. Variable volume fluid distributor. 3,079,948, 3-5-63, Cl. 137-568.
- Allen, Robert L., to Lever Brothers Ltd. Method of filling containers. 3,103,089, 9-10-63, Cl. 53-37.
- Allen, Robert L., to Georgia Tech Research Institute. Fuel injection nozzle. 3,105,640, 10-1-63, Cl. 239-453.
- Allen, Robert M., and R. J. Walton, to Pittsburgh Plate Glass Co. Calcium chloride manufacture. 3,071,816, 1-8-63, Cl. 18-47.5.
- Allen, Robert R., R. J. Bell, and R. B. Donohue, Jr., to Anderson, Clayton & Co. Shortening and agent therefor. 3,097,098, 7-9-63, Cl. 99-123.
- Allen, Robert T. Vertical coin counting tube. 3,071,243, 1-1-63, Cl. 206-84.
- Allen, Scott E., to Swingspout Measure Co. Swingspout dispenser. 3,097,674, 7-16-63, Cl. 141-366.
- Allen, Stratford B. Luminous display device. 3,080,474, 3-5-63, Cl. 240-10.1.
- Allen, Theodore L., Jr., to Varian Associates. Magnetometer apparatus. 3,090,002, 5-14-63, Cl. 324-5.
- Allen, Thomas C., Jr.: *See*—  
Lukes, George E., and Allen. 3,085,045.
- Allen, Thomas R.: *See*—  
Moss, Hovle G. Schwartz, and Allen. 3,110,182.
- Allen, W. D., Mfg. Co.: *See*—  
MacLeod, Keith, and Wendt. 3,083,750.
- Allen, William M.: *See*—  
Dalve, Johannes A., Reif, and Allen. 3,106,884.
- Allen, William R. Puppet and actuating means therefor. 3,091,890, 6-4-63, Cl. 46-126.
- Allenbach, Roy E. Timer for clinical thermometer. 3,111,004, 11-19-63, Cl. 58-144.
- Allen, Edmund R., to General American Transportation Corp. Railway hopper cars. 3,088,776, 5-7-63, Cl. 302-52.
- Allen, Edmund R., to General American Transportation Corp. Apparatus for storing granular material. 3,088,777, 5-7-63, Cl. 302-52.
- Allen, Edmund R., to General American Transportation Corp. Railway hopper cars for transporting granular material. 3,088,778, 5-7-63, Cl. 302-52.
- Allen, Willis F., and R. L. Esken, to The Sheffield Corp. Assembly apparatus. 3,079,678, 3-5-63, Cl. 29-201.
- Allers, William D., and L. J. Jenkins. Apparatus for forming prestressed concrete sheets. 3,084,910, 4-9-63, Cl. 254-77.
- Alles, Edwin H. Mute and reflector for musical wind instruments. 3,099,183, 7-30-63, Cl. 84-400.
- Alles & Fisher, Inc.: *See*—  
Rosenberg, Sheldon. 3,085,581.
- Allewelt, Arthur L., to Rohm & Haas Co. Modified spinning solutions, methods for producing fibers and films, and filmy products produced therefrom. 3,093,446, 6-11-63, Cl. 18-54.
- Alley, John M. Mail box and signal. 3,093,302, 6-11-63, Cl. 232-35.
- Alley, Lewis F.: *See*—  
Miller, Jack M., Long, Rapp, and Alley. 3,108,318.
- Alley, Thomas R. Circulating valve. 3,094,307, 6-18-63, Cl. 251-297.
- Allgauer Maschinenbau G.m.b.H.: *See*—  
Latus, Hans. 3,075,341.
- Recher, Werner. 3,084,500.
- Allgeier, Edwin A.: *See*—  
Feldman, Julian, Safer, and Allgeier. 3,088,982.
- Allgeuer, Kurt, and F. Weinrotter, to Österreichische Stickstoffwerke Aktiengesellschaft. Free-flowing, storage stable granular or pelletized urea. 3,112,343, 11-26-63, Cl. 260-555.



- Allgeyer, Guy H., to Owens-Illinois Glass Co. Apparatus for handling glassware articles. 3,072,240, 1-8-63, Cl. 198-30.
- Allgeyer, Guy H., to Owens-Illinois Glass Co. Method for handling glassware articles. 3,095,082, 6-25-63, Cl. 198-30.
- Alliance Machine Co., The: *See*—
- Harry, Robert J. 3,104,016.
- Alliance Mfg. Co., The, Division of Consolidated Electronics Industries Corp.: *See*—
- Schneider, Emmor V. 3,101,950.
- Allie, Julius: *See*—
- Wills, Marvin, and Allie. 3,094,263.
- Allied Chemical Corp.: *See*—
- Agahigian, Harry, and Woolf. 3,081,358.
- Anello, Louis G., and Woolf. 3,074,781.
- Anello, Louis G., and Woolf. 3,107,979.
- Apostle, Basil G., Papero, and Snider. 3,109,835.
- Atkins, Irving, and Ellius. 3,105,620.
- Beuscher, Howard W., Geary, and Morris. 3,087,851.
- Carlson, Emery J., and Gilbert. 3,081,345.
- Cawthon, Thomas M., Nee, and Richmond. 3,072,633.
- Cheng, Chao-Shing, and Spaunburgh. 3,080,357.
- Cosby, John N., and Klasen. 3,074,923.
- Duggan, Raymond J., Murray, and Winstrom. 3,076,810.
- Farbush, Alfred B. 3,111,069.
- Farkas, Adalbert, and Szonyi. 3,113,964.
- Fedoruk, John C. 3,079,230.
- Fleysher, Maurice H. 3,073,849.
- Fleysher, Maurice H., and Richards. 3,074,958.
- Fleysher, Maurice H., and Richards. 3,091,618.
- Formaini, Robert L. 3,093,641.
- Formaini, Robert L., and Brakebill. 3,113,966.
- Funkhouser, Garland B. 3,088,819.
- Grossmann, Samuel W. 3,072,721.
- Grossmann, Samuel W. 3,103,457.
- Hoare, Robert C. 3,076,821.
- Joris, George G., and Oser. 3,111,544.
- Koch, Stanley D., and Greenfield. 3,079,363.
- Kranz, Frederick H. 3,079,271.
- Kranz, Frederick H., and Tewksbury. 3,096,189.
- Kuzma, Stephen, and Singer. 3,084,824.
- Kuzma, Stephen, and Singer. 3,103,278.
- Larner, Bernard. 3,110,981.
- Lauder, William B., and Hartford. 3,095,266.
- Lind, Charles J., and Sogn. 3,086,063.
- Little, Edwin D., and Poon. 3,088,948.
- Little, Edwin D., and Poon. 3,108,115.
- Logan, Bruce G., and Sabia. Re. 25,467.
- Lundgren, Donald G., and Krikszens. 3,087,777.
- MacGregor, Rob R. 3,097,147.
- MacKinnon, Bernard R. 3,071,815.
- McGraw, Woodrow W. 3,079,201.
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- Person, Ernest H. 3,107,597.
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- Baude, John. 3,091,939.
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- Alpers, Frederick C., to United States of America, Navy. Split signal tracking circuit. 3,078,456, 2-19-63, Cl. 343—73.
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- Alpert, Norman, J. M. Caffrey, Jr., H. J. Watson, and H. E. Vermillion, to Texaco Inc. Alkylation of ferrocene. 3,100,216, 8-6-63, Cl. 260—439.
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- Alston, Paul W. Cane sugar processing. 3,113,043, 12-3-63, Cl. 127—48.
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- Alswang, Ralph. Theatrical procedure and setting for creating dissolve illusions. 3,084,933, 4-9-63, Cl. 272—10.
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- Althens, Herbert E., H. C. French, and F. A. Reece, deceased (by F. A. Reece, Jr., J. B. Reece, and W. D. Brooks, Jr., co-executors), to The Reece Corp. Foot treadles. 3,103,905, 9-17-63, Cl. 112—219.
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- Altieri, James V., Jr., to United Aircraft Corp. Special technique for casting impeller blade passages. 3,096,548, 7-9-63, Cl. 22-193.
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- Altwick, Elmar R., and A. B. Garrett, to Olin Mathieson Chemical Corp. Production of pentaborane (9)-alkylene oxide reaction products. 3,106,582, 10-8-63, Cl. 260-606.5.
- Altwick, Elmar R., E. A. Weilmuenster, A. B. Garrett, and S. W. Harris, to Olin Mathieson Chemical Corp. Preparation of alkylated decaborane. 3,109,030, 10-29-63, Cl. 260-606.5.
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- Alven Enterprises, Inc.: *See*—
- Johnson, Vendell J. 3,082,027.
- Alverson, Earl B., to Southeastern Metals Co. Tube support and clamp for punching machines. 3,099,182, 7-30-63, Cl. 83-383.
- Alvey-Ferguson Co., The: *See*—
- Sullivan, Norman M. 3,104,749.
- Alvik, Harold. Digging machine. 3,097,703, 7-16-63, Cl. 172-13.
- Alvis, James F., and J. V. Young, Jr., to Ling-Temco-Vought, Inc. Protective means. 3,082,611, 3-26-63, Cl. 62-217.
- Alwac International: *See*—
- Goodell, Murel G., Appelt, and Davis. 3,090,326.
- Goodell, Murel G., Appelt, and Davis. 3,092,041.
- Hagen, Glenn E., and Beek. 3,080,548.
- Alwac International, Inc.: *See*—
- Hagen, Glenn E., Williams, Baker, and Jackson. 3,089,124.
- Nyman, Bo C. G. 3,110,294.
- Alweg-Forschung G.m.b.H.: *See*—
- Rosenbaum, Kurt. 3,093,090.
- Deller, Konrad. 3,095,828.
- Alyanak, Edward J., and W. H. Eiszner, Jr., to The Bendix Corp. Fluid pump. 3,085,512, 4-16-63, Cl. 103-49.
- Am Dyne Trust: *See*—
- Fisher, John C. 3,080,822.
- Fisher, John C. 3,099,993.
- Amala, Raymond S., to General Motors Corp. Method of casting apertured articles. 3,108,341, 10-29-63, Cl. 22-193.
- Amalgamated Curacao Patents Co., N.V.: *See*—
- Beer, Henri B. 3,096,272.
- Beer, Henri B. 3,098,802.
- Amalgamated Dental Co. Ltd., The: *See*—
- Boulsover, Geoffrey. 3,112,676.
- Boulsover, Geoffrey, and Muller. 3,094,779.
- Amalgamated Electric Corp., Ltd.: *See*—
- Bachman, Anatole. 3,087,039.
- Duffield, Joseph F. 3,114,792.
- Amann, Charles A., J. S. Colman, R. W. Haushalter, J. M. Ricketts, W. A. Turunen, and P. T. Vickers, to General Motors Corp. Regenerative gas turbine. 3,095,700, 7-2-63, Cl. 60-39.2.
- Amann, Charles A., and J. W. Scheel, to General Motors Corp. High speed land transportation system and vehicle therefor. 3,096,728, 7-9-63, Cl. 104-134.
- Amann, Gustav W.: *See*—
- Pirrie, Norman D., Amann, and Woolgar. 3,075,591.
- Amann, Gustav W., and R. J. Woolgar, to Economic Foundations Ltd. Earth boring under-reaming tool. 3,112,802, 12-3-63, Cl. 175-285.
- Amano, Kitsutaro: *See*—
- Oshima, Shintaro, Enomoto, Watanabe, and Amano. 3,116,426.
- Amarlite Corp.: *See*—
- Neal, Harry B., and Klinger. 3,101,135.
- Amazon, Myron P., to Douglas Aircraft Co., Inc. Lightning arrester for radomes. Re. 25,417, 7-16-63, Cl. 244-1.
- Amato, Anthony J. Educational device. 3,084,589, 4-9-63, Cl. 84-470.
- Amato, Justin C. Methods and apparatus for packaging. 3,110,995, 11-19-63, Cl. 53-180.
- Amberg, Stephen W., and F. S. Landers, to Lily-Tulip Cup Corp. Vented container closure lids. 3,083,861, 4-2-63, Cl. 220-44.
- Amberg, Walter E. Centrifugal liquid pump. 3,107,625, 10-22-63, Cl. 103-103.
- Ambli, Andrew. Mud flap stabilizer. 3,091,478, 5-28-63, Cl. 280-154.5.
- Amborski, Leonard E., and C. J. Mighton, to E. I. du Pont de Nemours and Co. Laminates prepared with Werner complex coating on an aluminum layer. 3,107,193, 10-15-63, Cl. 161-213.
- Ambrette, Conrad and Paul, deceased (J. Ambrette, executrix), to Ambrette Machinery Corp. Apparatus for continuously preparing and extruding plastic compositions. 3,114,933, 12-24-63, Cl. 18-12.
- Ambrette, Josephine: *See*—
- Ambrette, Conrad and P. 3,114,933.
- Ambrette Machinery Corp.: *See*—
- Ambrette, Conrad and P. 3,114,933.
- Ambrette, Paul: *See*—
- Ambrette, Conrad and P. 3,114,933.



- Ambrogi, Alfred, to Capital Business Machines Corp. Nesting-collating machine. 3,071,369, 1-1-63, Cl. 270—55.
- Ambrose, Frederick S., to Galis Electric & Machine Co. Materials separating apparatus and drive mechanism therefor. 3,075,644, 1-29-63, Cl. 209—503.
- Ambrose, Henry A., and C. E. Trautman, to Gulf Research & Development Co. Process of improving the wear properties of a mineral and fatty oil lubricant mixture by radiation. 3,100,185, 8-6-63, Cl. 204—162.
- Ambrosio, Alphonso: *See*—
- Clifford, Richard P., and Ambrosio. 3,088,072.
- Ambuehl, Harold R., and J. J. Lowman. Continuous pulping process for the production of paper products. 3,081,218, 3-12-63, Cl. 162—19.
- Amburgey, Jake N., Jr. Portable ice chest. 3,106,074, 10-8-63, Cl. 62—164.
- Amchem Products, Inc.: *See*—
- Douty, Alfred. 3,075,143.
- Douty, Alfred, and Buczkowski. 3,095,121.
- Gardner, George S., and Faigen. 3,071,590.
- Gardner, George S., Manson, and Hayman. 3,094,490.
- Otto, George F. 3,076,733.
- Raman, Harvey P., and McLane. 3,100,226.
- Reinhold, Earl R. 3,101,286.
- Reinhold, Earl R. 3,109,757.
- Schneider, George. 3,079,288.
- Thirsk, James H. 3,098,775.
- Amchem S.A.: *See*—
- Machu, Willibald, and El Ghandour. 3,093,556.
- Amco Engineering Co.: *See*—
- Anderson, Edwin V., Mack, and Friberg. 3,087,768.
- Amend, Donald F. Picnic table and workbench conversion. 3,101,061, 8-20-63, Cl. 108—11.
- Ament, Alphonso L., and P. P. Rupp. Side delivery manure spreader. 3,075,776, 1-29-63, Cl. 275—4.
- Ament, Weston H. Spinning reel. 3,107,876, 10-22-63, Cl. 242—84.21.
- Amer, Kenneth B., S. B. Chris, and C. C. Boswell, Jr., to Hughes Tool Co. Aircraft Division. Rotor blade for rotary-winged aircraft. 3,096,826, 7-9-63, Cl. 170—135.4.
- Amerace Corp.: *See*—
- Fleming, Robert S. 3,094,707.
- American Agricultural Chemical Co., The: *See*—
- Clark, George. 3,089,752.
- American Air Filter Co., Inc.: *See*—
- Baker, Forrest G. 3,098,603.
- Beckner, Ralph. 3,092,533.
- Baustian, Gordon N. 3,098,637.
- Copenhefer, John E. 3,097,710.
- Getzin, Allan R. 3,100,557.
- Getzin, Allan R. 3,107,990.
- Getzin, Allan R. 3,111,489.
- Greene, Earnest J., and Millman. 3,098,731.
- Hagendoorn, Willem J. 3,093,401.
- Hagendoorn, Willem J., and Smith. 3,099,547.
- Holmes, Gifford I. 3,087,412.
- McKenna, Frederic W. 3,096,817.
- Nutting, Arthur. 3,075,334.
- Millman, William V., and Greene. 3,102,654.
- O'Dell, Leonard J., and Westlin. 3,074,218.
- Palmore, Robert A. 3,114,616.
- Revell, Alan E. 3,075,333.
- Robson, Aubrey H. 3,076,604.
- Schlarb, James A. 3,072,513.
- Smith, Tom R. 3,092,478.
- Westlin, Karl L. 3,071,916.
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- American Allsafe Co., Inc.: *See*—
- Sterne, Willard F. 3,089,146.
- American Auto-Felt Corp.: *See*—
- Hoagland, William W., and Bolen. 3,087,171.
- American Baler Co., The: *See*—
- Englund, Lawrence P. 3,086,456.
- Seitzer, Robert E. 3,109,362.
- American Bank Note Co.: *See*—
- Guertin, Clifford D. 3,088,841.
- American Beryllium Co., Inc.: *See*—
- Quartullo, Orpheus F. 3,115,676.
- American Biltrite Rubber Co., Inc.: *See*—
- Wisotzky, Reuben. 3,098,262.
- American Bosch Arma Corp.: *See*—
- Agins, George. 3,083,666.
- Bishop, Ronald L. 3,082,631.
- Chmura, Theodore S. 3,096,716.
- Currison, Loren E. 3,107,540.
- Ensign, Roy F. 3,081,160.
- Foss, Clifton T., and Giba. 3,080,514.
- Kritz, Jack. 3,085,167.
- Kritz, Jack. 3,114,848.
- Lally, Vincent E. 3,109,607.
- Magasiny, Irving P., and Finkel. 3,111,654.
- Miner, Richard Y., and Bock. 3,113,203.
- Mundo, Charles J., Jr. 3,114,267.
- Reich, William J., Jr., and Ward. 3,101,069.
- Tarasevich, Michael. 3,093,760.
- Tellerman, Jacob, and Zaretsky. 3,091,737.
- Waldron, Claude F. 3,095,597.
- American Box Corp.: *See*—
- Hamilton, Joseph P. 3,102,674.
- American Brake Shoe Co.: *See*—
- Adams, Cecil E. 3,076,414.
- American Brake Shoe Co.: *See*—Continued
- Adams, Cecil E. 3,090,398.
- Adams, Cecil E. 3,102,494.
- Arrasmith, Grant H. 3,077,957.
- Atchley, Raymond D. 3,094,796.
- Avery, Howard S., and Chapin. 3,075,838.
- Beetle, Robert H., and Larson. 3,078,160.
- Caslow, Joseph H. 3,107,688.
- Cox, Isaac E. Re. 25,330.
- Davin, Joseph. 3,102,493.
- Devaney, John L., Jr. 3,096,057.
- Hipple, George M. 3,080,508.
- Hoyer, Llewellyn E., and Gorcyca. 3,090,660.
- Hoyer, Llewellyn E., Wilson, and Gorcyca. 3,090,658.
- Huntress, Howard B. 3,074,152.
- Pesce, Gabriel V. 3,108,544.
- Ratkowski, Thomas A. 3,107,445.
- Renick, Wendell E. 3,093,892.
- Smith, Frank W., Gilbert, and Sewell. 3,092,595.
- Smith, Harry A., Jr. 3,104,838.
- Watson, John W. 3,082,319.
- Wilson, Rosser L., Hoyer, and Cox. 3,090,659.
- American Can Co.: *See*—
- Aldington, Elmer T. 3,109,575.
- Baselt, Frederick C. 3,077,409.
- Brandt, Roger. 3,108,850.
- Brownold, Charles R. 3,107,191.
- Bruschini, Albert, and Sheninger. 3,104,045.
- Carew, Herman, and Kinney. 3,079,683.
- Carew, Herman and Kinney. 3,080,078.
- Carew, Herman, and Kinney. 3,115,991.
- Corrinet, Andrew L. 3,080,088.
- Corrinet, Andrew L. 3,110,121.
- Dobens, William L. 3,102,193.
- Eddy, Charles L. 3,099,114.
- Elam, William B. 3,108,516.
- Fredette, Joseph H. 3,075,673.
- Fredette, Joseph H. 3,115,272.
- Gerbino, Anthony J. 3,081,017.
- Gordon, James H. 3,100,366.
- Gotsch, Lenard P., and Wobbe. 3,077,171.
- Grover, Victor T., Jakob, Kluesener, and Borkmann. 3,111,874.
- Hall, Joseph M. 3,081,018.
- Hansen, Harold M. 3,104,032.
- Hartford, Charles H. 3,084,578.
- Hein, Matthew E. 3,099,370.
- Hein, Matthew E. 3,112,846.
- Hein, Matthew E., and Fourier. 3,087,823.
- Hoag, Lehman E., and Wendricks. 3,113,899.
- Honkanen, Arvid. 3,099,045.
- Hovland, Howard N. 3,094,265.
- Hovland, Howard N. 3,115,293.
- Jannett, Frederick J. 3,108,782.
- Kamm, Gilbert G. 3,087,871.
- Knipp, William C. 3,109,577.
- Kuchenbecker, Morris W. 3,078,503.
- Kuchenbecker, Morris W. 3,078,768.
- Kuchenbecker, Morris W. 3,079,059.
- Kuchenbecker, Morris W. 3,080,965.
- Kuchenbecker, Morris W. 3,080,966.
- Kuchenbecker, Morris W. 3,081,016.
- Kuchenbecker, Morris W. 3,097,574.
- Kuchenbecker, Morris W. 3,107,038.
- Lehmann, Karl F. 3,106,231.
- Makowski, Alexander G. 3,078,517.
- Makowski, Alexander G. 3,091,000.
- Makowski, Alexander G. 3,097,423.
- Makowski, Alexander G. 3,107,829.
- Makowski, Alexander G., Blood, and Wathen. 3,097,593.
- Meagher, Fred L. 3,113,710.
- Metzler, Charles L., and Wark. 3,099,377.
- Meyers, George L. 3,085,736.
- Meyers, George L. 3,097,785.
- Meyers, George L. 3,108,735.
- Neuberger, Roger B. 3,087,722.
- Newcomb, Francis B., and Fitzsimmons. 3,082,904.
- Peterson, Stanley A. 3,114,644.
- Pottle, Ralph K. 3,087,393.
- Pottle, Ralph K. 3,094,026.
- Pottle, Ralph K. 3,113,410.
- Quinche, Albert. 3,101,850.
- Schroeder, George O. 3,099,378.
- Schultz, Robert S. 3,073,485.
- Schultz, Robert S., and Grimsley. 3,106,742.
- Schulz, Charles M. 3,098,552.
- Skowronski, George V. 3,078,028.
- Skowronski, George V. 3,078,171.
- Skowronski, George V. 3,111,255.
- Socke, John E. 3,080,782.
- Stohr, Edalene. 3,071,475.
- Taggart, Robert E., and Becher. 3,114,226.
- Taylor, William E. 3,113,668.
- Wendricks, Roland N., and Weygant. 3,099,442.
- Witmer, Clarence L. 3,097,780.
- Zundel, Arthur P. 3,113,542.
- American Carbide Co.: *See*—
- Phillips, William H., Jr. 3,109,663.
- American Cast Iron Pipe Co.: *See*—
- Phelps, Edwin H. 3,110,944.
- American Cement Corp.: *See*—
- Harris, Philip H. 3,097,955.



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 Bilotti, Anthony G., and Hainer. 3,075,884.  
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**American Coleman Co., The : See—**  
 Yadon, Donald E. 3,078,943.  
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**American Colloid Co. : See—**  
 Clem, Arthur G. 3,079,334.  
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 Ailman, David E. 3,113,957.  
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 Anderson, George W., and McGregor. 3,095,408.  
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 Ball, Edwin L., and Vitucci. 3,098,696.  
 Barber, William A. 3,078,149.  
 Beachem, Michael T., and Shaw. 3,084,195.  
 Berkelhammer, Gerald, Wagner, and Magee. 3,102,885.  
 Bernstein, Seymour, and Allen. 3,111,516.  
 Bernstein, Seymour, and Heller. 3,086,031.  
 Boldizar, Leslie. 3,082,190.  
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 Bonvicino, Guido E. 3,072,648.  
 Booth, Robert B. 3,086,553.  
 Bowkley, Herbert L., and Merryweather. 3,097,121.  
 Boyle, Richard J., Susi, and Milionis. 3,079,366.  
 Brown, Frank, and Prichard. 3,091,935.  
 Brownfield, Robert B., and Krieger. 3,087,927.  
 Buckler, Sheldon A., and Epstein. 3,116,334.  
 Burris, William A. 3,091,617.  
 Cantrall, Edward W., Littell, Bernstein, and Gordon. 3,094,541.  
 Colgan, Joseph D., and Fife. 3,090,767.  
 Conger, Joseph C., Sr., Robinson, and Kelly. 3,114,726.  
 Cooper, Murray S., and Di Benedetto. 3,098,016.  
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 Coscia, Anthony T. 3,114,784.  
 Curran, William V., and Angier. 3,071,587.  
 Day, Nancy, and Epstein. 3,116,314.  
 D'Errico, Michael J., and Timney. 3,096,289.  
 Divine, Ralph D. 3,098,866.  
 Doerschuk, Albert P., Bitler, and Petty. 3,105,016.  
 Dudyak, Michael. 3,097,161.  
 Ellenbogen, Leon. 3,102,844.  
 Feldman, Louis I., Holmlund, and Barbacci. 3,087,864.  
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 Feldman, Louis I., Rigler, Holmlund, and Nielsen. 3,091,576.  
 Fluck, Linton A. 3,087,905.  
 Frank, Simon, and Wehner. 3,105,773.  
 Fugate, Wesley O., and McClenachan. 3,093,629.  
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 Furman, Frank M., Hardy, and Thelin. 3,109,027.  
 Gadekar, Shreekrishna M., Vaughan, and Davis. 3,092,633.  
 Gallagher, James D., Cummings, Lipchuck, and Stokely. 3,098,009.  
 Gaul, Richard J., and Fremuth. 3,115,515.  
 Gentile, Anthony J. 3,114,651.  
 Gieseke, Elmer W. 3,079,331.  
 Goldman, Leon, Marsico, and Anderson. 3,082,203.  
 Grayson, Martin. 3,074,994.  
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 Growich, John A., Jr., and Deduck. 3,092,556.  
 Haldeman, Robert G., and Castellion. 3,102,151.  
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 Hanlon, Joseph F. 3,081,479.  
 Hechenbleikner, Ingenium, and Peters. 3,102,884.  
 Hedley, Norman, and Tabachnick. 3,110,666.  
 Heller, Milton, and Bernstein. 3,080,361.  
 Hensley, William L. 3,114,727.  
 Hoffenberg, David S. 3,113,147.  
 Hoffman, Joseph A., and Bowkley. 3,097,120.  
 Hoffmann, Arthur K., and Henderson. 3,113,973.  
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 Holmlund, Chester E., Feldman, Evans, Bernstein, and Dusza. 3,071,580.  
 House, Ronald R., Rassweiler, and Schmitt. 3,086,961.  
 Innes, William B., and Mordach. 3,094,394.  
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 Kocay, Witold R., and Preece. 3,104,938.  
 Kolodny, Edwin R. 3,089,542.  
 Kruppa, William J. 3,094,467.  
 Kuck, Julius A., and Bourdelais. 3,084,031.  
 Lamb, Glentworth. 3,116,326.  
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 Leins, Richard W., and Osban. 3,083,073.  
 Leto, Joseph R., and Fiene. 3,076,016.  
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 Luttinger, Lionel B. 3,098,843.  
 Macqueen, Kenneth E. B. 3,094,399.  
 Malley, Thomas J., Cosway, and Giddings. 3,101,999.  
 Malley, Thomas J., and De Lapp. 3,073,677.  
 Malley, Thomas J., De Lapp, Giddings, and Cosway. 3,102,000.  
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 Mallison, William C. Re. 25,395.  
 McCormick, Jerry R. D., and Gardner. 3,074,975.  
 Meriwether, Lewis S. 3,113,945.  
 Milonis, Jerry P., and Hardy. 3,072,585.  
 Miller, Bernard, and Forbes. 3,091,614.  
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 Miller, Mary L. 3,083,939.  
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 Mogensen, Allan O., and Stevens. 3,089,748.  
 Moore, Sewell T. 3,077,430.  
 Murray, John A., and Sifford. 3,076,341.  
 Nelson, Earl W., and Crossley. 3,092,456.  
 Nyquist, Arthur S., and Myers. 3,096,208.  
 Oldham, Wilbur N., Granito, and Kerfoot. 3,114,930.  
 Osban, William R. 3,101,563.  
 Pare, Philip J. 3,073,859.  
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 Pellon, Joseph J., and Deichert. 3,108,991.  
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 Petropoulos, John C., and Madison. 3,102,135.  
 Pierce, Elliot S., Slowata, and O'Brien. 3,089,778.  
 Piersma, Henry D. 3,080,760.  
 Ponson, Lloyd J., and Becker. 3,095,615.  
 Potter, Allen G., Jr. 3,079,439.  
 Pruess, Louis M., Feldman, and Rigler. 3,116,219.  
 Rapoport, Lorence, and Stephens. 3,086,835.  
 Rauhut, Michael M. 3,116,315.  
 Rauhut, Michael M. 3,116,316.  
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 Rauhut, Michael M., and Semsel. 3,099,690.  
 Rauhut, Michael M., and Semsel. 3,099,691.  
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 Reynolds, Walter E., Jr., and Woodberry. 3,076,740.  
 Robbins, Woodrow W. 3,086,831.  
 Rolland, Calvin C., and Duncan. 3,109,856.  
 Roth, Philip B., and Hallows. 3,072,534.  
 Sandhage, Ellsworth R., and Marlow. 3,073,087.  
 Saunders, Kenneth W., and Bikales. 3,097,956.  
 Savides, Christos. 3,093,616.  
 Scalera, Mario, and Brody. 3,116,293.  
 Scanley, Clyde S. 3,113,837.  
 Scanley, Clyde S., and Siegle. 3,093,654.  
 Scanley, Clyde S., Siegle, and Webb. 3,088,931.  
 Schaefer, Fred C., and Castellion. 3,074,957.  
 Schaub, Robert E., and Weiss. 3,074,932.  
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 Scott, Edward F., and Greene. 3,095,256.  
 Sedlak, John A. 3,075,002.  
 Segro, Nicholas R., Moore, and Daniel. 3,081,143.  
 Semb, Joseph, Bonvicino, and Hardy. 3,072,649.  
 Semb, Joseph, and Vaughan. 3,072,650.  
 Shaw, John T. 3,093,645.  
 Shaw, John T., Gross, and Madison. 3,082,118.  
 Sheehan, Gerard M., and Lawhorne. 3,086,877.  
 Shepherd, Robert G., and Redin. 3,116,312.  
 Sherr, Allan E. 3,082,227.  
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 Siegle, Frederick H. 3,072,569.  
 Skay, Carl E. 3,079,228.  
 Slocum, Donald W. 3,111,541.  
 Smith, James B., Seichter, and Adler. 3,102,548.  
 Smolin, Edwin M., and O'Connor. 3,074,985.  
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 Spitzer, Penn F., Jr., and Aagaard. 3,073,664.  
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 Strong, Allen K. 3,105,600.  
 Suen, Tzeng J., and Burgess. 3,107,227.  
 Taylor, Arthur S., and Konazewski. 3,076,365.  
 Thorson, Ralph E., Goldman, Wallace, and Lanzilotti. 3,081,224.  
 Tomcufcik, Andrew S., Willson, and Vogel. 3,085,940.  
 Tomcufcik, Andrew S., Willson, and Vogel. 3,085,941.  
 Tonelli, George, and Smith. 3,080,288.  
 Valentine, William. 3,085,944.  
 Van Loo, William J., Jr. 3,079,279.  
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 Wasserman, Max. 3,111,786.  
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- Amici, Charles. Building blocks. 3,080,674, 3-12-63, Cl. 46-25.
- Amick, James A., and G. W. Cullen, to Radio Corp. of America. Semiconductor devices. 3,097,977, 7-16-63, Cl. 148-6.14.
- Amick, Marion G. Crop harvesting machine. 3,090,457, 5-21-63, Cl. 180-14.
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- Amirault, Maxime, and P. Destoumieux. Assembling a flange on a hub, particularly in the manufacture of pump turbines. 3,096,570, 7-9-63, Cl. 23-156.8.
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- Ammerman, Charles R., to HRB-Singer, Inc. Communication system using circular polarization. 3,093,824, 6-11-63, Cl. 343-100.
- Ammerman, Charles R., H. L. Schneider, and J. T. Oblinger, to HRB-Singer, Inc. Strip transmission line modulator. 3,111,634, 11-19-63, Cl. 332-52.
- Ammerman, George E., and J. F. Benko, to Edwin L. Wiegand Co. Electric heater assembly and method. 3,072,775, 1-8-63, Cl. 219-37.
- Ammon, Johannes H., D. C. Braddy, and G. W. Kessler, to The Babcock & Wilcox Co. Vapor generating unit. 3,071,119, 1-1-63, Cl. 122-34.
- Ammondson, Clayton J.: *See*—  
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- Ammons, Walter D. Air conditioning apparatus for yachts and the like. 3,111,013, 11-19-63, Cl. 62-419.
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- Amorosi, Alfred, and J. J. Morabito, to Atomic Power Development Associates, Inc. Heat exchanger. 3,090,433, 5-21-63, Cl. 165-32.
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 Fouse, Frederick Z., and Kidwell. 3,098,565.  
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- Andersen, Donald L., to General Mills, Inc. Process for corrosion inhibition. 3,079,221, 2-26-63, Cl. 21-2.7.
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- Andersen, Harold W. Automatic mooring catch. 3,083,676, 4-2-63, Cl. 114-230.
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- Andersen, Holger C., and A. J. Haley, to Engelhard Industries, Inc. Process for the oxidation of nitric oxide. 3,079,232, 2-26-63, Cl. 23-157.
- Andersen, Holger C., P. L. Romeo, Sr., and D. R. Steele, to Engelhard Industries, Inc. Treatment of gases. 3,084,023, 4-2-63, Cl. 23-3.
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- Anderson, Andrew W., to Scandia Packaging Machinery Co. Cigar packaging machines. 3,103,772, 9-17-63, Cl. 53-192.
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- Anderson Corp.: *See*—  
Fredricksen, Vern P. 3,103,710.
- Anderson, Dale K., and W. R. Wolff, to Donaldson Co., Inc. Air cleaner. 3,078,650, 2-26-63, Cl. 55-337.
- Anderson, Dean B.: *See*—  
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- Anderson, Dewey L., and W. H. Woods. Nut harvesting machine. 3,105,343, 10-1-63, Cl. 56-328.
- Anderson, Dewey L., and W. H. Woods. Nut harvesting machine. 3,105,344, 10-1-63, Cl. 56-328.
- Anderson, Dewey L., and W. H. Woods. Tree shaker. 3,105,345, 10-1-63, Cl. 56-328.
- Anderson, Dewey L., and W. H. Woods. Nut harvesting machine. 3,105,347, 10-1-63, Cl. 56-329.
- Anderson, Donald M. Process of making ornamental candles. 3,072,970, 1-15-63, Cl. 18-58.
- Anderson, Donald C., 1/2 to F. M. Anderson, 19% to Ledford-Todd Corp., and 1% to B. E. Whatley. Self-regulating draft producer and equalizer. 3,106,175, 10-8-63, Cl. 110-160.
- Anderson, Donald C., M. B. Lucas, and H. N. Watrous, to The Procter & Gamble Co. Tear tape for thermoplastic packaging materials. 3,098,601, 7-23-63, Cl. 229-51.
- Anderson, Donald H., and W. R. Peterson, to H. D. Hudson Mfg. Co. Hydraulic spray pump. 3,082,917, 3-26-63, Cl. 222-243.
- Anderson, Douglas G.: *See*—  
Kawecki, Eugene, and Anderson. 3,075,510.
- Anderson, Douglas O., and R. M. Hall, to Acme Steel Co. Strip entry equipment for spiral pipe machine. 3,081,813, 3-19-63, Cl. 153-66.
- Anderson, Duane B., J. L. Lummus, and A. Park, to Pan American Petroleum Corp. Emulsion drilling fluid. 3,110,668, 11-12-63, Cl. 252-8.5.
- Anderson, Dwight A., and C. Gretz, to L. H. Mellin, Inc. Replaceable crayon pencil mechanism. 3,115,118, 12-24-63, Cl. 120-18.
- Anderson, Earl R.: *See*—  
Rodrigues, Anthony F., and Anderson. 3,101,833.
- Anderson, Earl R., to Filper Corp. Peach pitting method. 3,075,566, 1-29-63, Cl. 146-238.
- Anderson, Earl R. Endless mechanism for article-by-article discharge. 3,101,866, 8-27-63, Cl. 221-93.
- Anderson, Earl R., to Filper Corp. Pitting machine. 3,113,601, 12-10-63, Cl. 146-28.



- Anderson, Edgar F. Front wheel turn indicator. 3,103,909, 9-17-63, Cl. 116—31.
- Anderson, Edmund B., to W. H. Stark. Anti-friction slip joint. Re. 25,489, 11-26-63, Cl. 64—23.
- Anderson, Edward E.: *See—*
- Atkins, Lyle D., Holmgreen, and Anderson. 3,114,251.
- Anderson, Edward E., and J. D. Brown; said Anderson assor. to Morton Foods, Inc. Process for making corn masa dough. 3,083,103, 3-26-63, Cl. 99—80.
- Anderson, Edward P., to Engelhard Industries, Inc. Cathodic protection anode assembly. 3,075,911, 1-29-63, Cl. 104—196.
- Anderson, Edward P., to Engelhard Industries, Inc. Re-igniter. 3,085,402, 4-16-63, Cl. 60—39.82.
- Anderson, Edward P., to Engelhard Industries Inc. Cathodic protection system. 3,098,026, 7-16-63, Cl. 204—196.
- Anderson, Edward P., to Engelhard Industries, Inc. Electrolytic-ignition underwater sound source. 3,099,813, 7-30-63, Cl. 340—12.
- Anderson, Edwin V., J. A. Mack, and A. N. Friberg, to Amco Engineering Co. Enclosure. 3,087,768, 4-30-63, Cl. 312—263.
- Anderson Electric Corp.: *See—*
- Long, James A., Bush, and Pears. 3,091,750.
- Norris, Robert L. 3,072,881.
- Peek, Vernon E. 3,075,166.
- Spurgeon, Samuel J., Land, and Wingard. 3,113,881.
- Anderson, Elmer L., and R. N. Sundstrom, to Corning Glass Works. Article forming machine with selective discharge means. 3,113,013, 12-3-63, Cl. 65—177.
- Anderson, Elvin L., to Smith Kline & French Laboratories. Glyoxal derivatives of dibenzofuran and dibenzothiophene. 3,083,201, 3-26-63, Cl. 260—240.
- Anderson, Emil, and J. J. Kowalewski, to Electrolux Corp. Container closures. 3,108,736, 10-29-63, Cl. 229—62.5.
- Anderson, Eric W. Drain plug. 3,102,277, 9-3-63, Cl. 4—295.
- Anderson, Florence M.: *See—*
- Anderson, Donald C. 3,106,175.
- Anderson, Franklin C. Patient examining table. 3,101,940, 8-27-63, Cl. 269—322.
- Anderson, Fred L. Door check. 3,083,400, 4-2-63, Cl. 16—70.
- Anderson, Fred N., to Cherry Electrical Products Corp. Snap action switch. 3,098,903, 7-23-63, Cl. 200—67.
- Anderson, Fred N., to Cherry Electrical Products Corp. Snap action switch. 3,098,904, 7-23-63, Cl. 200—67.
- Anderson, Fred N., to Cherry Electrical Products Corp. Snap action switch. 3,098,905, 7-23-63, Cl. 200—67.
- Anderson, Fred N., and W. L. Cherry, Jr., to Cherry Electrical Products Corp. Electric snap-action switch. 3,073,923, 1-15-63, Cl. 200—67.
- Anderson, Frithiof B., to Bell Telephone Laboratories, Inc. Tunable RC oscillator. 3,114,117, 12-10-63, Cl. 331—141.
- Anderson, Frithiof B., and S. H. Pearsall, Jr., to Bell Telephone Laboratories, Inc. Pulse generator. 3,105,169, 9-24-63, Cl. 315—166.
- Anderson, George B.: *See—*
- Miller, William R., Vaughan, and Anderson. 3,073,013.
- Miller, William R., Jr., Hold, Compton, and Anderson. 3,085,311.
- Anderson, George D., P. A. Mack, and F. A. Waite, to Imperial Chemical Industries Ltd. Azo, nitro, anthraquinone, and phthalocyanine dyestuffs having a triazine or pyrimidine ring carrying a thioacylamide substituent. 3,113,127, 12-3-63, Cl. 260—146.
- Anderson, George M., S. Swietluk, and W. G. Whitney, to McGraw-Edison Co. Supervisory system. 3,087,991, 4-30-63, Cl. 179—5.
- Anderson, George W.: *See—*
- Goldman, Leon, Marsico, and Anderson. 3,082,203.
- Anderson, George W., and A. C. McGregor, to American Cyanamid Co. Processes in peptide synthesis. 3,095,408, 6-25-63, Cl. 260—112.
- Anderson, Gerald R., and S. H. Creed, to FMC Corp. Fruit preparation machine. 3,072,163, 1-8-63, Cl. 146—81.
- Anderson, Gerald R., and J. Boyce, to FMC Corp. Fruit halving apparatus. 3,099,303, 7-30-63, Cl. 146—72.
- Anderson, Gerald R., S. H. Creed, and R. G. Gardiner, to FMC Corp. Fruit preparation machine. 3,111,972, 11-26-63, Cl. 146—81.
- Anderson, Gilbert G., to Stewart-Warner Corp. Centering control. 3,096,871, 7-9-63, Cl. 198—34.
- Anderson, Gordon C., and G. B. Ingraham, to Saco-Lowell Shops. Builder mechanism. 3,072,350, 1-8-63, Cl. 242—26.1.
- Anderson, Gordon F., to Hugh Stubbins and Associates, Inc. Movable wall partition. 3,107,400, 10-22-63, Cl. 20—4.
- Anderson, Gordon H. Toy arithmetical answering device. 3,087,258, 4-30-63, Cl. 35—31.
- Anderson, Gordon H. Stove for ice fishing. 3,105,487, 10-1-63, Cl. 126—271.3.
- Anderson, Harlan V., to Rap Industries, Inc. Overwrap material and method of making same. 3,075,864, 1-29-63, Cl. 154—46.8.
- Anderson, Harold A., to Anderson Tool & Stamping Co. Cradles for textile machines. 3,109,205, 11-5-63, Cl. 19—255.
- Anderson, Harold C., to Litton Systems, Inc. Measuring process. 3,098,225, 7-16-63, Cl. 343—12.
- Anderson, Harry M., to Beatty Bros. Ltd. Mast construction. 3,112,015, 11-26-63, Cl. 189—13.
- Anderson, Henry K. Power apparatus. 3,111,870, 11-26-63, Cl. 81—9.3.
- Anderson, Herbert R., Jr., to Phillips Petroleum Co. Composite propellants containing a carbon-alkali metal burning rate catalyst. 3,098,777, 7-23-63, Cl. 149—19.
- Anderson, Herbert R., Jr., to Phillips Petroleum Co. Promotion of high energy radiation effects in polymeric materials. 3,098,808, 7-23-63, Cl. 204—162.
- Anderson, Herbert R., Jr., to Phillips Petroleum Co. Rubber products resistant to radiation damage. 3,112,291, 11-26-63, Cl. 260—45.8.
- Anderson, Howard A.: *See—*
- Yonkers, Robert A., Herring and Anderson. 3,079,626.
- Anderson, Howard A., to Bissell, Inc. Convertible retractable sponge mop. 3,076,216, 2-5-63, Cl. 15—116.
- Anderson, Howard W. Lock-joint chair. 3,082,037, 3-19-63, Cl. 297—440.
- Anderson, Howard W., to The Kaydon Engineering Corp. Recirculating roller bearing. 3,111,350, 11-19-63, Cl. 308—6.
- Anderson, Hubert J., to Automatic Welding Co. Welding apparatus. 3,109,921, 11-5-63, Cl. 219—125.
- Anderson, James, to Anderson, Boyes & Co. Ltd. Centrifugal friction clutches. 3,102,622, 9-3-63, Cl. 192—103.
- Anderson, James A., to Breneman-Hartshorn, Inc. Pulley hanger. 3,092,172, 6-4-63, Cl. 160—133.
- Anderson, James A., J. A. Ash, and S. S. Bushnell, Jr., to Breneman-Hartshorn, Inc. Bearing for window shade roller. 3,098,286, 7-23-63, Cl. 29—149.5.
- Anderson, James A., and J. J. Jungbauer, to Minnesota Mining and Mfg. Co. Method of constructing a reinforced resin, cone-shaped structure and product. 3,115,271, 12-24-63, Cl. 154—43.
- Anderson, James D., to Burndy Corp. Indenting tool. 3,109,333, 11-5-63, Cl. 81—15.
- Anderson, James K. Apparatus for adjusting printing web tension. 3,087,663, 4-30-63, Cl. 226—44.
- Anderson, Jerome C. Boat conversion structure for motor cars. 3,076,425, 2-5-63, Cl. 115—5.
- Anderson, John A., to The Procter & Gamble Co. Sarcosinate shampoo. 3,085,067, 4-9-63, Cl. 252—153.
- Anderson, John C., to Sohio Petroleum Co. Process for combining seismic information. 3,109,156, 10-29-63, Cl. 340—15.5.
- Anderson, John E., to Minneapolis-Honeywell Regulator Co. Acceleration sensing means. 3,111,850, 11-26-63, Cl. 73—517.
- Anderson, John F.: *See—*
- Brown, Harold P., Walters, and Anderson. 3,100,760.
- Anderson, John L.: *See—*
- Thiele, Edward G., and Anderson. 3,107,788.
- Anderson, John L., to International Business Machines Corp. Cryogenic memory system. 3,086,197, 4-16-63, Cl. 340—173.1.
- Anderson, John L., to International Business Machines Corp. Superconductive circuits controlled by superconductive persistent current loops. 3,093,748, 6-11-63, Cl. 307—88.5.
- Anderson, John L., to International Business Machines Corp. Superconductive ring circuit. 3,111,650, 11-19-63, Cl. 340—173.1.
- Anderson, John L., and J. G. Everhart, to McGraw-Edison Co. Method of making polyphase transformers. 3,101,525, 8-27-63, Cl. 29—155.57.
- Anderson, John M. Plastic coated metal cable strap or staple. 3,085,129, 4-9-63, Cl. 174—159.
- Anderson, John M., to General Electric Co. Low noise electron beam plasma amplifier. 3,099,768, 7-30-63, Cl. 315—5.39.
- Anderson, John P., and O. E. Drummond, to The Bendix Corp. Flow-regulating valve. 3,112,764, 12-3-63, Cl. 137—504.
- Anderson, John R., to Union Carbide Corp. Separation of ethylene carbonate from admixture with ethylene glycol. 3,074,962, 1-22-63, Cl. 260—340.2.
- Anderson, John R., to Heppenstall Co. Tongs. 3,076,674, 2-5-63, Cl. 294—103.
- Anderson, John R., to The National Cash Register Co. Memory devices. 3,079,591, 2-26-63, Cl. 340—173.2.
- Anderson, John R., to Curtiss-Wright Corp. Seal construction for rotary combustion engine. 3,102,518, 9-3-63, Cl. 123—8.
- Anderson, John W.: *See—*
- Barker, Jerry C., and Anderson. 3,088,296.
- Anderson, John W. Fluid dispenser. 3,072,298, 1-8-63, Cl. 222—184.
- Anderson, John W. Windshield wiper blade. 3,076,993, 2-12-63, Cl. 15—250.42.
- Anderson, John W. Universal replacement mirror. 3,081,672, 3-19-63, Cl. 88—98.
- Anderson, John W. Windshield wiper arm. 3,082,026, 3-19-63, Cl. 287—53.
- Anderson, John W. Wind-driven display device. 3,090,142, 5-21-63, Cl. 40—39.
- Anderson, Karl A., to Controls Co. of America. Mixing apparatus. 3,072,462, 1-8-63, Cl. 23—252.
- Anderson, Karl A., to Controls Co. of America. Molding apparatus for encapsulating a coil. 3,084,390, 4-9-63, Cl. 18—36.
- Anderson, Karl A., to Controls Co. of America. De-aeration apparatus. 3,112,191, 11-26-63, Cl. 55—194.
- Anderson, Kenneth A., and E. G. Segebruch, to Ametek, Inc. Filter detector. 3,077,988, 2-19-63, Cl. 210—86.



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Anderson, Bazeel B., Bailey, and Ash. 3,074,982.

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Anderson, Leonard A. Lift for cows. 3,085,553, 4-16-63, Cl. 119-100.

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Anderson, Lloyd R. Hinge. 3,082,474, 3-26-63, Cl. 16-167.

Anderson, Lloyd W.: See—  
Schaftner, Stuart P., and Anderson. 3,093,150.

Anderson, Lyle V., and A. W. Younkes, to Blaw-Knox Co. Strip winder. 3,087,688, 4-30-63, Cl. 242-56.

Anderson, Lynn T., and E. G. Crane, Jr., to Bell Telephone Laboratories, Inc. Automatic telephone switching system. 3,102,930, 9-3-63, Cl. 179-26.

Anderson, Martin. Process for preparing thermostable thermoplastic compositions comprising polyphenylenes. 3,082,177, 3-19-63, Cl. 260-2.

Anderson, Marvin E., to Everett Piano Co. Tone generation system. 3,084,583, 4-9-63, Cl. 84-1.16.

Anderson, Maynard E., E. R. Plasko, J. Sokoly, and M. W. Polkinghorn, to American Radiator & Standard Sanitary Corp. Washing machine control and components used therein. 3,112,630, 12-3-63, Cl. 68-12.

Anderson, Melvin R., and A. K. Goetz, to Westinghouse Electric Corp. Luminaire. 3,107,062, 10-15-63, Cl. 240-25.

Anderson, Mitchell. Low tire indicating device. 3,096,410, 7-2-63, Cl. 200-61.24.

Anderson, Nelson E., and W. J. Greene, to Air Reduction Co., Inc. Arc welding. 3,071,680, 1-1-63, Cl. 219-131.

Anderson, Norman A. Rotatable structure. 3,078,522, 2-26-63, Cl. 20-1.

Anderson, Norman C., to Infrared Industries, Inc. Photoconductive cell. 3,076,949, 2-5-63, Cl. 338-18.

Anderson, Norman G., to United States of America, Atomic Energy Commission. Particle separation method. 3,075,694, 1-29-63, Cl. 233-40.

Anderson, Olof O. Portable cooler with universal suspension assembly for refrigeration unit. 3,109,299, 11-5-63, Cl. 62-448.

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Johnson, Robert A., and Anderson. 3,084,046.

Anderson, Paul E., and T. H. Gill, to United States of America, Army. Telescopic sight mount. 3,094,786, 6-25-63, Cl. 33-50.

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Wheeler, James D., and Anderson. 3,091,819.

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Anderson, Ralph F.: See—  
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Anderson, Raymond A., to Stewart-Warner Corp. Transfer mechanism. 3,095,081, 6-25-63, Cl. 198-24.

Anderson, Raymond Q., to Dahlstrom Mfg. Corp. Metal cabinet framework and panel structure. 3,110,535, 11-12-63, Cl. 312-350.

Anderson, Reed M., and A. A. Buccitti, to Consolidated Electronics Industries Corp. Step drive mechanism and escapement. 3,103,121, 9-10-63, Cl. 74-1.5.

Anderson, Richard L., to International Business Machines Corp. Radiant energy responsive semiconductor device. 3,082,283, 3-19-63, Cl. 136-89.

Anderson, Richard L., J. C. Marinace, and G. A. Silvey, to International Business Machines Corp. Semiconductor body formation. 3,072,507, 1-8-63, Cl. 148-33.

Anderson, Richard P., to United States of America, Navy. Electric angle checking gage. 3,098,305, 7-23-63, Cl. 33-174.

Anderson, Richard W., E. F. Smart, and G. Miale, to Westinghouse Electric Corp. Grid making machine. 3,106,943, 10-15-63, Cl. 140-71.5.

Anderson, Robert A.: See—  
Chaney, Davis R., and Anderson. 3,089,601.

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Anderson, Robert E., to Texas Instruments Inc. High frequency germanium transistor. 3,084,078, 4-2-63, Cl. 148-1.5.

Anderson, Robert E., and W. R. Runyan, to Texas Instruments Inc. Improved grown junction transistor and method of making same. 3,079,287, 2-26-63, Cl. 148-1.5.

Anderson, Robert E. D., to Bell Telephone Laboratories, Inc. Transistor regulators. 3,109,982, 11-5-63, Cl. 323-22.

Anderson, Robert I., and D. K. Sewell, to Brunswick Corp. Rotary bowling ball lift mechanism with overrunning clutch for handling rapidly returned balls. 3,109,648, 11-5-63, Cl. 273-49.

Anderson, Robert I., and D. K. Sewell, to Brunswick Corp. Bowling ball lift mechanism. 3,109,649, 11-5-63, Cl. 273-49.

Anderson, Robert J. Washing machine and process of washing therewith. 3,087,776, 4-30-63, Cl. 8-159.

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Anderson, Robert M., and B. B. Dees, to United Carbon Co., Inc. (Maryland). Article transfer arrangement. 3,073,429, 1-15-63, Cl. 198-20.

Anderson, Robert P., to General Electric Co. Intercondensation of tetrahydrofuran with organohalosilanes. 3,083,219, 3-26-63, Cl. 260-448.8.

Anderson, Roger A., and R. T. Swann, to United States of America, National Aeronautics and Space Administration. Sandwich panel construction. 3,090,212, 5-21-63, Cl. 62-467.

Anderson, Roy E., to General Electric Co. Radiation inversion device and flaw detector embodying same. 3,106,643, 10-8-63, Cl. 250-219.

Anderson, Roy E., to General Electric Co. Automatic incremental metering. 3,114,900, 12-17-63, Cl. 340-182.

Anderson, Roy N., to C. Kenner, and W. C. Ewers. Trash cutter for a pump. 3,096,718, 7-9-63, Cl. 103-111.

Anderson, Roy N. Traveling sprinkler. 3,104,821, 9-24-63, Cl. 239-179.

Anderson, Roy N., to C. Kenner, and W. C. Ewers. Traveling dam. 3,108,440, 10-29-63, Cl. 61-29.

Anderson, Russell. Toilet bowl disinfectant injector. 3,084,350, 4-9-63, Cl. 4-225.

Anderson, Russell W. Hair tapering clippers. 3,099,086, 7-30-63, Cl. 30-212.

Anderson, Stanley F., to International Business Machines Corp. Error checking system for a parallel adder. 3,078,039, 2-19-63, Cl. 235-153.

Anderson, Swan F. and R. F., and R. P. Sorensen; said Sorensen and said S. F. Anderson assors. of  $\frac{3}{4}$  to said R. F. Anderson and  $\frac{1}{4}$  to V. Spencer. Filling machine. 3,103,959, 9-17-63, Cl. 141-131.

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Anderson, Vernal A., to Ford Motor Co. Full power brake valve. 3,099,500, 7-30-63, Cl. 303-49.

Anderson, Victor F., and R. G. Jobe, to Shell Oil Co. Centrifugal pumps. 3,091,182, 5-28-63, Cl. 103-103.

Anderson, Wallace A., W. C. Brunner, C. L. Hornberger, and E. W. Stanley, to Armstrong Cork Co. Rotary offset gravure printing press. 3,099,956, 8-6-63, Cl. 101-154.

Anderson, Warner H., to Channel Master Corp. Television antenna having multi-band elements. Re. 25,437, 8-27-63, Cl. 343-802.

Anderson, Weston A., to Varian Associates. Gyromagnetic resonance methods and apparatus. 3,085,195, 4-9-63, Cl. 324-5.

Anderson, Weston A., J. T. Arnold, and F. Bloch; said Anderson and said Arnold assors. to Varian Associates. Gyromagnetic method and apparatus. 3,075,156, 1-22-63, Cl. 331-94.

Anderson, Weston A., and J. N. Shoolery, to Varian Associates. Gyromagnetic resonance method and apparatus. 3,091,732, 5-28-63, Cl. 324-5.

Anderson, William A., to Aluminum Co. of America. Aluminum metal article. 3,098,724, 7-23-63, Cl. 29-195.

Anderson, William J. Toggle type window lock. 3,109,675, 11-5-63, Cl. 292-109.

Anderson, William S., to Shell Oil Co. Lubricating compositions. 3,105,819, 10-1-63, Cl. 252-49.9.

Anderson, William T., to The Do All Co. Carbide tipped saw blade. 3,110,952, 11-19-63, Cl. 29-95.

Andersson, Birger A. V., and B. R. Berglof, to Svenska Aeroplan Aktiebolaget. Air-oil shock absorber especially adapted for ground vehicles. 3,077,345, 2-12-63, Cl. 267-64.

Andersson, Bror G. Devices for cooling the condenser of a cooling plant. 3,099,915, 8-6-63, Cl. 62-305.

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Andersson, Gustav T., and G. O. Engman, to Bofors, Aktiebolaget. Loading rack for ammunition cartridges. 3,109,344, 11-5-63, Cl. 89-34.

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Anderton, Walter C., to General Aniline & Film Corp. Multiple slide changer for automatic slide projector. Re. 25,327, 2-5-63, Cl. 40-79.

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Andis, Mathew G. 3,101,535.

Andis, Mathew, to Andis Clipper Co. Hair clipper shear blade assembly. 3,093,902, 6-18-63, Cl. 30-223.

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- Ando, Muneo: *See*—  
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- Ando, Seichi, to Riken Plastic Engineering Co., Ltd. Soldering gun. 3,112,722, 12-3-63, Cl. 113-94.
- Ando, Tatsuo: *See*—  
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- Ando, Tokuo: *See*—  
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- Andrasevitz, Frank, 49% to M. Saavedra, and 5% to J. I. Franko. Compressor structure. 3,081,931, 3-19-63, Cl. 230-44.
- Andre, Arlee A.: *See*—  
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- André Fantasia, Inc.: *See*—  
Gettinger, Lillian. 3,105,242.
- André, Gustave: *See*—  
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- André, Henri G., to Yardney International Corp. Electrode assembly for electric batteries or accumulators. 3,075,032, 1-22-63, Cl. 136-6.
- André, Henri G., to Yardney International Corp. Alkaline battery and electrode therefor. 3,082,279, 3-19-63, Cl. 136-34.
- André, Joseph G. E., and J. M. D. Rech, to Sud-Aviation Société Nationale de Constructions, Aeronautiques. Thrust reverses for jet engines. 3,097,484, 7-16-63, Cl. 60-35.54.
- André, Robert T., and J. H. Edley, to J & L Engineering Co., Inc. Sugar-cane loader and ditcher combination. 3,071,265, 1-1-63, Cl. 214-138.
- Andreades, Sam, to E. I. du Pont de Nemours and Co. Selected fluoroalkyl thieroxides and their preparation. 3,081,350, 3-12-63, Cl. 260-607.
- Andreas, Erhard C., to Baumgartner Papiers S.A. Gas filter. 3,075,337, 1-29-63, Cl. 55-446.
- Andreas, Holger, O. Klump, and I. Menzel, to Deutsche Advance Produktion G.m.b.H. Preparation of dibenzyltin dichlorides. 3,080,408, 3-5-63, Cl. 260-429.7.
- Andreasen, Aage C. H. Conduit tractor. 3,089,434, 5-14-63, Cl. 104-138.
- Andreasson, Donald C.: *See*—  
Altmeyer, Edward G., and Andreasson. 3,100,483.
- Andregg, Ernest R., to Bell Telephone Laboratories, Inc. Data record. 3,114,036, 12-10-63, Cl. 235-61.12.
- Andregg, Ernest R., M. S. Hawley, and W. Pferd, to Bell Telephone Laboratories, Inc. Telephone pay station. 3,116,370, 12-31-63, Cl. 179-6.3.
- Andre-Matic Machinery Co.: *See*—  
Schleicher, Allen K., and Schell. 3,108,414.
- Andren, Bertil T., and F. J. Hooven, to Ford Motor Co. Leaf spring mounting. 3,111,309, 11-19-63, Cl. 267-52.
- Andreoletti, Patrizio, to A.U. RO S.r.l. Truck conveyor for transporting bulky articles, especially motor vehicles. 3,080,959, 3-12-63, Cl. 198-108.
- Andres, James R., and J. F. Garrison, to PneumoDynamics Corp. Multiple instrument viewing device. 3,106,128, 10-8-63, Cl. 88-24.
- Andres, Lloyd J., to Rauland-Borg Corp. Record player tone arm. 3,083,971, 4-2-63, Cl. 274-10.
- Andres, Lloyd J., to American Sumatra Tobacco Corp. Coin accumulator. 3,108,672, 10-29-63, Cl. 194-57.
- Andres, Rudolf: *See*—  
Fiala, Ernst J. H., and Andres. 3,075,356.
- Andres, William A., and J. F. Miller, to Washington Scientific Industries, Inc. Tapping spindle construction for use in multiple spindle tapping machines. 3,113,329, 12-10-63, Cl. 10-129.
- Andresen, Gilbert J. C., to The Goodyear Tire & Rubber Co. Fuel storage system. 3,102,972, 9-3-63, Cl. 317-2.
- Andresen, John H., Jr.: *See*—  
Sharko, Sam, Salem, and Andresen. 3,089,331.
- Andresen, John H., Jr., to Kollsman Instrument Corp. Rapid response pressure instrument. 3,100,999, 8-20-63, Cl. 73-407.
- Andresen, John H., Jr., to J. F. Baier. Solenoid actuated control valve. 3,116,047, 12-31-63, Cl. 251-123.
- Andress, Harry J., Jr.: *See*—  
Buehler, Fritz A., and Andress. 3,115,483.  
Gee, Paul Y. C., and Andress. 3,108,962.
- Andress, Harry J., Jr., to Socony Mobil Oil Co., Inc. Fuel oil composition. 3,089,761, 5-14-63, Cl. 44-63.
- Andress, Harry J., Jr., and P. Y. C. Gee, to Socony Mobil Oil Co., Inc. Stabilized distillate fuel oil. 3,095,286, 6-25-63, Cl. 44-71.
- Andrew Corp.: *See*—  
Johnson, Ernest H., Bremigan, and Kihieri. 3,090,019.  
Scheldorf, Marvel W. 3,071,771.  
Scheldorf, Marvel W. 3,083,364.
- Andrew, Eugene A.: *See*—  
Cook, Ralph L., and Andrew. 3,094,741.
- Andrew, Gustav M., to North American Aviation, Inc. Angle of attack and sideslip indicator. 3,082,622, 3-26-63, Cl. 73-180.
- Andrew, Herbert F., to Imperial Chemical Industries Ltd. Monoazo dyes containing a cyanuric chloride substitute. 3,084,152, 4-2-63, Cl. 260-153.
- Andrew, Herbert F., and V. D. Poole, to Imperial Chemical Industries Ltd. Process for dyeing textiles with dyestuffs containing pyrimidine ring. 3,097,910, 7-16-63, Cl. 8-54.2.
- Andrew, Vaughan L., to Duplex Mfg. Co. Pump control pressure switch with automatic air supply system. 3,094,073, 6-18-63, Cl. 103-6.
- Andrews, Alvadore M. Lantern. 3,086,106, 4-16-63, Cl. 240-51.11.
- Andrews, Alvadore M. Rear window deflector for automobiles. 3,097,882, 7-16-63, Cl. 296-91.
- Andrews, Alvin J., and L. W. Pollock, to Phillips Petroleum Co. Apparatus and process for drying particulate solids. 3,102,795, 9-3-63, Cl. 34-33.
- Andrews, Bernard R., Jr., and P. Goodrich. Radiant heat cloth drier. 3,079,703, 3-5-63, Cl. 34-87.
- Andrews, Bethlehem K., to United States of America, Agriculture. Process for producing wrinkle resistant cellulose textile materials. 3,072,456, 1-8-63, Cl. 8-116.3.
- Andrews, Bethlehem K., to United States of America, Agriculture. Methylolated alloxan. 3,105,075, 9-24-63, Cl. 260-251.
- Andrews, Boley A., and H. R. Craven, to The Vendo Co. Vending apparatus having a plurality of compartments. 3,102,761, 9-3-63, Cl. 312-35.
- Andrews, Dallas R., to Radio Corp. of America. Tape transport mechanism. 3,092,296, 6-4-63, Cl. 226-49.
- Andrews, Dallas R., to Radio Corp. of America. Magnetic recording and reproducing apparatus. 3,093,334, 6-11-63, Cl. 242-55.12.
- Andrews, Dallas R., and J. B. Kelly, to Radio Corp. of America. Coupling mechanism. 3,093,984, 6-18-63, Cl. 64-29.
- Andrews, Earl T.: *See*—  
Valentine, Harry M., and Andrews. 3,095,244.
- Andrews, Edith M.: *See*—  
Levy, William W. 3,072,017.
- Andrews, Glenn E., and G. Feick II, to Anaconda Wire and Cable Co. Liquid-insulated electric cables. 3,083,257, 3-26-63, Cl. 174-14.
- Andrews, Harold L.: *See*—  
Schmit, Justin M., and Andrews. 3,111,799.
- Andrews, Hugh H., to Scovill Mfg. Co. Pocket construction. 3,091,773, 6-4-63, Cl. 2-247.
- Andrews, John D.: *See*—  
Perino, Dominic A., and Andrews. 3,088,654.
- Andrews, Louis J., to Paul K. Guillow, Inc. Kite. 3,076,626, 2-5-63, Cl. 244-154.
- Andrews, Michael C. W.: *See*—  
Perry, Kenneth R., and Andrews. 3,101,708.
- Andrews, Paul L.: *See*—  
Speas, Clarence J., and Andrews. 3,104,497.
- Andrews, Ray, and F. M. Moore, to B. F. Drakenfeld & Co., Inc. Silicone-coated frit used in decorating glassware. 3,099,569, 7-30-63, Cl. 106-49.
- Andrews, Richard A.: *See*—  
Alexander, Bruce, Andrews, and James. 3,103,239.
- Andrews, Richard A., to Citrus Equipment Corp. Pineapple juice extraction machine. 3,095,805, 7-2-63, Cl. 100-97.
- Andrews, William R. Friction driven steplessly variable speed gearing. 3,115,044, 12-24-63, Cl. 74-200.
- Andrews, Zenas B., to United States of America, Navy. Pneumatic heat transfer type air damper. 3,097,838, 7-16-63, Cl. 267-1.
- Andrews, Zenas B., C. R. Brown, and W. T. Price, to United States of America, Navy. Missile launcher. 3,089,889, 5-14-63, Cl. 89-17.
- Andrisani, Samuel. Animal toilet garment. 3,090,356, 5-21-63, Cl. 119-95.
- Androssov, Pavel I.: *See*—  
Strekopitov, Alexey A., Androssov, Scheinberg, Tulakova, and Potchina. 3,080,564.
- Andrus, Julius J., to Azoplate Corp. Screen process printing frame having means for removing staples therefrom. 3,115,093, 12-24-63, Cl. 101-127.1.
- Andrus, Orrin E., to A. O. Smith Corp. Process and apparatus for reducing the applied potential requirement of a hydrogen charging cell. 3,080,304, 3-5-63, Cl. 204-129.
- Andrus, Orrin E., to A. O. Smith Corp. Continuous decontamination of the hydrogen acquiring surface of a palladium diaphragm used for the transfer of atomic hydrogen. 3,113,080, 12-3-63, Cl. 204-73.
- Anelex Corp.: *See*—  
Rosen, Leo. 3,112,724.
- Anello, Louis G., and C. Woolf, to Allied Chemical Corp. Manufacture of thionyl fluoride. 3,074,781, 1-22-63, Cl. 23-203.
- Anello, Louis G., and C. Woolf, to Allied Chemical Corp. Manufacture of sulfuryl fluoride. 3,107,979, 10-22-63, Cl. 23-203.
- Anemostat Corp. of America: *See*—  
Phillips, Leonard R. 3,072,038.  
Phillips, Leonard R., Waeldner, Palmquist, and Barlow. 3,084,711.
- Anetsberger Brothers, Inc.: *See*—  
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Anetsberger, Frank A., Winterfeldt, and Stuhl. 3,115,084.  
Levine, John E. 3,086,418.
- Anetsberger, Frank A., to Anetsberger Brothers, Inc. Dough piece separator. 3,115,236, 12-24-63, Cl. 198-34.
- Anetsberger, Frank A., I. J. Winterfeldt, and A. H. Stuhl, to Anetsberger Brothers, Inc. Fried food production equipment. 3,115,084, 12-24-63, Cl. 99-403.
- Anel Chemical Co.: *See*—  
Guise, Arthur B., and Forrester. 3,092,183.



- Anfinson Plastic Moulding, Inc.: *See*—  
Wickman, Charles E. 3,113,706.
- Anfinson, Mervin P. Silage distributor. 3,079,017, 2-26-63, Cl. 214-17.
- Angelica, Nicholas J., to United States of America, Army. Eccentric eyepiece for a firearm rear sight. 3,100,936, 8-20-63, Cl. 33-58.
- Angell, James W. Spring suspension for vehicles. 3,107,104, 10-15-63, Cl. 280-124.
- Angelo, Alfred, Inc.: *See*—  
Piccione, Edythe V. 3,078,468.
- Angelo, Rudolph J., to E. I. du Pont de Nemours and Co. Electrically conductive polymeric compositions. 3,073,785, 1-15-63, Cl. 252-519.
- Angelucci, Thomas L.: *See*—  
Soffa, Albert, and Angelucci. 3,083,291.
- Angenieux, Pierre. Mechanism for controlling the axial displacements of optical elements. 3,090,282, 5-21-63, Cl. 88-57.
- Anger, Ernest G., to Square D Co. Electric control circuits. 3,088,064, 4-30-63, Cl. 320-1.
- Angerman, Albert H., to E. I. du Pont de Nemours and Co. Method for improving the whiteness of tio-pigment material minutely contaminated with carbonaceous matter. 3,107,150, 10-15-63, Cl. 23-202.
- Angermeyer, Louis C., to Wagner Electric Corp. Electrical induction apparatus. 3,106,690, 10-8-63, Cl. 336-70.
- Angier, Robert B.: *See*—  
Curran, William V., and Angier. 3,071,587.
- Angioletti, Attilio, to Pirelli S.p.A. Elastic draft pressure roller for spinning machines. 3,078,519, 2-26-63, Cl. 19-258.
- Angioletti, Attilio, to Pirelli S.p.A. Apparatus for producing rubber gloves. 3,093,866, 6-18-63, Cl. 18-42.
- Angle, Robert L. Egg washer. 3,097,382, 7-16-63, Cl. 15-3.13.
- Angleys, Paul: *See*—  
Armand, Charles, and Angleys. 3,107,704.
- Anglo Paper Products Ltd.: *See*—  
Taylor, Geoffrey I., Logan, and Mardon. 3,079,990.
- Anglo-Transvaal Consolidated Investment Co. Ltd.: *See*—  
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- Angst, William E., to United States Steel Corp. Coil handling apparatus. 3,077,317, 2-12-63, Cl. 242-79.
- Angus, Ernest T., and D. F. Walker, to Ferranti, Ltd. Brushless D-C motor with permanent magnet rotor. 3,096,467, 7-2-63, Cl. 318-138.
- Angus, George, & Co. Ltd.: *See*—  
Balkin, Mark, and Turner. 3,092,895.
- Angus, Leonard J., to A. Kimball Co. Record sorting machines. 3,105,814, 10-1-63, Cl. 209-110.
- Anheuser-Busch, Inc.: *See*—  
Chatten, Victor H. 3,106,289.
- Sumner, Robert J., Hardwick, Seeley, and Ziegler. 3,089,774.
- Aniforms, Inc.: *See*—  
Bunin, Morey. 3,070,920.
- Animal Trap Co. of America: *See*—  
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- Anjac Mfg. Co.: *See*—  
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- Anke, Klaus, K. Ertel, F. Frohr, C. Kessler, I. Pritsching, and G. Sinn to Siemens-Schuckertwerke Aktiengesellschaft. Digital control apparatus. 3,093,781, 6-11-63, Cl. 318-162.
- Anker-Phoenix Nähmaschinen AG: *See*—  
Adam, Herman. 3,087,447.
- Engel, Wolfgang. 3,075,483.
- Engel, Wolfgang. 3,104,638.
- Engel, Wolfgang. 3,108,555.
- Theenhausen, Heinrich, and Siebrasse. 3,083,657.
- Ankerwerk Gebrüder Goller: *See*—  
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- Anker-Werke Aktiengesellschaft: *See*—  
Becker, Gerhard. Re. 25,431.
- Becker, Gerhard. 3,076,595.
- Becker, Gerhard, Hecker, Lührmann, and Bruno. 3,072,053.
- Ankney, Robert W.: *See*—  
Wormser, Eric S., Ankney, and Hurschman. 3,075,675.
- Ankney, Robert W. Dispensing spout for metallic containers. 3,115,284, 12-24-63, Cl. 222-566.
- Ankrum, Russell C.: *See*—  
Kinnear, Harold L., and Ankrum. 3,107,864.
- Anley, Donald M.: *See*—  
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- Annard, Robert R.: *See*—  
Hackerman, Norman, and Annand. 3,091,591.
- Annen, James E., and C. T. Colgren, to KVP Sutherland Paper Co. Egg carton set-up machine. 3,109,348, 11-5-63, Cl. 93-37.
- Anner, Georg: *See*—  
Jeger, Oskar, Arizoni, Wettstein, Anner, Heusler, Meystre, Wieland, and Kalvoda. 3,092,625.
- Meystre, Charles, Wettstein, Anner, Heusler, and Wieland. 3,098,070.
- Wettstein, Albert, Anner, Heusler, Kalvoda, and Ueberwasser. 3,077,482.
- Wettstein, Albert, Anner, Kalvoda, and Meystre. 3,092,627.
- Wettstein, Albert, Anner, and Kebrle. 3,081,297.
- Wettstein, Albert, Anner, Meystre, Wieland, Ehmann, Heusler, Hunger, and Kebrle. 3,098,085.
- Annett, Donald L.: *See*—  
Kauffman, Ivan L., and Annett. 3,085,480.
- Anning, John T.: *See*—  
Chamberlain, Cyril J., and Anning. 3,101,902.
- Annis, Richard R., to John Oster Mfg. Co. Variable pitch fan for small motors. 3,074,489, 1-22-63, Cl. 170-160.5.
- Annis, Charles H., T. A. Kestell, and E. Tipper, to United Shoe Machinery Corp. Machines for applying pressure to shoe bottoms. 3,095,589, 7-2-63, Cl. 12-33.
- Anocut Engineering Co.: *See*—  
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- Anolick, Eugene S., to General Electric Co. Process for coating and annealing grain oriented silicon steels. 3,106,496, 10-8-63, Cl. 148-112.
- Anonsen, Sheldon L., to Product Development Corp. Foldable brushes. 3,086,236, 4-23-63, Cl. 15-203.
- Anrig, Robert M., to The Ohio Brass Co. Tractor cable tensioner. 3,104,791, 9-24-63, Cl. 226-172.
- Anritsu Dempa Kogyo Kabushiki Kaisha: *See*—  
Ueno, Isaburo. 3,112,358.
- Anscherlik, Arnost, to Vyzkumny ustav energeticky. Automatic pipette. 3,085,717, 4-16-63, Cl. 222-109.
- Anschutz & Co. G.m.b.H.: *See*—  
Ebrich, Hans, and Lässig. 3,099,094.
- Anschutz, Reynold G., to The Pipe Machinery Co. Unidirectional feed and chucking apparatus for transferring and chucking elongated articles for machining. 3,108,699, 10-29-63, Cl. 214-1.
- Ansel, Richard M., to Chemetron Corp. Method and apparatus for shearing welded rail joints. 3,081,673, 3-19-63, Cl. 90-24.
- Ansell, George E., K. R. Bullock, and S. Sortland, to Anaconda Wire and Cable Co. Compound applicator for cable core. 3,085,388, 4-16-63, Cl. 57-7.
- Anselm, Hans, and J. Smidt, to Consortium für Elektrochemische Industrie G.m.b.H. Process for separating epichlorhydrin from mixtures. 3,077,440, 2-12-63, Cl. 202-42.
- Anselmi, Virginia. Apparatus for the projection of liquids. 3,079,091, 2-26-63, Cl. 239-221.
- Ansems, Alfonsus J. P.: *See*—  
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- Ansley, Arthur C., to Arthur Ansley Mfg. Co. Eyelet. 3,103,547, 9-10-63, Cl. 174-68.5.
- Ansley, Arthur, Mfg. Co.: *See*—  
Ansley, Arthur C. 3,103,547.
- Anslow, Winston K., to Glaxo Group Ltd. DEAE substituted balsa wood ion-exchange materials. 3,095,410, 6-25-63, Cl. 260-231.
- Anson, Arthur H. Highball stirrer. 3,109,634, 11-5-63, Cl. 259-144.
- Anstalt Europäische Handelsgesellschaft: *See*—  
Hagelin, Boris C. W., and Sturzinger. 3,083,263.
- Nyberg, Sture. 3,093,714.
- Anstalt für die Entwicklung von Erfindungen und gewerblichen Anwendungen ENERGA: *See*—  
Brandt, Edgar W. 3,085,509.
- Brandt, Edgar W. 3,105,440.
- Brandt, Edgar W. 3,106,893.
- Anstalt für Montage-Technik: *See*—  
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- Hiltl, Martin. 3,112,487.
- Anstalt für Technische Entwicklung und Verwertung: *See*—  
Roussos, Georges. 3,095,618.
- Anstett, Raymond M., to Colgate-Palmolive Co. Detergent bar. 3,076,766, 2-5-63, Cl. 252-117.
- Anstrom, Jerome C., H. L. Carlisle, and H. I. Covey, to North American Aviation, Inc. Adjustable engine mount. 3,085,773, 4-16-63, Cl. 248-5.
- Ansul Chemical Co.: *See*—  
Berg, Alfred V. 3,085,424.
- Downham, Roy E. 3,105,458.
- Newland, Paul W., Sr. 3,109,593.
- Warnock, William R. 3,090,749.
- Zellner, Robert J. 3,088,522.
- Antargaz Societe Anonyme de Distribution de Gaz Liquides de Petrole: *See*—  
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- Antargaz Societe Anonyme de Distribution de Liquides de Petrole: *See*—  
Van Swinderen, Jean. 3,107,720.
- Antezak, Edmund J.: *See*—  
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- Anthes, Clifford C., to Union Carbide Corp. Cutting torch. 3,078,913, 2-26-63, Cl. 158-27.4.
- Anthes, Clifford C., B. H. Acomb, and M. Heer, Jr., to Union Carbide Corp. Blowpipe. 3,095,921, 7-2-63, Cl. 158-27.4.
- Anthes Force Oiler Co.: *See*—  
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- Anthes, John A.: *See*—  
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- Anthes, John A., to Dravo Corp. Sintering apparatus. 3,080,157, 3-5-63, Cl. 266-21.
- Anthony, Benjamin F.: *See*—  
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- Anthony, C. E.: *See*—  
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- Anthony Co.: *See*—  
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- Novotney, Frank A. 3,113,684.



- Anthony, George H.: *See*—  
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- Anthony Mfg. Corp.: *See*—  
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- Anthony, Myron L., to Scully-Anthony Corp. Machine tools. 3,102,009, 9-3-63, Cl. 340—324.
- Anthony, Stewart H. Game. 3,084,941, 4-9-63, Cl. 273—176.
- Anthony, William C.: *See*—  
Merrill, Speeter E., and Anthony. 3,076,814.
- Anthony, William E. Practice mortar shell and fuse assembly. 3,094,934, 6-25-63, Cl. 102—41.
- Antich, Paul J. Paint masking shade. 3,101,775, 8-27-63, Cl. 160—23.
- Antler, Morton, to Ethyl Corp. Lubricant compositions. 3,077,451, 2-12-63, Cl. 252—46.4.
- Antognini, Joe: *See*—  
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Tilles, Harry, and Antognini. 3,101,263.
- Antolini, Henry S. Combination attachment for earth moving tractors. 3,115,261, 12-24-63, Cl. 214—620.
- Anton, Evan J. Cigarette package with an ejector strip for each cigarette. 3,108,711, 10-29-63, Cl. 221—92.
- Antonazzi, Mario, T. J. Driscoll, B. Snyder, and M. Wolujczyk, to The Bendix Corp. Double tube manometer to calibrate pressure sensing instruments. 3,107,515, 10-22-63, Cl. 73—4.
- Antonich, Frank M. Ink drier. 3,085,143, 4-9-63, Cl. 219—19.
- Antonelli, Aquilino C. Coffee percolator. 3,078,785, 2-26-63, Cl. 99—310.
- Antonidis, John E., and W. Edmundson, Jr., to General Motors Corp. Starting apparatus. 3,071,013, 1-1-63, Cl. 74—7.
- Antonius, Anthony J., 1/2 to L. L. Pierpont. Self closing container. 3,110,335, 11-12-63, Cl. 150—42.
- Antonsen, Donald H., to Sun Oil Co. Preparation of olefin polymers. 3,108,145, 10-22-63, Cl. 260—683.15.
- Antonsen, Donald H., A. H. Gleason, M. H. Paulson, Jr., and W. L. Van Nostrand, Jr., to Esso Research and Engineering Co. Polymer coatings containing a tertiary tridecanoic acid. 3,088,839, 5-7-63, Cl. 106—287.
- Antonsen, Donald H., and A. Hahn, Jr., to Sun Oil Co. Removal of catalyst from olefin polymerization products. 3,090,777, 5-21-63, Cl. 260—93.7.
- Antonsen, Donald H., and A. E. Hirschler, to Sun Oil Co. Preparing of long chain alkyl aromatic hydrocarbons. 3,104,267, 9-17-63, Cl. 260—671.
- Antonsen, Randolph: *See*—  
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- Antonsson Avery AB: *See*—  
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- Antonucci, Camillo: *See*—  
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- Antonucci, Carmine J., to Potter Instrument Co., Inc. High speed printer cooling system. 3,086,457, 4-23-63, Cl. 101—93.
- Antoszewski, Walter J., to Owens-Illinois Glass Co. Bottle gauging apparatus. 3,073,034, 1-15-63, Cl. 33—174.
- Antrecht, Siegfried: *See*—  
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- Antrim, Doron S., N. G. Kling, and V. A. Gill, to The Weatherhead Co. Check valve. 3,097,666, 7-16-63, Cl. 137—515.5.
- Antrim Molding Co., Inc.: *See*—  
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- Antritter, Werner, to Kienzle Apparate G.m.b.H. Electrical speed measuring and recording devices. 3,111,597, 11-19-63, Cl. 310—97.
- Antz, Hans M., to Bergedorfer Eisenwerk A.G. Centrifuge rotor with discharge nozzles and mixing device. 3,108,952, 10-29-63, Cl. 233—14.
- Anzai, Taro: *See*—  
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- Anzenberger, Joseph F.: *See*—  
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- Aoki, Akira. Automatic level control system for product sliver weight. 3,083,175, 5-7-63, Cl. 19—240.
- Aoki, Koichi: *See*—  
Ohashi, Saichiro, Aoki, and Nitta. 3,111,888.
- Aoki, Kunio, to Daiwa Boseki Kabushiki Kaisha. Apparatus for opening, carding and cleaning fibrous materials. 3,077,641, 2-19-63, Cl. 19—105.
- Aoki, Ryohei: *See*—  
Motosaki, Shinichi, Tsunoda, Aoki, Okumura, Kondo, Muramatsu, Momose, and Tamagawa. 3,111,459.
- Aoki, Shigen: *See*—  
Sensui, Nobuo, Aoki, and Yoshikawa. 3,086,614.
- Aoki, Suehiro. Supply circuit for a pair of hot cathode fluorescent discharge lamps. 3,112,427, 11-26-63, Cl. 315—97.
- Aoyagi, Toshio: *See*—  
Kobayashi, Akira, Aoyagi, and Ishihara. 3,106,357.
- Aoyama, Kozo, to Asahi Kasei Kogyo Kabushiki Kaisha. Producing metallic magnesium from a magnesium oxide containing material. 3,114,627, 12-17-63, Cl. 75—67.
- Apel, Francis N.: *See*—  
Conte, Louis B., Jr., and Apel. 3,081,313.  
Conte, Louis B., Jr., and Apel. 3,098,099.
- Apel, Konstantin, to Elesta Ltd., Electronic Control Apparatus. Apparatus for counting electric impulses comprising a bistable multivibrator and a glow discharge counting tube having a plurality of cold cathodes. 3,114,075, 12-10-63, Cl. 315—84.6.
- Apellaniz, Jose A.: *See*—  
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- Apex Fibre-Glass Products, Inc.: *See*—  
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- Apex Paper Box Co.: *See*—  
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- Appelgren, James W.: *See*—  
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- Appelt, Weldon F.: *See*—  
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- Aquillino, Joseph J. Apparatus for drilling holes in ladder stringers. 3,073,187, 1-15-63, Cl. 77-62.
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- Archer, Harold B., to Rochester Institute of Technology. Half-tone screen for color separation. 3,085,878, 4-16-63, Cl. 96-118.
- Archer, Lee A., to The Pyle-National Co. Air and light distributor unit. 3,101,038, 8-20-63, Cl. 98-40.
- Archer, Osborn R., to The American Ship Building Co. Clamping device. 3,099,474, 7-30-63, Cl. 292-256.5.
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- Archer, Sydney, to Sterling Drug Inc. 3-benzyl-4-lower-alkyl-3,4,5,6-tetrahydro-4-carboline quaternary ammonium salts and preparation thereof. 3,071,589, 1-1-63, Cl. 260-296.
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- Archer, William W., to Controls Co. of America. Method of preventing binding of strip material in a progressive type die. 3,107,566, 10-22-63, Cl. 83-33.
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- Arcuri, Thomas J. Material handling apparatus. 3,107,723, 10-22-63, Cl. 160-346.
- Arden, Benjamin, to Purex Corp., Ltd. Composition for removal of heat scale and carbon deposits. 3,095,380, 6-25-63, Cl. 252-152.
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- Ardito, William A., to Westinghouse Electric Corp. Surface treating appliance. 3,099,028, 7-30-63, Cl. 15-50.
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- Arel, Robert W., and A. W. Madl, to John Oster Mfg. Co. Handle and cover means for cooking utensils. 3,081,394, 3-12-63, Cl. 219-44.



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- Arens Controls, Inc.:** *See*—  
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- Arensberg, Hans G.,** to The Dow Chemical Co. Water treatment. 3,099,521, 7-30-63, Cl. 21-2-7.
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- Argeris, John G.** Thrum ventilating skeletal mophead. 3,087,182, 4-30-63, Cl. 15-153.
- Argulmbau, Lawrence B.,** to McIntosh Laboratory, Inc. FM-AM receiver. 3,090,918, 5-21-63, Cl. 325-348.
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- Aries, Robert S.** Pyrophoric metal catalysts for olefin polymerization. 3,114,719, 12-17-63, Cl. 252-430.
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- Arkansas Co., Inc.:** *See*—  
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- Arkla Industries, Inc.:** *See*—  
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- Ark-Les Switch Corp.:** *See*—  
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- Arlauskas, Alfonsas,** to General Motors Corp. Window regulator. 3,092,377, 6-4-63, Cl. 268-121.
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- Armcast, Wilbur H.,** to Combustion Engineering, Inc. Cyclone type furnace and method of operation. 3,088,443, 5-7-63, Cl. 122-235.
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- Armcast, Wilbur H.,** to Combustion Engineering, Inc. High capacity, high temperature vapor generator. 3,102,514, 9-3-63, Cl. 122-480.
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- Armand, Charles, and P. Angleys,** to Societe d'Electro-Chimie, d'Electrometallurgie et des Acieries Electriques d'Ugine. Cutting of continuous cast bars. 3,107,704, 10-22-63, Cl. 22-200.1.
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- Armen, Ardy,** to The Dow Chemical Co. Cyclobutane derivative polymers. 3,074,914, 1-22-63, Cl. 260-78.
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- Wagoner, James E. 3,112,560.
- Artnell Co.: *See*—  
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- Artzt, William W. Garments and method of making the same. 3,078,467, 2-26-63, Cl. 2-243.
- Artzt, William W. Method of manufacturing hooded garments. 3,111,677, 11-26-63, Cl. 2-84.
- Artzt, William W. Knitted pile fabric. 3,111,829, 11-26-63, Cl. 66-194.
- Artzt, William W., and E. Adam; said Adam, assor, to said Artzt. Foot construction for garments. 3,111,676, 11-26-63, Cl. 2-80.
- Arundale Mfg. Co.: *See*—  
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- Arutunoff, Armais. Diamond drill. 3,077,936, 2-19-63, Cl. 175-101.
- Arval, John J.: *See*—  
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- Aryan, John, to Luk-O-Ma Corp. Automatic deep fat fryer. 3,078,786, 2-26-63, Cl. 99-407.
- Arvanetakis, Kiryako, and B. A. Donzis, to Travel-Ray Corp. Method and apparatus for radiographic inspection. 3,087,058, 4-23-63, Cl. 250-52.
- Arvey Corp.: *See*—  
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- Arvidson, Bengt A., to Miller Wrapping & Sealing Machine Co. Article platform support. 3,093,944, 6-18-63, Cl. 53-206.
- Arvidson, Bengt A., to Miller Wrapping & Sealing Machine Co. Wrapping equipment. 3,093,945, 6-18-63, Cl. 53-206.
- Arvin Industries, Inc.: *See*—  
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- Ludlow, Edmund. 3,112,008.
- Ludlow, Edmund, and Irwin. 3,104,734.
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- Ludlow, Edmund, Irwin, and Brighton. 3,104,732.
- Moore, Ezra L. 3,084,979.
- Placek, Raymond L., Danner, and Arthur. 3,107,748.
- Scheitlin, George E., and Draut. 3,090,677.
- Arya, Michael C., to Radio Corp. of America. Binary magnitude comparator. 3,091,392, 5-28-63, Cl. 235-177.
- Asahi Dyestuffs Mfg. Co., Ltd.: *See*—  
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- Asahi Electrochemical Industrial Co., Ltd.: *See*—  
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- Asahi Garasu Kabushiki Kaisha (Asahi Glass Co., Ltd.): *See*—  
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- Asahi Kasei Kogyo Kabushiki Kaisha: *See*—  
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- Fujisaki, Yoshisato, Kobayashi, and Takaki. 3,073,669.
- Fujisaki, Yoshisato, and Ohfuka. 3,080,209.
- Kato, Tsuneo, Ito, Kanno, and Takeo. 3,075,828.
- Yasawa, Masahide, Kojima, Takahashi, and Doi. 3,107,971.
- Yoniyama, Akira, and Yonekawa. 3,084,994.
- Asahi Optical Industry Co., Ltd., (Japanese Name: Asahi Kokaku Kogyo Kabushiki Kaisha): *See*—  
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- Asahi Shimbunsha Publishing Co., Ltd.: *See*—  
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- Asaka, Shigefumi: *See*—  
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- Asaki Optical Industry Co., Ltd.: *See*—  
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- Asakura, Hiroshi: *See*—  
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- Asamaki, Tatsuo, to Nippon Electric Co., Ltd. Ionization vacuum gauge. 3,109,136, 10-29-63, Cl. 324-83.
- Asami, Taiichi. Fractionating column for Kjeldahl apparatus and the like. 3,103,471, 9-10-63, Cl. 202-190.
- Asanabe, Sizuo: *See*—  
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- Asano, Kosuke: *See*—  
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- Asaro, Vito, and H. J. Tischler, to Young Spring & Wire Corp. Seat construction. 3,071,367, 1-1-63, Cl. 267-107.
- Asars, Juris A., to Westinghouse Electric Corp. Electroluminescent-ferroelectric-photoconductive display device. 3,107,314, 10-15-63, Cl. 315-151.
- Asbest- und Gummiwerke Martin Markel K.G.: *See*—  
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- Asbrink & Co., Aktiebolaget: *See*—  
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- Asbury, Ray W. Inclined fitting with thread providing flat engagement with box wall. 3,083,990, 4-2-63, Cl. 285-161.
- Aschauer, George R., to Twin Disc Clutch Co. Friction plate clutch. 3,072,235, 1-8-63, Cl. 192-99.
- Aschermann, Wilfried, to North American Philips Co., Inc. Circuit arrangement comprising two successive valve amplifying stages. 3,092,785, 6-4-63, Cl. 330-178.
- Aschoff, Willis A. High vacuum pump. 3,112,869, 12-3-63, Cl. 230-205.
- Aschwanden, Paul, to Mettler's Fr., Sohne, Aktiengesellschaft. Brake device for the reels of thread-working machines. 3,092,341, 6-4-63, Cl. 242-36.
- Ascoli, Enzo, to Paillard S.A. Electromechanical arrangement controlling a movable part in at least two directions. 3,087,772, 4-30-63, Cl. 346-140.
- Ascot Gas Water Heaters Ltd.: *See*—  
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- Huyck, Willard M., and Romito. 3,098,751.
- Ash, Eric A., to International Standard Electric Corp. Electric wave generators. 3,090,886, 5-21-63, Cl. 315-3.6.
- Ash, Jacob A.: *See*—  
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- Ash, James C.: *See*—  
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- Ash, Michael E., to Arthur Guinness Son and Co. (Park Royal) Lt. Perforated disc restrictor means for use in dispensing fermented liquors. 3,084,718, 4-9-63, Cl. 138-40.
- Ash, Stanley P., to The New Britain Machine Co. Pattern control attachment for machine tool. 3,077,864, 2-19-63, Cl. 121-45.
- Ashbrook, Charles S., Jr.: *See*—  
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- White, Theodore Z., and Ashbrook. 3,115,329.
- Wilson, Wilson G., and Ashbrook. 3,115,329.
- Ashbrook, Clifford L. Oil well shooting projectile and method. 3,072,054, 1-8-63, Cl. 102-21.



- Ashbrook, Clifford L., and W. G. Wing. Gas inertia controller. 3,115,060, 12-24-63, Cl. 89-14.
- Ashby, Eugene C., to Ethyl Corp. Process for the preparation of amine-borane complexes. 3,094,562, 6-18-63, Cl. 260-583.
- Ashby, Eugene C., W. E. Foster, J. R. Mangham, and T. H. Pearson, to Ethyl Corp. Process for preparation of organo-boron compounds. 3,106,560, 10-8-63, Cl. 260-290.
- Ashby, Frederick R.: *See*—  
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- Ashby Metal Forming Corp.: *See*—  
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- Ashby, Ralph E. Poultry waterer valve and trough bracket combined. 3,108,573, 10-29-63, Cl. 119-81.
- Ashby, William C., W. W. Bunting, Jr., R. Meagher, T. L. Nelson, and K. G. Swayne, to E. I. du Pont de Nemours and Co. Improved yarn handling sucker gun. 3,094,262, 6-18-63, Cl. 226-97.
- Ashcraft, William D., to North American Aviation, Inc. Detector having desired waveform detected within specified amplitude range and as function of time. 3,095,541, 6-25-63, Cl. 328-115.
- Ashenfarb, Samuel. Heat exchange system and heating element therefor. 3,105,136, 9-24-63, Cl. 219-34.
- Asher, Max W., to Screw Conveyor Corp. Conveyor chain hold-down means. 3,111,217, 11-19-63, Cl. 198-174.
- Asher, Robert H. Lamp shade. 3,075,074, 1-22-63, Cl. 240-108.
- Asher, Sidney, to Pages, Inc. Orthodontic torquing method and apparatus. 3,087,245, 4-30-63, Cl. 32-14.
- Asher, Thomas M., to Hyland Laboratories. Diagnostic reagent container. 3,107,805, 10-22-63, Cl. 215-1.
- Ashford, Ernest, to Johnson & Jorgensen Ltd. Fixture for stretch severing of glass tubes. 3,105,753, 10-1-63, Cl. 65-283.
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- Ashkin, Arthur, to Bell Telephone Laboratories, Inc. Parametric amplifier. 3,085,207, 4-9-63, Cl. 330-47.
- Ashkin, Arthur, to Bell Telephone Laboratories, Inc. Parametric electron beam device. 3,101,449, 8-20-63, Cl. 330-47.
- Ashland Oil & Refining Co.: *See*—  
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- Ashley, Albert H.: *See*—  
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- Ashley, Carlyle M., to Carrier Corp. Method and apparatus for rendering saline water potable. 3,073,131, 1-15-63, Cl. 62-58.
- Ashley, Carlyle M., and C. M. Bosworth, to Carrier Corp. Separation systems. 3,070,969, 1-1-63, Cl. 62-58.
- Ashley, Eugene, to General Electric Co. Recoil mechanism. 3,114,291, 12-17-63, Cl. 89-42.
- Ashley, James R., and C. M. Veronda, to Sperry Rand Corp. Depressed potential operation of electron beam tubes. 3,098,979, 7-23-63, Cl. 330-44.
- Ashley, Paul R., and D. D. Laing, to Calumet & Hecla, Inc. Catalytic automotive exhaust converter. 3,100,140, 8-6-63, Cl. 23-288.
- Ashley, Robert B., to General Electric Co. Transistor vertical deflection circuit. 3,098,171, 7-16-63, Cl. 315-27.
- Ashmead, Lloyd R., to Richards-Wilcox Mfg. Co. Cushioned retarder. 3,085,659, 4-16-63, Cl. 188-42.
- Ashton, Albert A., to The Youngstown Sheet and Tube Co. Plastic tower. 3,100,555, 8-13-63, Cl. 189-19.
- Ashton, Robert: *See*—  
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- Ashwill, Richard E., to Air Products and Chemicals, Inc. Hydrodesulfurization of catalytically cracked gas oil. 3,115,455, 12-24-63, Cl. 208-93.
- Ashwood, Peter F., to Power Jets (Research and Development) Ltd. Discharge nozzles for propulsive jets. 3,109,284, 11-5-63, Cl. 60-35.6.
- Ashworth, Bonnie A. Mop. 3,077,627, 2-19-63, Cl. 15-228.
- Ashworth, Fred, to Associated Electrical Industries (Manchester) Ltd. Manufacture of printed electrical circuits. 3,115,423, 12-24-63, Cl. 117-212.
- Ashworth, Norman I. Apparatus for preparing surfaces for receiving coats of paint. 3,103,084, 9-10-63, Cl. 51-8.
- Ashworth, William J., to Artnell Co. Paper end indicator for typewriters. 3,091,321, 5-28-63, Cl. 197-189.
- Asire, George F. Lubricating system. 3,097,722, 7-16-63, Cl. 184-105.
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- Aske, Charles B., Jr., to Gar Wood Industries, Inc. Tire trim-wheel trim construction. 3,078,125, 2-19-63, Cl. 307-37.
- Askew, William J., Sr. Tool for removing caulking. 3,110,054, 11-12-63, Cl. 15-236.
- Askinazy, Leo. Hemming and crimping die. 3,071,176, 1-1-63, Cl. 153-12.
- Askins, William J., to The Frank G. Hough Co. Motor vehicle transmission controls. 3,090,473, 5-21-63, Cl. 192-13.
- Asnes, Floyd, to Namm & Singer, Inc. Button feeding apparatus. 3,089,443, 5-14-63, Cl. 112-110.
- Aspeek, Reginald J. Engine starting power tool. 3,071,126, 1-1-63, Cl. 123-179.
- Aspergren, Brooke D.: *See*—  
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- Aspergren, Brooke D., R. B. Moffett, and M. E. Speeter, to The Upjohn Co. Preparation of amides of 4-tertiary amino-lower 4-alkylbutyric acids. 3,072,722, 1-8-63, Cl. 260-558.
- Aspergren, Brooke D., and R. V. Heinzelman, to The Upjohn Co. Therapeutic 1-(1,2-diphenylethyl)pyrrolidine for the management of depression. 3,083,139, 3-26-63, Cl. 167-65.
- Aspey, Wayne S., and B. P. Baker, deceased (by The Mellon National Bank and Trust Co., executor), to Westinghouse Electric Corp. Circuit interrupter with pressure-generating and interrupting contacts in insulating interrupting tube. 3,110,791, 11-12-63, Cl. 200-145.
- Aspinwall, Robert H., to General Motors Corp. Turbine wheel. 3,090,597, 5-21-63, Cl. 253-39.
- Asplund, Arne J. A. Continuous disc type press. 3,086,453, 4-23-63, Cl. 100-106.
- Asplund, Arne J. A. Continuously operating press apparatus. 3,086,454, 4-23-63, Cl. 100-121.
- Aspro-Nicholas Ltd.: *See*—  
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- Asquith, William, Ltd.: *See*—  
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- Asrican, Manfred, to International Teaching Machine Corp. Teaching aid apparatus. 3,090,137, 5-21-63, Cl. 35-35.
- Assalini, Giuseppe, to Rohm & Haas Co. Process for crystallizing sugar from solution. 3,074,819, 1-22-63, Cl. 127-46.
- Assalini, Giuseppe, to Rohm & Haas Co. Filtration process. 3,078,188, 2-19-63, Cl. 127-55.
- Assalini, Giuseppe, to Rohm & Haas Co. Process for purifying sugar. 3,097,114, 7-9-63, Cl. 127-46.
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- Associated Electrical Industries Ltd.: *See*—  
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- Associated Electrical Industries (Rugby) Ltd.: *See*—  
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- Asplundh, Lester, to Asplundh Tree Expert Co. Lifting ap-  
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- Astheimer, Robert W., to United States of America, Army.  
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- Astheimer, Robert W., to Barnes Engineering Co. Photo-  
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- Astheimer, Robert W., and M. M. Merlen, to Barnes Engi-  
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- Aszalos, Adorian, to National Starch and Chemical Corp.  
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- Aszkenas, Max, Watch strap for belts, 3,115,288, 12-24-63,  
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- Atadan, Erdem M., and F. D. Marsh, to E. I. du Pont de  
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- Atchison, Leonard W., to General Electric Co. Automatic  
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- Atchison, Leonard W., to General Electric Co. Air condi-  
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- Atchison, Leonard W., to General Electric Co. Rotary com-  
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- Atchley, Raymond D., to American Brake Shoe Co. Appara-  
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- Atherton, Robert R., and J. P. Staples, to United States of  
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- Atkin, Leonard, to Stonco Electric Products Co. Lamp  
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- Atkin, Leonard, to Stonco Electric Products Co. Lamp recep-  
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- Atkin, Rupert L., to Kelsey-Hayes Co. Wheel and cover as-  
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- Atkins, Carl E., J. E. Canfield, and R. L. Ziolkowski, to  
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- Atkins, Don C., Jr., and R. V. Edds, to Purex Corp., Ltd.  
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- Atkins, Earle R., Jr., P. W. Fischer, and P. G. Nahin, to Union  
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- Atkins, John H. C., and R. W. Fuller, to Baker Perkins Inc.  
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- Atkins, Joseph C. Record storage holder and rack, 3,100-  
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- Atkins, Lyle D., and W. E. Holmgreen, Jr., to Warning Lites  
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- Atkins, Lyle D., and W. E. Holmgreen, Jr., to Warning Lites  
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- Atkinson, Denzil M. Beryllium brazing, 3,083,451, 4-2-63,  
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- Atkinson, Denzil M., to Associated Electrical Industries  
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- Atkinson, Duane E. Spraying apparatus, 3,074,649, 1-22-63,  
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- Atkinson, Duane E. Acoustic level sensing system, 3,079-  
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- Atkinson, Gerald O., W. H. Cline, Jr., and R. A. Cunning-  
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- Atkinson, Guy F., Co.: *See*—  
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- Atkinson, Ralph L., to Johnson & Johnson. Tapered sanitary  
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- Atkinson, Ralph L., to Johnson & Johnson. Absorbent  
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- Atwood, Seth G., K. B. Kittle, R. E. Slattery, and R. W. Simpson, to Automatic Canteen Co. of America. Adjustable cup dispenser. 3,071,292, 1-1-63, Cl. 221—223.
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- Aubert, Michel, and R. Roche, to Commissariat a l'Energie Atomique. Supports for combustible elements in atomic piles or reactors having vertical channels. 3,085,965, 4-16-63, Cl. 204—193.2.
- Aubert, Michel, S. Foglia, and R. Roche, to Commissariat a l'Energie Atomique. System for supporting nuclear fuel in atomic reactors. 3,100,743, 8-13-63, Cl. 204—193.2.
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- Seiferth, Oscar E., and Austin. 3,116,153.
- Seiferth, Oscar E., Austin, and Snyder. 3,086,869.
- Austin, Harry W., to Mine Safety Appliances Co. Protective headgear. 3,083,371, 4-2-63, Cl. 2—3.
- Austin, Harry W., to Mine Safety Appliances Co. Helmet shell suspension with adjustable height sweat band. 3,092,837, 6-11-63, Cl. 2—3.
- Austin, James M., G. F. Garvin, and W. Karr-Ake, to Southwest Industrial Products, Inc. Stone facer. 3,073,295, 1-15-63, Cl. 125—6.
- Austin, John J. Float-controlled valve for poultry-watering apparatus and the like. 3,091,253, 5-28-63, Cl. 137—418.
- Austin, Kenneth A., and W. O'Connor, to Avco Corp. Auxiliary power drive mechanism for a gas turbine engine. 3,100,378, 8-13-63, Cl. 60—39.16.
- Austin Motor Co. Ltd., The: *See*—  
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- Page, Graham D. 3,086,364.
- Page, Graham D. 3,090,394.



- Austin, Oliver K., to Phillips Petroleum Co. Interlocked system for pelleting and pellet drying operations. 3,071,803, 1-8-63, Cl. 18—1
- Austin, Oliver K., to Phillips Petroleum Co. Control of carbon black feed oil preheat. 3,095,273, 6-25-63, Cl. 23—209.6
- Austin, Peter: *See—*  
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- Austin, R. E., & Son: *See—*  
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- Austin, Raymond E., to R. E. Austin & Son. Basketball net. 3,109,647, 11-5-63, Cl. 273—1.5.
- Austin, Robert J., J. F. Grutsch, and R. C. Mallatt, to Standard Oil Co. Oxygenation apparatus. 3,101,321, 8-20-63, Cl. 210—151.
- Austin, Theodore D., to United States of America, Navy. Desensitization of liquid explosives. 3,116,188, 12-31-63, Cl. 149—88.
- Austin, Walter H., Jr., and W. F. Frey, to United States of America, Army. Ejector mechanism for artillery guns. 3,110,220, 11-12-63, Cl. 89—21.
- Austin, William B. System for handling flimsy carbon sheets. 3,088,730, 5-7-63, Cl. 270—58.
- Austin, William E., F. A. Levin, and T. H. Binaski, to The Nestle-Le Mur Co. Urea-fatty alcohol adduct dyeing composition and hair dyeing therewith. 3,098,013, 7-16-63, Cl. 167—88.
- Australia, Commonwealth of, Department of Supply, The: *See—*  
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- Autenrieth, Hans, and G. Peuschel, to Kali-Forschungs-Anstalt G.m.b.H. Electrostatic separation. 3,073,447, 1-15-63, Cl. 209—127.
- Auto Craft Products, Inc.: *See—*  
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- Auto Research Corp.: *See—*  
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- Auto Specialties Mfg. Co.: *See—*  
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- Autographic Business Forms, Inc.: *See—*  
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- Automatic Electrical Control Co. Ltd., The: *See—*  
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- Automatic Metal Products Corp.: *See—*  
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- Automatic Switch Co.: *See—*  
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- Automatic Tape Control, Inc.: *See—*  
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- Automatic Telephone & Electric Co. Ltd.: *See—*  
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- Automatic Welding Co.: *See—*  
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- Automation Products, Inc.: *See—*  
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- Automation Products, Inc. Electric motor control system. 3,075,466, 1-29-63, Cl. 103—25.
- Automotive Products Co. Ltd.: *See—*  
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- Auto-Test, Inc.: *See—*  
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- Auto-View Welding Helmet Co.: *See—*  
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- Auyang, Raymond P.: *See*—  
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- Avallone, Eugene A., and R. M. Staff, to Eastern Rolling Mills, Inc. Bearings. 3,076,524, 2-5-63, Cl. 184-7.
- Avco Corp.: *See*—  
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- Avco Corp., Lycoming Division: *See*—  
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- Avco Mfg. Corp.: *See*—  
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- Avco Mfg. Corp., Lycoming Division: *See*—  
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- Avedikian, Souren Z. Production of copper isocinchomeronate and isocinchomeric acid. 3,081,307, 3-12-63, Cl. 260-270.
- Avedissian, Michael K. Massaging apparatus. 3,094,119, 6-18-63, Cl. 128-41.
- Avedko N.V.: *See*—  
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- Aven, Manuel, and R. M. Potter, to General Electric Co. Process for providing improved maintenance to electroluminescent phosphors. 3,080,325, 3-5-63, Cl. 252-301.6.
- Aven, Walter. Calendar reminder and dispensing device. 3,099,352, 7-30-63, Cl. 206-78.
- Avera, Trent W., and J. A. Cunningham, to Crose-United Corp. Mandrel for pipe bending machines. 3,109,477, 11-5-63, Cl. 153-63.
- Averbach, Benjamin L., to The Alloyd Corp. Process of coating vitreous filaments. 3,083,550, 4-2-63, Cl. 65-3.
- Averbach, Benjamin L., to Weinschel Engineering Co. Inc. Low temperature coefficient alloy. 3,114,662, 12-17-63, Cl. 148-142.
- Averette, Thomas P. Sheep foot tamper. 3,099,191, 7-30-63, Cl. 94-48.
- Averill, Eugene F., to Titus Mfg. Corp. Fire safety damper units. 3,076,469, 2-5-63, Cl. 137-74.
- Averill, Eugene F., to Titus Mfg. Corp. Air distribution devices and grilles. 3,087,410, 4-30-63, Cl. 98-114.
- Averill, Eugene F., and H. E. Straub, to Titus Mfg. Corp. Antismudging air diffusers. 3,087,407, 4-30-63, Cl. 98-40.
- Avery, Clarence L., to Woodward Governor Co. Governor system. 3,112,406, 11-26-63, Cl. 290-40.
- Avery, Fred J., to Materials Transportation Co. Carton clamp for lift trucks. 3,115,262, 12-24-63, Cl. 214-654.
- Avery-Hardoll Ltd.: *See*—  
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- Avery, Harold T., to Minneapolis-Honeywell Regulator Co. Rotating wing aircraft. 3,081,966, 3-19-63, Cl. 244-17.13.
- Avery, Howard S., and H. J. Chapin, to American Brake Shoe Co. Manganese steel. 3,075,838, 1-29-63, Cl. 75-123.
- Avery Industries, Inc.: *See*—  
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- Avery, Julian M., to Ethyl Corp. Metallic magnesium via electrolytic amalgamation. 3,074,861, 1-22-63, Cl. 204-124.
- Avery, Philip J. Hay baling apparatus. 3,110,145, 11-12-63, Cl. 56-1.
- Avery, Robert W., to International Business Machines Corp. Form-reading and information-converting apparatus. 3,114,035, 12-10-63, Cl. 235-61.11.
- Avery, W. & T., Ltd.: *See*—  
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- Avery, William F., and R. W. Alexis, to Union Carbide Corp. Hydrogen recovery. 3,111,387, 11-19-63, Cl. 23-212.
- Avery, Robert W., S. Gardner, and D. A. Harrison, to International Business Machines Corp. Controlled, regenerative feedback transmission gate with shunting capacitor and inhibiting bias for prompt operation. 3,079,511, 2-26-63, Cl. 307-88.5.
- Aves, Fred J. Curb signal device. 3,089,455, 5-14-63, Cl. 116-28.
- Avien, Inc.: *See*—  
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- Avila, Lawrence H. Outdoor cooking unit. 3,094,113, 6-18-63, Cl. 126-30.
- Avinor, Michael, to North American Philips Co., Inc. Infra-red phosphors using vanadium as an activator. 3,109,818, 11-5-63, Cl. 252-301.6.
- Avins, Jack, to Radio Corp. of America. Stereophonic sound receiver system. 3,080,453, 3-5-63, Cl. 179-15.
- Avins, Jack, to Radio Corp. of America. Desired frequency coupling circuit having undesired frequency cancellation trap located at voltage null point for desired frequency. 3,114,889, 12-17-63, Cl. 333-76.
- Avins, Jack, and B. Fisher, to Radio Corp. of America. Interstage network using cancellation trap as effectively untuned coupling between resonant circuits. 3,103,554, 9-10-63, Cl. 178-5.8.
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- Avon India Rubber Co. Ltd.: *See*—  
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- Avril, Arthur C., to A & T Development Corp. Bag closing machine. 3,097,461, 7-16-63, Cl. 53-137.
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- Axe, William N., and D. P. Montgomery, to Phillips Petroleum Co. Method of making jet fuel and use thereof. 3,077,733, 2-19-63, Cl. 60-35.4.
- Axelrod, Martin S., and D. E. Rosenheim, to International Business Machines Corp. Matched negative resistance pair having critical inductance in series effecting slight instability. 3,096,450, 7-2-63, Cl. 307-88.5.
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- Axelson, Eskil A. A. Electrical paint heater. 3,096,426, 7-2-63, Cl. 219-38.
- Axelson, Eskil A. A., and L. A. G. Gyllinder, to Svenska Maskinaktiebolaget Greiff. Spray painting gun for electrostatic spray painting. 3,111,266, 11-19-63, Cl. 239-15.
- Axelson Fishing Tackle Mfg. Co.: *See*—  
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- Axelsson, Nils R., and S. G. Wretemark, to Telefonaktiebolaget LM Ericsson. Arrangement for induction heating. 3,103,571, 9-10-63, Cl. 219-10.61.
- Axer, Heinrich J., to Schiess Aktiengesellschaft. Cutter head. 3,077,025, 2-12-63, Cl. 29-105.
- Axhelm, Ivey W. Build-up and hard surfacing machine. 3,075,067, 1-22-63, Cl. 219-76.
- Axmear, Vernon B.: *See*—  
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- Axtell, Clive S., to Bausch & Lomb Inc. Magnetic brake assembly. 3,071,212, 1-1-63, Cl. 188-165.
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- Axtell, Willard G., to Shwarder Brothers, Inc. Presses. 3,094,743, 6-25-63, Cl. 18-16.
- Axthammer, Ludwig, to Fichtel & Sachs A.G. Hydro-pneumatic spring element. 3,094,317, 6-18-63, Cl. 267-64.
- Axthammer, Ludwig, to Fichtel & Sachs A.G. Hydro-pneumatic suspension device. 3,110,485, 11-12-63, Cl. 267-64.
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- Ayer, Donald E., to The Upjohn Co. Chlorination and fluorination of cycloheximide and compounds produced thereby. 3,105,078, 9-24-63, Cl. 260-281.
- Ayer, Donald R., J. L. Butler, and R. L. Williston, to Sanders Associates, Inc. Variable transmission line coupler. 3,095,544, 6-25-63, Cl. 333-10.
- Ayer, William H.: See—
- Francis, Samuel A., Gray, and Ayer. 3,083,261.
- Ayer, William H., and R. W. Joslin, to The Sippican Corp. Weldable circuit cards. 3,098,951, 7-23-63, Cl. 317-101.
- Ayers, Buell O., to Phillips Petroleum Co. Chromatographic separation process. 3,111,025, 11-19-63, Cl. 73-23.
- Ayers, David T., Jr., to Kelsey-Hayes Co. Fluid pressure motor mechanism. 3,076,441, 2-5-63, Cl. 121-38.
- Ayers, David T., Jr., to Kelsey-Hayes Co. Fluid pressure motor mechanism. 3,093,120, 6-11-63, Cl. 121-38.
- Ayers, David T., Jr., to Kelsey-Hayes Co. Power brake for motor vehicles. 3,115,067, 12-24-63, Cl. 91-391.
- Ayers, Earl D., to Burroughs Corp. Method and means for modulating a magnetron beam tube. 3,101,429, 8-20-63, Cl. 315-30.
- Ayers, Edgar H., to Clark Equipment Co. Electric reversing switch mechanism with mechanical interlock. 3,112,380, 11-26-63, Cl. 200-50.
- Ayers, George W., to The Pure Oil Co. Odor-free naphthas. 3,080,314, 3-5-63, Cl. 208-289.
- Ayers, George W., to The Pure Oil Co. Process for removing metal contaminants from petroleum oil. 3,105,038, 9-24-63, Cl. 208-251.
- Ayers, George W., and W. A. Krewer, to The Pure Oil Co. Method of preparing odorless naphthas. 3,073,778, 1-15-63, Cl. 208-289.
- Ayers, George W., and W. C. Allinder, to The Pure Oil Co. Halomethylation process. 3,076,039, 1-29-63, Cl. 260-649.
- Ayers, George W., and W. A. Krewer, to The Pure Oil Co. Process for the reduction of the free acidity in mineral lubricating oils. 3,083,156, 3-26-63, Cl. 208-263.
- Ayers, George W., and W. A. Krewer, to The Pure Oil Co. Method of preparing petroleum fractions of improved odor using  $\beta$ -lactones. 3,091,585, 5-28-63, Cl. 208-199.
- Ayers, John S.: See—
- King, William R., and Ayers. 3,100,957.
- Ayers, John S., and A. M. Brown, to Jas. H., Matthews & Co. Indexing apparatus for marking devices and the like. 3,101,013, 8-20-63, Cl. 74-818.
- Ayers, Joseph W., to Agrashell, Inc. Compositions comprising lignocellulosic extender and oxidized extracted lignin and adhesive solution containing same. 3,093,604, 6-11-63, Cl. 260-172.
- Ayers, Joseph W., to Agrashell, Inc. Laminating glue solutions and extender compositions therefor and process for preparing same. 3,093,605, 6-11-63, Cl. 260-172.
- Ayers, Joseph W., to Agrashell, Inc. Extender compositions and synthetic resin glue solutions containing the same. 3,093,606, 6-11-63, Cl. 260-172.
- Ayers, Joseph W., to Agrashell, Inc. Plywood adhesive solutions and extender compositions therefor. 3,093,607, 6-11-63, Cl. 260-172.
- Ayers, Ralph E., to General Electric Co. Tapped transformer winding. 3,113,281, 12-3-63, Cl. 336-150.
- Ayerst, Ronald P., to Minister of Aviation, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Process for the manufacture of ammonium perchlorate. 3,105,735, 10-1-63, Cl. 23-85.
- Aykanian, Ardashus A., to Monsanto Chemical Co. Blow extrusion apparatus. 3,079,636, 3-5-63, Cl. 18-14.
- Aylesworth, Robert D., B. R. Krabacher, R. G. Kadesch, and N. O. V. Sonntag, to Emery Industries, Inc. Esters of structurally stabilized acids. 3,074,981, 1-22-63, Cl. 260-410.6.
- Ayling, Robert W., to Westinghouse Electric Corp. Hermetic compressors having horizontal crankshafts. 3,080,106, 3-5-63, Cl. 230-206.
- Ayling, Robert W., to Westinghouse Electric Corp. Gas compressor valves. 3,112,064, 11-26-63, Cl. 230-231.
- Ayling, Russell J.: See—
- Chellis, Fred F., Glaser, and Ayling. 3,103,574.
- Aylor, William W., to Layne-Central Co. Boat propulsion means. 3,114,239, 12-17-63, Cl. 60-35.54.
- Aymar, Robert H., to SCM Corp. Mechanical binary adder. 3,116,014, 12-31-63, Cl. 235-61.
- Ayoub, Michael A., to Waters Mfg., Inc. Potentiometer. 3,099,811, 7-30-63, Cl. 338-174.
- Ayrapaa, Teuvo P., to A. Kabl. Enzyme purification. 3,098,015, 7-16-63, Cl. 195-66.
- Ayres, Arthur U., to The Sharples Corp. Improvement in centrifuge rotors. 3,075,695, 1-29-63, Cl. 233-46.
- Ayres, Douglas J., to The Cementation Co. Ltd. Mechanical rendering of surfaces and pointing of brickwork. 3,077,415, 2-12-63, Cl. 106-75.
- Ayres, Harry V., to Eaton Mfg. Co. Hydraulic valve lifter mechanism. 3,090,367, 5-21-63, Cl. 123-90.
- Ayres, Hugh J., and P. T. W. Chisholm, to Halliburton Co. Apparatus for testing wells. 3,103,811, 9-17-63, Cl. 73-152.
- Ayres, John E., to Oil Equipment Laboratories, Inc. Lever-actuated dispenser for pressurized package. 3,101,876, 8-27-63, Cl. 222-394.
- Ayres, Merrill S. Container-dispenser for salmon eggs and the like. 3,091,364, 5-28-63, Cl. 221-256.
- Ayres, Reginald J., to General Electric Co. Electric lamp base and structure. 3,093,768, 6-11-63, Cl. 313-318.
- Ayros, Richard E. Riding toy. 3,088,733, 5-7-63, Cl. 272-51.
- Ayres, Wesley F., J. L. Melchor, and P. H. Vartanian, Jr., to Sylvania Electric Products, Inc. Gyromagnetic isolator using a non-uniform magnetic bias. 3,095,546, 6-25-63, Cl. 333-24.2.
- Ayrolidi, Giuseppe. Non dazzling lights for motorcars. 3,088,023, 4-30-63, Cl. 240-41.1.
- Azar, Leonard: See—
- Farnsworth, Robert P., and Azar. 3,076,135.
- Aziende Colori Nazionali Affini Acna S.p.A.: See—
- Gaetani, Ermanno. 3,089,868.
- Gaetani, Ermanno. 3,090,780.
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- Tessadori, Marco. 3,092,435.
- Azmus, Fred W. Stomper for meat grinder. 3,107,711, 10-22-63, Cl. 146-203.
- Azoplate Corp.: See—
- Andrus, Julius J. 3,115,093.
- Bethe, Günther. 3,072,479.
- Endermann, Fritz, Uhlig, and Stahlhofen. 3,102,809.
- Heiss, Hans, and Osswald. 3,110,596.
- Klumpf, Kurt-Walter, Stumpf, Behmenburg, Wilhelm, and Tomanek. 3,097,095.
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- Schlesinger, Heinz. 3,114,633.
- Süs, Oskar, and Schaefer. 3,092,494.
- Tomanek, Martha, and Neugebauer. 3,100,726.
- Uhlig, Fritz. 3,108,535.
- Azzato, Louis E.: See—
- Braca, Raphael M., and Azzato. 3,113,095.
- Azzolari, Guido, to Fabrique Nationale d'Armes de Guerre, Societe Anonyme. Central head support for circular knitting and like machines. 3,084,527, 4-9-63, Cl. 66-8.
- Azzolari, Guido, to Societe Anonyme Fabrique Nationale d'Armes de Guerre. Control and braking device for pin-carrying drums of circular knitting machines and the like. 3,086,378, 4-23-63, Cl. 66-50.
- Azzolari, Guido, to Societe Anonyme Fabrique Nationale d'Armes de Guerre. Control device for the selectors of circular knitting and like machines. 3,103,801, 9-17-63, Cl. 66-50.
- Azzolari, Guido, to Fabrique Nationale d'Armes de Guerre, Societe Anonyme. Manual and automatic device for the displacement of the drive belts, more particularly for hosiery or similar machines. 3,108,486, 10-29-63, Cl. 74-242.
- B J Service, Inc.: See—
- Levin, Herman. 3,074,951.
- Riordan, Mathew B., Jr. 3,101,115.
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- B.M.M.F. Bornholms Mejerimaskinfabrik Ejnar Jensen: See—
- Jensen, Ejnar. 3,079,143.
- BMW Triebwerkbau Gesellschaft m.b.H.: See—
- Deinhardt, Hans. 3,078,667.
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- Werner, Reinhold. 3,078,670.
- BSR Ltd.: See—
- Guest, Lawrence V. 3,073,540.
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- BTR Industries Ltd.: See—
- Arnett, Meyrick. 3,086,274.
- Brake, William R. 3,114,540.
- B & W Inc.: See—
- Solum, James R., and Hempel. 3,100,016.
- Solum, James R., and Hempel. 3,114,422.
- Solum, James R., Hempel, and C. R. Solum, Jr. 3,074,483.
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- Solum, James R., Hempel, and Solum. 3,109,492.
- B.X. Plastics Ltd.: See—
- Smith, Robert R., Mann, and Salmon. 3,081,242.
- Baak, Albert E. Gas valve. 3,084,900, 4-9-63, Cl. 251-54.
- Baar, Howard E., and M. R. Hughes, to Bissell Inc. Roller applicator with axially-reciprocating-handle-operated valve. 3,094,737, 6-25-63, Cl. 15-533.
- Baarse, Joseph L.: See—
- Murray, Victor E. 3,092,409.
- Baars, Johan K.: See—
- Schramm, Paul, Fechter, Baars, and Muskat. 3,109,875.
- Baaron, Robert E.: See—
- Kauffman, Robert S., Baaron, and Treweek. 3,114,704.
- McCorkle, Miles R., Baaron, Shapiro, and Treweek. 3,073,448.



- Baaron, Robert E., and C. W. Jonaitis, to Armour and Co. Method for concentrating aluminum silicates and zircon from beach sand. 3,097,162, 7-9-63, Cl. 209-166.
- Baaron, Robert E., H. B. Treweek, C. W. Jonaitis, and C. L. Ray, to Armour & Co. Phosphate ore flotation process. 3,098,817, 7-23-63, Cl. 209-166.
- Baas, Hendrik B., and E. J. J. Veldhuijzen, to North American Philips Co., Inc. Hot-gas reciprocating machine and system composed of a plurality of these machines. 3,074,229, 1-22-63, Cl. 60-24.
- Baasner, Wilhelm, to Agfa Aktiengesellschaft. Photographic masking arrangement. 3,089,384, 5-14-63, Cl. 88-24.
- Baasner, Wilhelm, to Agfa Aktiengesellschaft. Projection printer provided with comparison negatives. 3,094,035, 6-18-63, Cl. 88-24.
- Baatrup, Johannes V., to Danfoss ved ingenior Mads Clausen. Regulating and shut-off unit for a preferably gas-heated flow-type water heater. 3,104,813, 9-24-63, Cl. 236-102.
- Babayan, Vigen K., to E. F. Drew & Co., Inc. High smoke point frying oil. Re. 25,488, 11-26-63, Cl. 99-118.
- Babb, Jackson L.: *See*—  
White, William S., Jr., Babb, and McGuire. 3,096,819.
- Babb, James G., and H. J. Hershey; said Hershey assor. to Bell Telephone Laboratories, Inc., and said Babb assor. to Western Electric Co., Inc. Space saver dial. 3,105,122, 9-24-63, Cl. 179-90.
- Babbel, Roy E. Multi-functional motor vehicle. 3,083,047, 3-26-63, Cl. 296-23.
- Babbittess: *See*—  
Barrot, Paul M. E., and Lemardeley. 3,107,868.
- Babbitt, Robert P., and J. L. Clure, to The Marquardt Corp. Sudden expansion burner having step fuel injection. 3,074,469, 1-22-63, Cl. 158-1.
- Babcock, David L.: *See*—  
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- Babcock, Eugene W.: *See*—  
Sharp, Donald E., Dean, Babcock, and Montgomery. 3,078,692.
- Babcock, Harold S.: *See*—  
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- Babcock, John C.: *See*—  
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- Babcock, John C., J. A. Campbell, and R. L. Pederson, to The Upjohn Co. 2a-methyl-11-oxygenated-5a-androstanes. 3,098,083, 7-16-63, Cl. 260-397.45.
- Babcock, John C., J. A. Campbell, and R. L. Pederson, to The Upjohn Co. 3-enamine derivatives of 2a-methyl-5a-androstanes. 3,098,850, 7-23-63, Cl. 260-239.5.
- Babcock, John C., and R. L. Pederson, to The Upjohn Co. 4-methyl-17-alpha-hydroxy-progesterone and esters thereof. 3,102,896, 9-3-63, Cl. 260-397.4.
- Babcock, Mary B., and H. S. Hydraulically operated bed chair. 3,095,235, 6-25-63, Cl. 297-63.
- Babcock, Roger S.: *See*—  
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- Babcock, Stephen W., and D. W. Grisel, to General Dynamics Corp. Variable inductive device. 3,087,131, 4-23-63, Cl. 336-133.
- Babcock & Wilcox Co., The: *See*—  
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Davies, David K., and Schoessow. 3,084,742.  
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Hardgrove, Ralph M. 3,105,540.  
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Johnson, Lowell E. 3,090,603.  
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Koch, Paul H. 3,081,748.  
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Smith, Charles S. 3,115,123.  
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- Babcock & Wilcox Ltd.: *See*—  
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De Mart, Le Roy S. 3,099,076.  
De Mart, Le Roy S. 3,099,434.  
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Evans, Richard H. 3,105,466.  
Genier, Henri. 3,087,362.  
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- Babcock & Wilcox Ltd.: *See*—Continued  
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Kooistra, Lambert F. 3,103,478.  
McDaniels, John D., Jr., and De Mart. 3,099,075.  
McKenzie, Edwin C. 3,072,344.  
Mong, Bernard A. 3,103,477.  
Mumm, John F. 3,103,476.  
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Schludberg, Donald C. 3,098,023.  
Taylor, Anthony J. 3,075,910.  
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Tillequin, Jean F., and Blampin. 3,104,652.  
Wootton, William R. 3,079,033.  
Worley, Norman G. 3,110,288.  
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- Babcock, Zebe A. Lunch box latch. 3,093,262, 6-11-63, Cl. 220-34.
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- Babin, Alexander, to Crown Zellerbach Corp. Folded sheet dispenser. 3,095,996, 7-2-63, Cl. 221-52.
- Babkin, Svyatoslav I., to Research Institute of Experimental Surgical Apparatus and Instruments. Instrument for ligating blood vessels with metal staples. 3,079,608, 3-5-63, Cl. 1-187.
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- Babson, Arthur L., to Warner-Lambert Pharmaceutical Co. Method of stabilizing acid phosphatase in serum by means of citrates and glutamates. 3,096,251, 7-2-63, Cl. 167-84.5.
- Babson Bros. Co.: *See*—  
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- Babson, Henry B., to Babson Bros. Co. Milk flow measuring apparatus. 3,115,038, 12-24-63, Cl. 73-223.
- Bacchi, Ray, to Administrator of the National Aeronautics and Space Administration, grantee. Valve actuator. 3,088,441, 5-7-63, Cl. 121-38.
- Bach, Henry J., to Martin-Marietta Corp. Coating composition comprising an organic solvent solution of vinyl chloride-vinylidene chloride copolymer and an alkyl acrylate-alkyl methacrylate copolymer and base coated therewith. 3,084,065, 4-2-63, Cl. 117-75.
- Bach, Henry J., and E. J. Esswein, Jr., to Mobil Finishes Co., Inc. Vinyl chloride-vinylidene chloride copolymer coatings modified with partially saponified, partially dehydrohalogenated copolymer of vinyl chloride and vinyl acetate. 3,112,287, 11-26-63, Cl. 260-33.6.
- Bach, Jacob C., W. F. Fivick, and R. A. Heyden, to Western Electric Co., Inc. Tool for winding wires onto terminals. 3,098,615, 7-23-63, Cl. 242-7.
- Bach, Johann W. Joint for artificial limb. 3,110,906, 11-19-63, Cl. 3-27.
- Bach, Johann W. Prosthetic appliance. 3,111,683, 11-26-63, Cl. 3-21.
- Bach, John W., to Pitney-Bowes, Inc. Automatic feeding apparatus. 3,072,052, 1-8-63, Cl. 101-235.
- Bach, Willy, and F. Bennat, to Continental Elektroindustrie A.G., Askaniawerke. Louvre shutter operating mechanism. 3,103,863, 9-17-63, Cl. 95-58.
- Bacharach Industrial Instrument Co.: *See*—  
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- Bache, John K., to George Salter & Co. Ltd. Weighing devices for suspended loads. 3,073,403, 1-15-63, Cl. 177-147.
- Bacheler, Albert T., W. G. Helmrich, and J. M. Cochran, to Westinghouse Electric Corp. Apparatus and method for controlling motors. 3,073,996, 1-15-63, Cl. 318-6.
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- Bachert, John. Muffler device. 3,111,191, 11-19-63, Cl. 181-56.
- Bachhuber, Theodore J. Shotgun shell reloading device. 3,105,408, 10-1-63, Cl. 86-25.
- Bachi, Roberto. Means for expressing and imparting intelligence. 3,084,456, 4-9-63, Cl. 35-54.
- Bachman, Anatole, to Amalgamated Electric Corp., Ltd. Electrical contact bridging assembly. 3,087,039, 4-23-63, Cl. 200-166.
- Bachman, Fred E., to Amsted Industries Inc. Journal box insert. 3,084,982, 4-9-63, Cl. 308-38.
- Bachman, Fred E., to Amsted Industries Inc. Power beam tread brake arrangement. 3,107,754, 10-22-63, Cl. 183-222.6.
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- Bachman, Robert A., to Cannon Electric Co. Front release contact retention device. 3,112,149, 11-26-63, Cl. 339-217.
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- Bachmann, Josef. Supply system for viscous fluids. 3,095,914, 7-2-63, Cl. 141-27.
- Bachmann, Phil F. Adjustable gas pedal for motor vehicles. 3,088,331, 5-7-63, Cl. 74-513.
- Bachmann, Woodward D. Conversions of sea water and generating systems. 3,076,096, 1-29-63, Cl. 290-1.
- Bachmann, Woodward D. Temperature-sustaining apparatus for automobiles. 3,110,633, 11-12-63, Cl. 136-161.
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- Back, Carl F. Extensible mast derrick. 3,100,625, 8-13-63, Cl. 254-143.
- Back, Frank G. Automatic exposure control for cameras. 3,079,851, 3-5-63, Cl. 95-64.
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- Back, Leonard: See—
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- Backer, William R., to Norton Co. Automatic balancing means. 3,107,459, 10-22-63, Cl. 51-169.
- Backer, William R., C. K. Kirk, G. E. Wespi, and T. F. Stevens, to Norton Co. Dynamically actuated balancing means. 3,107,550, 10-22-63, Cl. 74-573.
- Backers, Franciscus T., and J. H. Wessels, to North American Philips Co., Inc. Magnetic recording. 3,079,469, 2-26-63, Cl. 179-100.2.
- Backers, Franciscus T., to North American Philips Co., Inc. Device for recording and/or reproducing high-frequency signals, more particularly television signals. 3,084,225, 4-2-63, Cl. 179-100.2.
- Backinger, George T., and D. L. Meggison, to General Foods Corp. Method of making a French fried potato product. 3,085,020, 4-9-63, Cl. 99-207.
- Backlin, Clarence R., to Willcox & Gibbs Sewing Machine Co. Material work-feeding mechanism and control means therefor. 3,082,723, 3-26-63, Cl. 112-210.
- Backlund, Gerald R., and J. F. Terenzi, to American Cyanamid Co. Process for preparing a foamed solution of polyacrylamide employing CO<sub>2</sub> and product produced thereby. 3,090,761, 5-21-63, Cl. 260-2.5.
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- Backlund, Peter S., to Union Oil Co. of California. Production of trimellitic acid. 3,086,992, 4-23-63, Cl. 260-524.
- Backofen, Elmer R., to Clark Equipment Co. Combined guide means. 3,111,856, 11-26-63, Cl. 74-230.3.
- Backus, Arthur E. Traveler ring assemblies. 3,100,374, 8-13-63, Cl. 57-122.
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- Bacon, Frank R., and C. J. Billian, to Owens-Illinois Glass Co. Ultraviolet light absorbing glass. Re. 25,456, 10-8-63, Cl. 106-52.
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- Bacon, Karl W., and E. O. Morgan, to Walt Disney Productions. Bobsled amusement ride. 3,114,332, 12-17-63, Cl. 104-63.
- Bacon, Victor L. Distribution regulator and shut-off gate. 3,078,019, 2-19-63, Cl. 222-310.
- Badali, Joseph A., to Olin Mathieson Chemical Corp. Lock pin. 3,104,430, 9-24-63, Cl. 20-92.
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- Blauvelt, Ralph C., and Baddour. 3,114,025.
- Bade, Alfred G.: See—
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- Bade, Alfred G., to The Falk Corp. Variable speed drive. 3,079,804, 3-5-63, Cl. 74-230.17.
- Bade, Erich, to Allis-Chalmers Mfg. Co. Process for the reduction of the alkali content in cement clinker. 3,110,751, 11-12-63, Cl. 263-53.
- Badenoch, Benjamin W., E. I. Brown, J. S. Cardillo, and C. E. Liles, to Sperry Rand Corp. Power transmission. 3,108,542, 10-29-63, Cl. 103-162.
- Bader, Erich, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Process for the introduction of finely divided solid fillers into lacquers. 3,083,115, 3-26-63, Cl. 106-308.
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- Baumann, Hans, and Dehnert. 3,102,879.
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- Boehm, Hans, Fischer, Haubach, Schiller, Umlauf, and Weber. 3,116,274.
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- Baker, George T.: See—  
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- Baker, George T., C. L. Kettler, and G. P. Sarrafian, to Texas Instruments Inc. Digital computer with simultaneous internal data transfer. 3,074,636, 1-22-63, Cl. 235-157.
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- Baker, Hayward R., to United States of America, Navy. Method for salvaging electrical equipment and machinery. 3,078,189, 2-19-63, Cl. 134-26.
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- Baker, J. T., Chemical Co.: See—  
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- Baker, Jack D.: See—  
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- Baker, James D., to Blaw-Knox Co. Anti-scoring valve. 3,080,144, 3-5-63, Cl. 251-121.
- Baker, James T.: See—  
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- Baker, John B., to The Timken Roller Bearing Co. Drill bit. 3,080,009, 3-5-63, Cl. 175-410.
- Baker, John R., to Baker Oil Tools, Inc. Slidable latching seal assembly. 3,109,490, 11-5-63, Cl. 166-114.
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- Baker, Joseph W., P. E. Newallis, and J. P. Chupp, to Monsanto Chemical Co. Phosphinothioates. 3,077,431, 2-12-63, Cl. 167-22.
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- Baker, Joseph W., P. E. Newallis, and J. P. Chupp, to Monsanto Chemical Co. Insecticidal phosphonothioates. 3,082,148, 3-19-63, Cl. 167-30.
- Baker, Joseph W., J. P. Chupp, and P. E. Newallis, to Monsanto Chemical Co. O-(halophenyl) phosphonothioates. 3,096,238, 7-2-63, Cl. 167-30.
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- Baker, Melvin L., to Thompson Ramo Wooldridge Inc. Signal detection system. 3,103,009, 9-3-63, Cl. 343-7.1.
- Baker, Meredith H. Railroad spike with expanding locking sleeve. 3,091,991, 6-4-63, Cl. 85-23.
- Baker, Merton S. Stair layout square. 3,112,568, 12-3-63, Cl. 33-92.
- Baker, Mitchell, and E. M. Van Wagner, to Xerox Corp. Method of making printed circuits. 3,075,866, 1-29-63, Cl. 156-13.
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- Baker Oil Tools, Inc.: See—Continued
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- Clark, Earnest H., Jr. 3,091,290.
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- Crowe, Talmadge L. 3,096,823.
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- De Courcey, Rowland J. J. 3,097,736.
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- Irving, Henry F. 3,092,580.
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- Lefevre, Richard M. 3,109,391.
- Nuttall, John M. 3,099,345.
- Petersen, Conrad W., and Heide. 3,099,360.
- Petersen, Conrad W., Wittenberger, and St. John. 3,101,475.
- Stram, George H. 3,098,610.
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- Baker, Ralph E. Floor guards. 3,108,393, 10-29-63, Cl. 45-137.
- Baker, Ralph J. Condensate valve. 3,080,882, 3-12-63, Cl. 137-204.
- Baker, Richard D.: See—  
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- Martin, Paul W., and Baker. 3,072,232.
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- Baker, Robert L.: See—  
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- Baker, Robert L., and R. E. Prouty, to Essex Wire Corp. Thermal timing apparatus. 3,108,166, 10-22-63, Cl. 200-122.
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- Baker, Stanley W., to The Bergen Research Eng. Corp. Lift truck. 3,071,270, 1-1-63, Cl. 214-674.
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- Baker, Thomas E., Jr.: See—  
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- Baker, Thomas R., and B. S. Posen, to Atlas General Industries, Inc. Vacuum type blank feeding device with positive on/off control. 3,089,698, 5-14-63, Cl. 271-56.
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- Baker, Willard C., to Ford Motor Co. Rear axle construction. 3,095,762, 7-2-63, Cl. 74-720.5.
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- Baker, William A. Shirt collar and cuff reinforcement. 3,088,117, 5-7-63, Cl. 2-129.
- Baker, William A., A. W. Thompson, F. M. Lane, and J. Poslett, to Bristol Aeroplane Plastics Ltd. Molded railway vehicle bodies. 3,100,458, 8-13-63, Cl. 105-397.



- Baker, William A., and A. W. Thompson, to Bristol Aeroplane Plastics Ltd. Pipes. 3,107,698, 10-22-63, Cl. 138-130.
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- Baker, William E., to Standard-Thomson Corp. Pressure responsive actuator and method of making the same. 3,078,876, 2-26-63, Cl. 137-788.
- Baker, William E., to Standard-Thomson Corp. Thermal responsive actuator. 3,080,756, 3-12-63, Cl. 73-368.3.
- Baker, William E., to Standard-Thomson Corp. Pressure device. 3,094,239, 6-18-63, Cl. 220-44.
- Baker, William E., to Standard-Thomson Corp. Fluid pressure responsive indicating device. 3,107,808, 10-22-63, Cl. 220-44.
- Baker, William E., to Standard-Thomson Corp. Pressure-responsive actuating device. 3,112,382, 1-26-63, Cl. 200-82.
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- Baker, William G. Aligning jig for shingles. 3,110,113, 11-12-63, Cl. 33-188.
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- Baker, Willis L., to Plastiwall, Inc. Apparatus and method for applying a striped coat of paint to a sheet of material in a single operation. 3,106,480, 10-8-63, Cl. 117-43.
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- Bakian, John P., to Federal Screw Works. Diamond grinding wheel and compositions therefor. 3,087,803, 4-30-63, Cl. 51-298.
- Bakke, Björn K., to A. Knag, A/S. Ventilating window structures. 3,083,799, 4-2-63, Cl. 189-65.
- Bakke, George V., to Marquette Corp. Battery chargers. 3,081,426, 3-12-63, Cl. 323-54.
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- Bakos, Ben J., to The Fire King Co. Ceiling-type automatic fire extinguisher. 3,107,732, 10-22-63, Cl. 169-26.
- Baks, Claude, to Societe de Prospection Electrique Procèdes Schlumberger. Perforating apparatus. 3,104,611, 9-24-63, Cl. 102-20.
- Bal, Francois H. Multi-purpose telescopic support. 3,112,910, 12-3-63, Cl. 248-161.
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- Balaskovic, Pierre, to North American Philips Co., Inc. Valve for the projection of digits and characters for counters and computers. 3,082,341, 3-19-63, Cl. 313-70.
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- Balaz, Charles S., to International Postal Supply Corp. Work-piece feed mechanism. 3,074,532, 1-22-63, Cl. 198-34.
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- Balcomb, Philip E., and E. J. Beyer, to Martin-Marietta Corp. Means for forming voids in concrete products. 3,074,140, 1-22-63, Cl. 25-128.
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- Baldi, Eugene J.: See—  
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- Balding, George H., to Kaiser Industries Corp. Electronic visual cue generator. 3,093,822, 6-11-63, Cl. 343-11.
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- Baldwin, Bryce R., to General Motors Corp. Vibration damping mechanism. 3,080,771, 3-12-63, Cl. 74-574.
- Baldwin, Charles A. Snow plow attachment. 3,115,715, 12-31-63, Cl. 37-45.
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- Baldwin, George C., to General Electric Co. Neutron detector. 3,076,895, 2-5-63, Cl. 250-83.1.
- Baldwin, George D., to Truck-Lite Co., Inc. Potted truck light. 3,089,951, 5-14-63, Cl. 240-7.1.
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- Baldwin, John L., Jr.: See—  
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- Baldwin, Paul R. Boat propulsion system. 3,105,454, 10-1-63, Cl. 115-34.
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- Baldwin Piano Co., The: See—  
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- Baldwin, Richard H., to Standard Oil Co. Process for production of dimethyl terephthalate. 3,076,019, 1-29-63, Cl. 260-475.



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- Baldwin, Richard H., C. A. Spiller, Jr., and C. D. Kalfadelis, to Standard Oil Co. Continuous system for oxidizing substituted aromatic hydrocarbons and producing carboxylic acids. 3,092,658, 6-1-63, Cl. 260-524.
- Baldwin, Richard H., and P. H. Towle, to Standard Oil Co. Cyclic process for reuse of sulfur dioxide in the purification of aromatic dicarboxylic acids. 3,095,445, 6-25-63, Cl. 260-525.
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- Baldwin, Roger A.: *See*—
- Washburn, Robert M., and Baldwin. 3,112,331.
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- Balenger, John W., to Rabinow Engineering Co. Inc. Keyboard signal generator. 3,104,388, 9-17-63, Cl. 340-345.
- Balent, Ralph, to United States of America, Atomic Energy Commission. Moderator elements for uniform power nuclear reactor. 3,081,247, 3-12-63, Cl. 204-193.2.
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- Balko, Verlie A., and Gram. 3,077,998.
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- Ball, Jeremy T.: *See*—
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- Ball, John D., C. J. Charske, and W. D. Mounce, to Jersey Production Research Co. Detonation of seismic charges. 3,100,444, 8-13-63, Cl. 102-21.6.
- Ball, Joseph L., R. H. Edmonds, and G. F. Ross, to United States of America, Navy. Quick discharge circuit for a magnetron. 3,096,491, 7-2-63, Cl. 331-87.
- Ball, Kenneth: *See*—
- Grytcko, Carl E., and Ball. 3,096,413.
- Ball, Kenneth H., to Douglas Aircraft Co., Inc. Sheet metal shrinker. 3,075,068, 1-22-63, Cl. 219-149.
- Ball, Mildred S.: *See*—
- Ball, Richard N. 3,085,881.
- Ball, Richard N., deceased, M. S. Ball, executrix. Method of treating ripe olives. 3,085,881, 4-16-63, Cl. 99-103.
- Ball, Thomas M., to Chrysler Corp. Return flow carburetor. 3,078,077, 2-19-63, Cl. 261-36.
- Ball, Thomas M., to Chrysler Corp. Return flow carburetor. 3,098,885, 7-23-63, Cl. 261-36.
- Ball, Thomas Z., and W. D. Trevorrow, to Atlas Chemical Industries, Inc. Delay compositions for delay electric detonators. 3,111,438, 11-19-63, Cl. 149-37.
- Ball, William B., Jr., to Owens-Corning Fiberglas Corp. Acoustical ceiling. 3,104,731, 9-24-63, Cl. 181-33.
- Ballance, John J., deceased; by M. G. Ballance, administratrix, to Technical Animations, Inc. Apparatus for projecting selective animated images. 3,104,273, 9-17-63, Cl. 88-65.
- Ballance, Mary G.: *See*—
- Ballance, John J. 3,104,273.
- Ballantyne, Earnest R., to Wayne Chemical Co. Floor cleansing device. 3,108,812, 10-29-63, Cl. 15-525.
- Ballantyne, Earnest R., to Wayne Chemical Co. Floor cleansing device. 3,114,922, 12-24-63, Cl. 15-50.
- Ballantyne, Earnest R., to Wayne Chemical Co. Floor cleansing device. 3,114,927, 12-24-63, Cl. 15-526.
- Ballard, Albert E.: *See*—
- Hill, Martha A., and Ballard. 3,110,712.
- Ballard, Carlos E.: *See*—
- Lebeaux, Jacob M., and Ballard. 3,072,420.
- Ballard, Clayton A.: *See*—
- Horn, Edward P., and Ballard. 3,073,384.
- Ballard, Denis G. H., to Courtaulds Ltd. Production of artificial threads. 3,059,749, 5-14-63, Cl. 18-54.
- Ballard, Donald H., and A. E. Ellis, to Clayton Dewardre Co. Ltd. Air suspension systems for vehicles. 3,074,709, 1-22-63, Cl. 267-65.
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- Ballard, Edward C., and E. E. Sommers, to E. I. du Pont de Nemours and Co. Fluorinated esters of polycarboxylic acids. 3,096,363, 7-2-63, Cl. 260-468.
- Ballard, Henry D.: *See*—
- Sanford, Robert A., Ballard, and Anderson. 3,083,244.
- Ballard, Hyde W., to James Lees and Sons Co. Method and apparatus of tufting pile fabric. 3,091,199, 5-28-63, Cl. 112-79.
- Ballard, Hyde W., to James Lees and Sons Co. Method for tufting pile fabrics. 3,095,840, 7-2-63, Cl. 112-79.
- Ballard, Hyde W., and J. E. Smith, to James Lees and Sons Co. Method and apparatus for pattern tufting pile fabrics without loop robbing. 3,095,841, 7-2-63, Cl. 112-79.
- Ballard, James W., to Systems Research Laboratories, Inc. High temperature pressure sensitive solid state material and device. 3,100,884, 8-13-63, Cl. 338-224.
- Ballard, Mary A.: *See*—
- Horn, Edward P., and Ballard. 3,073,384.
- Ballard, Walter W., and R. B. Nelson, to L. R. Nelson Mfg. Co., Inc. Valve controlled variable pattern lawn sprinkler. 3,104,818, 9-24-63, Cl. 239-97.
- Ballash, Clarence J., to The Cooper-Bessemer Corp. Marking device. 3,099,186, 7-30-63, Cl. 121-18.
- Ballass, John T., and B. J. Freedman, to General Dynamics Corp. Low alloy steel welding wire. 3,115,406, 12-24-63, Cl. 75-124.
- Balle, Walter, to Leonh. Herbert Maschinenfabrik, Firma. Tire vulcanising press mould. 3,082,480, 3-26-63, Cl. 18-42.
- Ballentine, Earle W. Triboelectric generator. 3,086,131, 4-16-63, Cl. 310-7.
- Ballentine, Richard E., and G. E. Saur, to Westinghouse Electric Corp. Scale breaking apparatus for drawn wire. 3,081,524, 3-19-63, Cl. 29-81.
- Ballentine, William L., Jr., and J. W. Molden, to United States Steel Corp. Method for making metal panels. 3,082,519, 3-26-63, Cl. 29-447.
- Balles, Paul W., Jr., to International Business Machines Corp. Detachable connector. 3,072,876, 1-8-63, Cl. 339-108.
- Ballhausen, Carl. Method of and a device for generating high pressures. 3,084,388, 4-9-63, Cl. 18-16.5.
- Balli, Heinz, D. Leuchs, M. Hehl, W. Grunwald, and O. Schmidt, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Optically brightened textile materials. 3,082,114, 3-19-63, Cl. 117-33.5.
- Ballin, Gene, to Dosamatic Dropper Corp. Liquid dropper assembly. 3,101,751, 8-27-63, Cl. 141-24.
- Balling, Peter, to California Research Corp. Bis (trimethyllead) sulfide. 3,073,852, 1-15-63, Cl. 260-437.
- Balling, Peter, to California Research Corp. Trimethyllead methyl sulfide. 3,073,853, 1-15-63, Cl. 260-437.
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- Ballou, Edward V., R. T. Barth, and R. O. Clark, to Gulf Research & Development Co. Potentiometric process. 3,084,030, 4-2-63, Cl. 23-230.



- Ballun, Aloysius T.: *See*—  
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- Bally, Adrianus P., to Shell Oil Co. Process for removing carbonyl sulfide from petroleum gases. 3,098,705, 7-23-63, Cl. 23-3.
- Bally's Shoe Factories Ltd.: *See*—  
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- Balmer, Clifford E., C. A. Brown, M. D. Hurwitz, and J. E. Masterson, to Rohm & Haas Co. Copolymerization of ethylene with alkyl acrylates or methacrylates. 3,089,897, 5-14-63, Cl. 260-486.
- Balmer, Donald F.: *See*—  
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- Balmer, Hansjörg, to Nordberg Mfg. Co. Seal for gyratory crusher or the like. 3,108,756, 10-29-63, Cl. 241-216.
- Balogh, Roy O., to McCabe-Powers Body Co. Portable digger. 3,073,397, 1-15-63, Cl. 175-201.
- Balogh, Roy O., to McCabe-Powers Body Co. Mobile work platforms. 3,082,842, 3-26-63, Cl. 182-2.
- Balogh, William C.: *See*—  
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- Balsbaugh, Paul H.: *See*—  
Balsbaugh, Vernon L. 3,077,721.
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- Balsiger, Harold E., to Landis Tool Co. Alternate supporting means for annular workpieces. 3,093,938, 6-18-63, Cl. 51-103.
- Balsiger, Harold E., and R. E. Price, to Landis Tool Co. Swivel indicator. 3,109,269, 11-5-63, Cl. 51-240.
- Baltayan, Ara M., and J. L. Barker, to Laboratory For Electronics, Inc. Traffic control apparatus. 3,106,695, 10-8-63, Cl. 340-37.
- Balteau, Pierre, to Raytheon Co. 3-phase voltage regulators. 3,075,189, 1-22-63, Cl. 323-66.
- Balthazor, Bernard E., to Buddy L Corp. Spring suspension for toy vehicle. 3,083,499, 4-2-63, Cl. 46-221.
- Balthazor, Bernard E., to Buddy L Corp. Toy vehicle with spring-mounted axle. 3,083,500, 4-2-63, Cl. 46-221.
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- Baltimore Aircoil Co., Inc.: *See*—  
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- Baltimore Instrument Co.: *See*—  
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- Baltzy, Richard, P. B. Russell, and N. B. Mehta, to Burroughs Wellcome & Co. (U.S.A.) Inc. 1,1-diphenyl-2-tertiary aminomethyl-3-hydroxymethyl-cyclopropanes and esters thereof. 3,098,076, 7-16-63, Cl. 260-294.7.
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- Balz, Gunther W. Continuous finishing and polishing machine. 3,071,900, 1-8-63, Cl. 51-163.
- Balz, Gunther W., to Roto-Finish Co. Finishing machine with controlled return of finishing media. 3,073,069, 1-15-63, Cl. 51-7.
- Balz, Gunther W., to Roto-Finish Co. Self-separating finishing and polishing machine. 3,073,078, 1-15-63, Cl. 51-163.
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- Balz, Gunther W., to Roto-Finish Co. Differentially internally resilient finishing machine. 3,103,086, 9-10-63, Cl. 51-163.
- Balzer, Abram P. Crop cutting, crushing and windrowing device. 3,079,742, 3-5-63, Cl. 56-23.
- Balzer, Rudolf: *See*—  
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- Bamber, Cletus F.: *See*—  
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- Bamberger, Julien G., to Masco Corp. Catamaran type boat. 3,077,851, 2-19-63, Cl. 114-62.
- Bambi, Harry J. Rotary apparatus for screening, comminuting and washing. 3,093,325, 6-11-63, Cl. 241-43.
- Bame, John L.: *See*—  
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- Bamford, James A.: *See*—  
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- Bamford, John W., and W. M. Usry, to Spectrol Electronics Corp. Potentiometer. 3,108,245, 10-22-63, Cl. 338-174.
- Bamford, Richard H. and R. C. Agricultural balers. 3,102,466, 9-3-63, Cl. 100-21.
- Bamford, Rupert C.: *See*—  
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- Bamford, William R., to Imperial Chemical Industries Ltd. Esters of diboric acids. 3,106,573, 10-8-63, Cl. 260-462.
- Bammann, Heinrich. Spray head for high-pressure fluids. 3,081,953, 3-19-63, Cl. 239-588.
- Ban, Gus: *See*—  
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- Banal, Michel: *See*—  
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- Banas, Julian. Covers. 3,072,167, 1-8-63, Cl. 150-52.
- Banasiewicz, Henryk, to Fielden Electronics Ltd. Bridge oscillating arrangement utilizing output to vary balance. 3,109,149, 10-29-63, Cl. 331-66.
- Bancel, Paul A., to Ingersoll-Rand Co. Infinite stop controlling device for compressors. 3,104,801, 9-24-63, Cl. 230-25.
- Banche, Joe, H. D. Vander Putten, and B. E. Gatewood: said Banche and said Vander Putten assors. to North American Aviation, Inc. Antenna reflector construction. 3,105,969, 10-1-63, Cl. 343-915.
- Bancroft, Joseph, & Sons Co.: *See*—  
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- Bancroft Paper Co., Inc.: *See*—  
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- Bancroft, Walter H., to Burroughs Corp. Voltage sensing control circuit. 3,108,205, 10-22-63, Cl. 317-31.
- Bandirol, Edoardo, to Bergomi Societ per Azioni. Multi-stage foam generator for extinguishing fires. 3,090,444, 5-21-63, Cl. 169-15.
- Banek, Albert A. Grader blade lifting link. 3,103,131, 9-10-63, Cl. 74-583.
- Banerian, Gordon, to Aerojet-General Corp. Vibratory pump. 3,077,162, 2-12-63, Cl. 103-159.
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- Banfield, Reginald H., and A. M. Hildon, to Laporte Chemicals Ltd. Concentration of hydrogen peroxide. 3,073,755, 1-15-63, Cl. 202-57.
- Banford, John A., G. N. Hill, and W. M. Dillard, to Richardson-Merrell Inc. Method of preventing the development of iron deficiency anemia in suckling pigs. 3,105,791, 10-1-63, Cl. 167-53.
- Bang, Mogen W., to Liberty Mfg. Corp. Apparatus for tuning a radio frequency. 3,071,742, 1-1-63, Cl. 334-50.
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- Banister, William K.: *See*—  
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- Banke, Henry C., to Clarin Mfg. Co. Chair structure. 3,099,479, 7-30-63, Cl. 297-36.
- Banker, Gilbert S., to The Upjohn Co. Heat-cured, polymeric, medicinal dosage film coatings containing a polyvinylpyrrolidone copolymer, polyethenoid acid, and polyethylene glycol. 3,097,144, 7-9-63, Cl. 167-82.
- Banker, Oscar H., to Fawick Corp. Accessory drive control mechanism. 3,082,647, 3-26-63, Cl. 74-785.
- Banker, Oscar H., to Fawick Corp. Valve. 3,095,011, 6-25-63, Cl. 137-625.69.
- Banker, Oscar H., to Fawick Corp. Hydraulic system incorporating flow divider valves. 3,101,594, 8-27-63, Cl. 60-52.
- Banker, Robert D., P. W. Grounds, and R. A. Cody, to The Procter & Gamble Co. Two phase fast breaking foam pressurized hair waving composition. 3,099,603, 7-30-63, Cl. 167-87.1.
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- Bankhead, Charles A. Assembled composition printing process. 3,097,594, 7-16-63, Cl. 101-128.4.
- Banko, Edward, to L. J. Wing Mfg. Co., Div. of Aero-Flow Dynamics, Inc. Dual purpose door heater discharge. 3,089,403, 5-14-63, Cl. 98-36.
- Banks, Arthur A., to Imperial Chemical Industries Ltd. Method of preparing carbon disulfide and hydrogen sulfide. 3,082,069, 3-19-63, Cl. 23-206.
- Banks, David D.: *See*—  
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- Banks, Ethel E. Buttonhole forming member for garments. 3,105,971, 10-8-63, Cl. 2-96.



- Banks, George W. Low torque high pressure fluid valve. 3,071,344, 1-1-63, Cl. 251-210.
- Banks, George W. Sealing means for spindles of fluid valves. 3,096,096, 7-2-63, Cl. 277-117.
- Banks, Merle W., to Lakeside Industries, Inc. Tracing device. 3,104,492, 9-24-63, Cl. 45-131.
- Banks, Robert L., to Phillips Petroleum Co. Polymerization of propylene or butenes with  $VCl_4$  catalyst to form liquid polymers. 3,075,026, 1-22-63, Cl. 260-683.15.
- Banks, Waldo H., to Draper Corp. Lay motion for looms. 3,097,669, 7-16-63, Cl. 139-190.
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- Banks, William H., and R. C. Poole, to Atlas General Industries, Inc. Folding boxes of the tray type. 3,093,290, 6-11-63, Cl. 229-34.
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- Banner, Joseph, to Anjac Mfg. Co. Mounting for sliding panels for doorways and the like. 3,090,084, 5-21-63, Cl. 20-19.
- Banner, Robert G., J. H. Pierce, and J. T. Chain, to Diamond Alkali Co. Tanning with lignin sulfonic acid-chromium reaction product and fatty acid salts. 3,092,436, 6-4-63, Cl. 8-94.26.
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- Bansard, Pierre M. P., P. A. Dujols, and J. R. Perillhou, to North American Philips Co., Inc. Method of passing wire, cable sheath and the like through a wall. 3,091,683, 5-28-63, Cl. 219-85.
- Banus, Mario D., to Metal Hydrides Inc. Method for preparing metal compounds. 3,112,989, 12-3-63, Cl. 23-14.
- Banzhaf, Donald H., to Harley-Davidson Motor Co. Seat suspension. 3,116,089, 12-31-63, Cl. 297-203.
- Banzhaf, John F., III: *See—*
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- Baptist, James N., and F. X. Werber, to W. R. Grace & Co. Molded product containing poly- $\gamma$ -hydroxybutyric acid and method of making. 3,107,172, 10-15-63, Cl. 106-160.
- Barabas, Janos, L. Zselyonka, F. Kiss, and A. Libik. Condenser for increasing the resolving power of microscopes using transmitted light. 3,078,764, 2-26-63, Cl. 88-40.
- Barabas, John J.: *See—*
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- Barabas, John J., to Castro Convertible Corp. Sofa-bed. 3,107,366, 10-22-63, Cl. 5-53.
- Barabutes, Theodore, and A. Kulick, Jr., to Westinghouse electric Corp. Remote metering apparatus. 3,097,351, 7-9-63, Cl. 340-207.
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- Baral, William J.: *See—*
- Ch'in, Norman C.-H., and Baral. 3,108,063.
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- Barall, Karl, W. Wilkenloh, and F. Kuhnappel, to Rheinstahl Wanhim G.m.b.H. Mining apparatus and advancing means therefor. 3,106,825, 10-15-63, Cl. 61-45.
- Baran, John, to Perk-Pak Packing Inc. Package adapted to contain granulated beverage material and method of making the same. 3,083,100, 3-26-63, Cl. 99-77.1.
- Baran, John S., to G. D. Searle & Co. 17-alkynylandrosta-4,6-diene-3,17-diols, esters thereof and 19-nor compounds corresponding. 3,096,355, 7-2-63, Cl. 260-397.5.
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- Baranauckas, Charles F., and S. Gelfand, to Hooker Chemical Corp. Preparation of halocarbon having the empirical formula  $C_nCl_{n+4}$ . 3,080,429, 3-5-63, Cl. 260-648.
- Baranauckas, Charles F., and J. J. Hodan, to Hooker Chemical Corp. Process for producing tris (2-butoxyethyl) phosphite. 3,101,363, 8-20-63, Cl. 260-461.
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- Barber, Billy R., to Duke University. Pipette washing basket. 3,108,705, 10-29-63, Cl. 220-4.
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- Wieneke, Frederick L. 3,103,057.
- Barber, Donald R.: *See—*
- Cattermole, Kenneth W., and Barber. 3,115,624.
- Barber, Donald R., to International Standard Electric Corp. Decoding equipment. 3,094,688, 6-18-63, Cl. 340-174.
- Barber, Everett M., to Texaco Inc. Internal combustion engine. 3,094,974, 6-25-63, Cl. 123-32.
- Barber, Gene D., to Daystrom, Inc. Blocking oscillator comparator. 3,105,154, 9-24-63, Cl. 307-88.
- Barber, Gene D., and B. L. Waddell, to Daystrom, Inc. Magnetic comparator. 3,105,155, 9-24-63, Cl. 307-88.
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- Allen, Frank M., Archer, and Shira. 3,096,035.
- Lindenmeyer, Carl W. 3,075,732.
- Barber, Herbert, to Monsanto Chemical Co. Yarn inspection apparatus. 3,076,251, 2-5-63, Cl. 28-64.
- Barber, James C., G. H. Megar, and T. S. Sloan, to Tennessee Valley Authority. Recovery of phosphorus from sludge. 3,084,029, 4-2-63, Cl. 23-223.
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- Barber, Jimmie L. Combined gold separator and amalgamator. 3,103,487, 9-10-63, Cl. 209-42.
- Barber Machinery Ltd.: *See—*
- Ellett, James R. 3,097,276.
- Scribens, Peter. 3,093,215.
- Barber, Michael D.,  $\frac{1}{2}$  each to C. S. Goodyear and B. G. Nemenoff. Explosive devices for spreading insecticides and the like. 3,110,256, 11-12-63, Cl. 102-7.2.
- Barber, S. Morgan, to Barmart. Timing apparatus. 3,082,301, 3-19-63, Cl. 200-38.
- Barber, Theodore C. Kite control apparatus. 3,086,739, 4-23-63, Cl. 244-155.
- Barber, Travis L. Garbage storage vault. 3,071,867, 1-8-63, Cl. 34-80.
- Barber, William A., to American Cyanamid Co. Method of producing titanium monoxide or titanium carbide. 3,078,149, 2-19-63, Cl. 23-202.
- Barberis, Fortunato F., to General Motors Corp. Torch igniter. 3,090,200, 5-21-63, Cl. 60-39.82.
- Barbier, Gilbert, and J. A. Naterop. Heating or cooling systems. 3,072,183, 1-8-63, Cl. 165-55.
- Barbieri, Sigisfredo, to Durst S.p.A. Fabbrica Macchine ed Apparecchi Fototecnici. Flash lamp unit. 3,079,490, 2-26-63, Cl. 240-1.3.
- Barbknecht, Fred W., and E. J. Gully, to International Harvester Co. Method and apparatus for making notched agricultural disks. 3,083,440, 4-2-63, Cl. 29-14.
- Barbour, Charles W., Jr., and H. A. Humiston, to Martin-Marietta Corp. Radar target simulator. 3,110,026, 11-5-63, Cl. 343-17.7.
- Barbour Corp.: *See—*
- Greene, Percy W. 3,103,024.
- Barbour, Fenner S.: *See—*
- Worthen, Eugene P., and Barbour. 3,096,256.
- Barbour Welting Co.: *See—*
- Shea, Francis L. 3,078,601.
- Barclay, Gerald M., to Ashland Oil & Refining Co. Process of coagulating carbon black-synthetic rubber latex masterbatches. 3,108,982, 10-29-63, Cl. 260-33.6.
- Barclay, Gerald M., to Ashland Oil & Refining Co. Synthetic rubber. 3,108,983, 10-29-63, Cl. 260-33.6.
- Barclay, Harry A.: *See—*
- Loper, George B., Barclay, and Johnson. 3,075,172.
- Barclay, John L., D. J. Hadley, and D. G. Stewart, to The Distillers Co. Ltd. Production of unsaturated aliphatic aldehydes. 3,089,909, 5-14-63, Cl. 260-604.
- Barclay, Robert, Jr., and R. P. Kurkky, to Union Carbide Corp. Organic isocyanate preparation. 3,076,007, 1-29-63, Cl. 260-453.



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- Barcus, Edward L., to General Motors Corp. Direction signal switch. 3,073,920, 1-15-63, Cl. 200—61,27.
- Barcus, Edward L., to General Motors Corp. Direction signal mechanism. 3,073,921, 1-15-63, Cl. 200—61,34.
- Barcus, Samuel W., Jr.: *See*—  
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- Bard, Donald O., to Chrysler Corp. Hydrodynamic type bearing. 3,115,372, 12-24-63, Cl. 308—9.
- Barden Corp.: *The: See*—  
Mims, Bruce L., and Fitzgerald. 3,097,027.
- Barden, John W., to United States of America, Navy. Pressure equalizer for controllable pitch propeller. 3,088,524, 5-7-63, Cl. 170—160,23.
- Barden, Wayne A.: *See*—  
Bender, Stanley O., and Barden. 3,115,589.
- Barden, Wayne A., and S. O. Bender, to CTS Corp. Impulse motor. 3,097,316, 7-9-63, Cl. 310—49.
- Barditch, Irving F., and R. G. Hartenstein, to Westinghouse Electric Corp. Inductanceless FM discriminator. 3,086,175, 4-16-63, Cl. 329—132.
- Barditch, Irving F., and W. Freeman, to Westinghouse Electric Corp. Monolithic semiconductor mixer apparatus with positive feedback. 3,107,331, 10-15-63, Cl. 325—451.
- Bardowicks, Luise, and K. Haseloff; said Haseloff assor. to said Bardowicks. Method of manufacturing gramophone records carrying visual material. 3,102,730, 9-8-63, Cl. 274—42.
- Bardsley, Robert E.: *See*—  
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- Bardsley, Robert V., and R. J. Grady, to Huyck Corp. Picking mechanism for looms. 3,114,396, 12-17-63, Cl. 139—144.
- Bardwell, Edward T.: *See*—  
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- Bardy, Peter J., to General Binding Corp. Mechanism for removing and transporting a group of sheets from the top of a supply stack. 3,083,963, 4-2-63, Cl. 271—43.
- Bare, Ira D.: *See*—  
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- Barengoltz, Bernard A., to McGraw-Edison Co. Rotatable insulating bushing. 3,073,891, 1-15-63, Cl. 174—161.
- Barengoltz, Bernard A. Mobile electrical transformer substation. 3,116,086, 12-31-63, Cl. 296—28.
- Barenholtz, Bernard M., and F. Caplan. Playground apparatus. 3,083,015, 2-26-63, Cl. 272—56,5.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Motor vehicle with large loading platform. 3,075,604, 1-29-63, Cl. 180—89.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. All-purpose motor vehicle. 3,080,189, 3-5-63, Cl. 296—28.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Frame construction for motor vehicles. 3,080,190, 3-5-63, Cl. 296—28.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Ventilating system for automobiles. 3,080,807, 3-12-63, Cl. 98—2.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Windshield wiper arrangement. 3,082,462, 3-26-63, Cl. 15—250,30.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Vehicle fender construction. 3,093,392, 6-11-63, Cl. 280—152.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Slidable door arrangement in motor vehicles. 3,093,405, 6-11-63, Cl. 296—46.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Motor vehicle door construction. 3,093,406, 6-11-63, Cl. 296—46.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Automobile body and door construction. 3,097,878, 7-16-63, Cl. 296—28.
- Barényi, Béla, to Daimler-Benz Aktiengesellschaft. Passenger car with substantially flat top. 3,112,952, 12-8-63, Cl. 296—137.
- Barfield, Charles G.: *See*—  
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- Barger, Alice J.: *See*—  
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- Bargdill, Gerald E., and L. G. Penhorwood. Pivoted-cylinders log-turner means for handling logs. 3,105,529, 10-1-63, Cl. 143—99.
- Barger, J. Perry, B. F. Love, and J. K. Sparrell, to Alco Products, Inc. Heat exchange means for space vehicles. 3,086,372, 4-23-63, Cl. 62—222.
- Bargman, Theodore, Co.: *See*—  
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- Baricevic, Ferdinand P., and D. E. Cheney, to Reliable Electric Co. Two conductor dead end. 3,089,916, 5-14-63, Cl. 174—79.
- Barie, Walter P., Jr., H. B. Fernald, and B. H. Gwynn, to Gulf Research & Development Co. Process for isomerizing secondary alkyl aluminum compounds. 3,116,310, 12-31-63, Cl. 260—448.
- Baring-Gould, Sabine L., to Northrop Corp. Gyro stabilization system. 3,071,012, 1-1-63, Cl. 74—5,34.
- Baringer, Sylvester. Rungless ladder. 3,075,611, 1-29-63, Cl. 182—134.
- Barish Associates, Inc.: *See*—  
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- Barish, Benjamin: *See*—  
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Lazo, Luis R., and Barish. 3,112,096.
- Barish, Benjamin J. Holder for soap bar or like article. 3,106,798, 10-15-63, Cl. 45—28.
- Barish, David T., to Barish Associates, Inc. Parachutes. 3,073,555, 1-15-63, Cl. 244—145.
- Barish, David T. Swivel. 3,104,855, 9-24-63, Cl. 244—142.
- Barish, Thomas: *See*—  
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- Barkan, Philip, and U. R. Tognella, to General Electric Co. Pressure relief valve for a hydraulic system. 3,114,387, 12-17-63, Cl. 137—494.
- Barke, Vladimir N., N. I. Blitstein, I. M. Griaznov, A. L. Livshits, B. K. Mechetner, S. E. Podlazov, and D. F. Yakhimovich. Ultrasonic abrasive machining apparatus. 3,094,814, 6-25-63, Cl. 51—59.
- Barker-Bland, Harry, deceased (by M. C. P. Barker-Bland, administratrix), to G. Kiashek. Pyrophoric lighters. 3,089,324, 5-14-63, Cl. 67—7,1.
- Barker-Bland, Maria C. P.: *See*—  
Barker-Bland, Harry. 3,089,324.
- Barker, Charles L., Jr., and W. K. Kern, to United States of America, Air Force. Aircraft rocket launcher. 3,077,144, 2-12-63, Cl. 89—1,7.
- Barker Co., The: *See*—  
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- Barker Engineering Corp.: *See*—  
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- Barker, George E.: *See*—  
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- Barker, Harold E., to General Motors Corp. Forming articles by arc plasma spraying. 3,112,539, 12-3-63, Cl. 22—200.
- Barker, James R.: *See*—  
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- Barker, Jerry C., and J. W. Anderson. Marine drive. 3,088,296, 5-7-63, Cl. 64—17.
- Barker, John L.: *See*—  
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- Barker, John L., to Laboratory For Electronics Inc. Inter-linking system for traffic actuated control apparatus. 3,079,587, 2-26-63, Cl. 340—40.
- Barker, John L., to Laboratory for Electronics, Inc. Traffic speed deviation computer. 3,082,949, 3-26-63, Cl. 235—151.
- Barker, John L., to Laboratory for Electronics, Inc. Electrical monitoring system. 3,107,338, 10-15-63, Cl. 340—41.
- Barker, Maynard C., to The Barker Co. Pneumatic conveying system. 3,105,720, 10-1-63, Cl. 302—2.
- Barker, Randolph G. Sensitive electric switch. 3,086,093, 4-16-63, Cl. 200—85.
- Barker, Ray C. Crankcase vapor recycle system. 3,073,293, 1-15-63, Cl. 123—119.
- Barker, Robert N.: *See*—  
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- Barker, Robert S.: *See*—  
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Saffer, Alfred, and Barker. 3,089,907.
- Barker, Stephen: *See*—  
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Heinmiller, Percival M., and Barker. 3,081,120.
- Barker, Virgil D., to Barker Engineering Corp. Eyeglass hinges. 3,104,416, 9-24-63, Cl. 16—140.
- Barker, William A., to United Shoe Machinery Corp. Shoe leveling machine. 3,076,985, 2-12-63, Cl. 12—35,5.
- Barker, William A., to United Shoe Machinery Corp. Machines for applying pressure to shoe bottoms. 3,081,468, 3-19-63, Cl. 12—16,2.
- Barker, William E., Jr., to Poly Tech Research, Inc. Apparatus for measuring levels of materials in containers. 3,099,158, 7-30-63, Cl. 73—321.
- Barkhuuff, Mary S., to Monsanto Chemical Co. Aqueous interpolymer lattices comprising fumarates, unsaturated acids and aromatic hydrocarbons. 3,073,791, 1-15-63, Cl. 260—29,6.
- Barkis, Edward: *See*—  
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- Barkley, Charles G., and J. R. Beesley, to Atlas Crankshaft Corp. Method and apparatus for heat-treating. 3,101,165, 8-20-63, Cl. 266—4.
- Barkley, Charles R., to Lemco Products, Inc. Antifriction bearing construction having orbiting ball arrangement. 3,086,824, 4-23-63, Cl. 308—6.
- Barkley & Dexter, Inc.: *See*—  
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- Barkman, David R., to Package Machinery Co. Converting wrapping machines to wrap different size articles. 3,105,336, 10-1-63, Cl. 53—220.
- Barkman, Erik F.: *See*—  
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- Barksdale, Mitchell L.: *See*—  
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- Barkstrom, Reynold, to International Harvester Co. Conveyor for corn pickers. 3,075,339, 1-29-63, Cl. 56—98.
- Barlet, Clarence D., to Armstrong Cork Co. Method of bonding metal to glass. 3,075,871, 1-29-63, Cl. 156—322.
- Barley, Royston P., to No-Sag Spring Co. Devices for securing springs to furniture and other framework. 3,101,818, 8-27-63, Cl. 189—35.
- Barlow, Benjamin W., to The De Havilland Engine Co. Ltd. Uni-directional driving devices. 3,099,339, 7-30-63, Cl. 192—37.
- Barlow, Donald A., to H. J. Leak & Co. Ltd. Diaphragm for electro acoustic transducer. 3,111,187, 11-19-63, Cl. 181—32.



- Barlow, Edward H.: *See*—  
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- Barlow, Edward H., to Scovill Mfg. Co. Dual flushing unit for toilet bowls. 3,086,217, 4-23-63, Cl. 4-41.
- Barlow, Lester P., to Bar-Rup Corp. Apparatus for preserving liquids by freezing. 3,111,011, 11-19-63, Cl. 62-341.
- Barlow, Norman L., and W. Carash. Hydraulic intermittent traction device. 3,086,518, 4-23-63, Cl. 128-75.
- Barlow, Norman M., and E. Melanson, to United-Carr Fastener Corp. Snap fastener members in strip form. 3,083,429, 4-2-63, Cl. 24-208.
- Barlow, Raymond S.: *See*—  
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- Barlow, Sidney D.: *See*—  
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- Barmer Maschinenfabrik Aktienges.: *See*—  
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Lohest, Hans. 3,090,879.  
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Schippers, Heinz. 3,099,860.
- Barnard, Clayton H., to Bailey Meter Co. Telemetering control for isolated process. 3,071,970, 1-8-63, Cl. 73-432.
- Barnard, Marcellus C.,  $\frac{1}{2}$  to L. J. Palmer. Table, desk, or the like. 3,113,531, 12-10-63, Cl. 108-115.
- Barnard, Therides V. Corn popping machines. 3,085,493, 4-16-63, Cl. 99-238.1.
- Barnby, Donald W., to Owens-Illinois Glass Co. Fluid spreader. 3,110,919, 11-19-63, Cl. 15-236.
- Barnby, Herbert A., and S. M. Edwards, to Owens-Illinois Glass Co. Method of closing glass containers. 3,098,334, 7-23-63, Cl. 53-42.
- Barnes, Annette F. Fitted sheet. 3,111,688, 11-26-63, Cl. 5-334.
- Barnes, Brown E., to Hyster Co. Lift truck. Re. 25,432, 8-13-63, Cl. 187-9.
- Barnes, Charles H.: *See*—  
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- Barnes, Charles M.: *See*—  
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- Barnes, Charles R., and C. R. Geesner, to United States of America, Air Force. Electrical capacitor having a silicon nitride dielectric. 3,095,527, 6-25-63, Cl. 317-258.
- Barnes, Charles T.: *See*—  
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- Barnes, Charles W.: *See*—  
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- Barnes, David M., and B. R. Wofford, to Owens-Corning Fiberglass Corp. Grooved strand guide. 3,073,538, 1-15-63, Cl. 242-43.2.
- Barnes, Douglas H., to Bell Telephone Laboratories, Inc. Traffic measurement apparatus. 3,099,819, 7-30-63, Cl. 340-172.5.
- Barnes Engineering Co.: *See*—  
Astheimer, Robert W. 3,090,869.  
Astheimer, Robert W., and Merlen. 3,097,298.  
Daley, William J. 3,087,377.  
De Waard, Russell D., Fisher, and Hvizdak. 3,109,097.  
Hall, Richard W. 3,091,154.  
Lowenstein, Mark G., and Astheimer. 3,096,650.  
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Poor, Walter S., and Arck. 3,087,373.  
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Wormser, Eric M., De Waard, and Rudomanski. 3,097,300.
- Yates, Harold W. 3,095,795.
- Barnes, Frank A. Shotgun sight. 3,090,123, 5-21-63, Cl. 33-52.
- Barnes, George W., to David Industries. Chassis slide mechanism. 3,092,429, 6-4-63, Cl. 312-333.
- Barnes, Gerald L.: *See*—  
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- Barnes, Harry M., W. A. Mitchell, and L. T. Kremzner, to General Foods Corp. Gasified product. 3,086,370, 4-23-63, Cl. 62-1.
- Barnes, Harry T., Sr.,  $\frac{1}{2}$  to I. J. Barnes. Latch. 3,090,643, 5-21-63, Cl. 292-170.
- Barnes-Hind Laboratories, Inc.: *See*—  
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- Barnes, Ima J.: *See*—  
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- Barnes, James H. Detachable sidewall trim ring. 3,085,829, 4-16-63, Cl. 301-37.
- Barnes, James H. Flexure type tire trim. 3,089,731, 5-14-63, Cl. 301-37.
- Barnes, Jocelyn: *See*—  
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- Barnes, Joseph C. Vertical lift aircraft. 3,071,334, 1-1-63, Cl. 244-23.
- Barnes, Joseph T. Flexible-printing-plate securing arrangement. 3,108,538, 10-29-63, Cl. 101-415.1.
- Barnes, La Mar P. Removal tool-pin and socket electrical connectors. 3,100,931, 8-20-63, Cl. 29-203.
- Barnes, Lawrence T. Gas shielded arc welding apparatus. 3,116,406, 12-31-63, Cl. 219-75.
- Barnes, Llewellyn T. and C. T. Fuel charger for an internal combustion engine. 3,081,071, 3-12-63, Cl. 261-30.
- Barnes, Llewellyn T. and C. T. Throttle for internal combustion engine. 3,086,554, 4-23-63, Cl. 137-637.3.
- Barnes, Llewellyn T. Tuning device with specially shaped capacitor plates. 3,090,021, 5-14-63, Cl. 334-82.
- Barnes, Llewellyn T. Drive means for reactance unit. 3,090,243, 5-21-63, Cl. 74-10.85.
- Barnes, Llewellyn T. Variable electrical trimmer capacitor. 3,100,856, 8-13-63, Cl. 317-249.
- Barnes, Malcolm L., to Norton Infirmary Institute of Research. Apparatus for measuring prothrombin time. 3,106,090, 10-8-63, Cl. 73-53.
- Barnes, Marion D., to Monsanto Chemical Co. Method and composition for brightening aluminum. 3,094,489, 6-18-63, Cl. 252-79.2.
- Barnes, Paul T., to United States of America, Navy. Liquid propellant tankage. 3,091,923, 6-4-63, Cl. 60-35.6.
- Barnes, Paul T., and C. P. Keegel. Propellant supply system for rockets and the like. 3,072,020, 1-8-63, Cl. 89-1.7.
- Barnes, Philip C., and S. E. Kay, to Pilkington Bros. Ltd. Process and apparatus for deposition of copper. 3,084,063, 4-2-63, Cl. 117-35.
- Barnes, Porter L., Jr., and T. E. Pitts, to Leesona Corp. Package control mechanism for winding machines. 3,081,046, 3-12-63, Cl. 242-36.
- Barnes, Ralph G. Paving machine. 3,087,394, 4-30-63, Cl. 94-48.
- Barnes, Ralph G. Finishing machine for concrete surfaces. 3,113,494, 12-10-63, Cl. 94-45.
- Barnes, Robert C. Tube squeezer. 3,081,001, 3-12-63, Cl. 222-99.
- Barnes, Robert K.: *See*—  
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- Barnes, Robert K., to Union Carbide Corp. Alkylene oxide adducts of substituted tetrahydropyrans. 3,074,966, 1-22-63, Cl. 260-345.9.
- Barnes, Robert L.: *See*—  
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- Barnes, Thomas W. Gyroscope. 3,086,400, 4-23-63, Cl. 74-5.7.
- Barnes, W. F.: *See*—  
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- Barnes, W. F., and John, Co.: *See*—  
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- Barnes, William A.: *See*—  
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- Barnes, William A. Carton handling device. 3,073,642, 1-15-63, Cl. 294-31.2.
- Barnes, William E., and J. Zubaty, to General Motors Corp. Adjustable eccentric drive devices. 3,073,178, 1-15-63, Cl. 74-571.
- Barnes, Vernon M., Jr., J. A. Burke, Jr., I. R. King, and R. L. Wolf, to Texaco Experiment Inc. Rocket. 3,114,318, 12-17-63, Cl. 102-34.1.
- Barnet, Frederick R., to United States of America, Navy. Jetelevator system design. 3,102,390, 9-3-63, Cl. 60-35.55.
- Barnet, Fredrick R., and V. I. Milani, to United States of America, Navy. Hydraulic tensile tester for ring structures. 3,111,840, 11-26-63, Cl. 73-89.
- Barnett, Edward H.: *See*—  
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Lipschutz, Sidney, and Barnett. 3,112,057.
- Barnett, Hugh W., and W. T. Force, to Canada Packers Ltd. Continuous process for the preparation of smoked sausage products. 3,113,870, 12-10-63, Cl. 99-109.
- Barnett, Irwin, and D. W. Traub. Magnetic kit and related apparatus. 3,077,696, 2-19-63, Cl. 46-16.
- Barnett, Jackson H., Jr., and G. H. Jackson, to Reilly Tar & Chemical Co. Primer for plasticized coal tar enamels and method of producing same. 3,080,245, 3-5-63, Cl. 106-278.
- Barnett, James E. Shampoo couch and sink combination. 3,110,039, 11-12-63, Cl. 4-159.
- Barnett, Stanley D.: *See*—  
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- Barnette, Stanley R. Method of making cast plastic laminates. 3,072,973, 1-15-63, Cl. 18-59.
- Barnette, William E.: *See*—  
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Kihn, Harry, and Barnette. 3,114,047.
- Barnette, William E., and H. Kihn, to Radio Corp. of America. Decoder circuits. 3,110,016, 11-5-63, Cl. 340-174.
- Barney, Arthur L., to E. I. du Pont de Nemours and Co. Process for producing images, using light sensitive aromatic-1,2-dialdehydes and elements therefor. 3,102,811, 9-3-63, Cl. 96-48.
- Barney, Greenleaf H., and L. C. Burman, to Engelhard Industries, Inc. Composite fuel elements for nuclear reactors. 3,098,024, 7-16-63, Cl. 204-193.2.
- Barney, Harold L., to Bell Telephone Laboratories, Inc. Unitary artificial larynx. 3,072,745, 1-8-63, Cl. 179-1.
- Barney, Walter. Surge protection circuit. 3,112,435, 11-26-63, Cl. 323-9.
- Barnhard, Dorn. Guide line marker assembly. 3,079,049, 2-26-63, Cl. 222-169.



- Barnhart, Carlton L. Automatic coin collector. 3,092,308, 6-4-63, Cl. 232-57.
- Barnhart, Carlton L. Automatic coin collector. 3,109,528, 11-5-63, Cl. 194-9.
- Barnhart, Carlton L., W. E. Cantrell, and C. A. Clayton, Jr. Automatic coin collector. 3,104,001, 9-17-63, Cl. 194-9.
- Barnhart, Harry E., to The Bendix Corp. Electrical connector. 3,112,146, 11-26-63, Cl. 339-30.
- Barnhart, Robert E., and F. C. Sawyer, to E. I. du Pont de Nemours and Co. Gelled ammonium nitrate blasting explosive and process. 3,072,509, 11-8-63, Cl. 149-2.
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- Hunter, Byron A., and Barnhart. 3,111,496.
- Barning, Fred R.: See—
- Campbell, Charles, and Barning. 3,092,236.
- Barnitz, Richard W., and J. F. McCarthy, to Jones & Laughlin Steel Corp. Continuous mill control means. 3,109,330, 11-5-63, Cl. 80-35.
- Barn-O-Matic, Inc.: See—
- Carew, Gordon H., and Walker. 3,105,586.
- Barns, Fred K., and C. H. Wenger, to The B. F. Goodrich Co. Stock shell retaining device. 3,105,648, 10-1-63, Cl. 242-72.1.
- Barnstead, John W., to General Electric Co. Welded container with thermoplastic lining and method of making same. 3,115,987, 12-31-63, Cl. 220-64.
- Barnstead Still and Sterilizer Co.: See—
- Smith, Verity C. 3,095,259.
- Barnum, Orville G., to Factor Corp. Shock absorbing axle mount for vehicles. 3,107,907, 10-22-63, Cl. 267-65.
- Barogenics, Inc.: See—
- Gerard, George, and Brayman. 3,080,609.
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- Baron, Charles. Removable fishing sinker. 3,096,599, 7-9-63, Cl. 43-44.9.
- Baron, Frank E., to Vitramon, Inc. Encapsulated assemblies. 3,086,149, 4-16-63, Cl. 317-242.
- Baron, George B., and E. W. Sankey, to Universal Marion Corp. Propulsion device of the walker type. 3,078,941, 2-26-63, Cl. 180-8.
- Baron Industries: See—
- Roehl, Ernest O. 3,111,952.
- Barone, Bruno J., and W. F. Brill, to Petro-Tex Chemical Corp. Oxidation of methacrolein or acrolein to the corresponding acid and peroxide in the presence of iodine. 3,114,769, 12-17-63, Cl. 260-530.
- Barone, Gennaro, to Societa Applicazioni Gomma Antivibranti S.A.G.A. S.p.A. Flexible joint for torque transmission. 3,112,626, 12-8-63, Cl. 64-11.
- Baronetzky, Egon O. M., to North American Philips Co., Inc. Getter structure. 3,102,633, 9-3-63, Cl. 206-4.
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- Baroud, Carum. Paint can attachment. 3,074,604, 1-22-63, Cl. 222-569.
- Barows, Arthur G., and R. F. Zitko, to International Harvester Co. Multiple knife assembly for forage choppers. 3,093,951, 6-18-63, Cl. 56-294.
- Bar-Plate Mfg. Co., The: See—
- Polayes, Jack. 3,091,853.
- Barr, Arthur C. and N. K. Nursing nipple. 3,113,569, 12-10-63, Cl. 128-252.
- Barr, Bernard J. Electromechanical actuating device. 3,092,208, 6-4-63, Cl. 185-40.
- Barr, Courtland H., Jr.: See—
- Barr, Courtland H., Sr., C. H. Barr, Jr., and J. W. Barr. 3,106,206.
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- Barr, Edward J., to McCulloch Corp. Diaphragm pump. 3,104,617, 9-24-63, Cl. 103-150.
- Barr, Frank T., and T. A. Reiter, to Esso Research and Engineering Corp. Utilization of proton recoil energy in neutron irradiated vapor phase organic reactions. 3,101,307, 8-20-63, Cl. 204-154.2.
- Barr, George M., to F. S. Simms & Co. Ltd. Machines for making mop swabs. 3,107,124, 10-15-63, Cl. 300-21.
- Barr, Harold B.: See—
- Jones, Leslie R., and Barr. 3,077,979.
- Barr, Harold N., and L. Frank, to Martin-Marietta Corp. Fissionable fuel capsules and method of manufacturing same. 3,091,581, 5-28-63, Cl. 204-193.2.
- Barr, Harry S., Jr., E. P. Nagel, and J. Furstenberg, to Pheumaf Corp. Roll clearers. 3,074,121, 1-22-63, Cl. 19-263.
- Barr, Irwin R., to Aircraft Armaments, Inc. Method of making ball bearing. 3,089,221, 5-14-63, Cl. 29-148.4.
- Barr, Irwin R., and N. J. La Costa, to Aircraft Armaments, Inc. Cartridge actuated device. 3,106,131, 10-8-63, Cl. 89-1.
- Barr, James R., to General Electric Co. Pressure relief device. 3,113,172, 12-3-63, Cl. 174-11.
- Barr, John W.: See—
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- Barr, Norma K.: See—
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- Barr, Robert A., and C. J. Waechter, to Midland-Ross Corp. Outsert applying apparatus. 3,083,009, 3-26-63, Cl. 270-58.
- Barr Rubber Products Co., The: See—
- Chupa, John C. 3,082,479.
- Chupa, John C. 3,112,529.
- Barr, Walter L., to Rose Brothers (Gainsborough) Ltd. Wrapping machines. 3,070,930, 1-1-63, Cl. 53-159.
- Barracough, R. W., Ltd.: See—
- Barracough, Ronald W. 3,112,588.
- Barracough, Ronald W., 1/2 to R. W. Barracough Ltd. Machines for making, filling and sealing containers. 3,112,588, 12-3-63, Cl. 53-187.
- Barral, Jacques, 50% to M. Capron. Educational test apparatus. 3,087,256, 4-30-63, Cl. 35-9.
- Barrass, Ernest A.: See—
- Ure, George R., Benson, and Barrass. 3,084,109.
- Barratt, Peter: See—
- Waters, Ian M., and Barratt. 3,114,799.
- Bar-Ray Products, Inc.: See—
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- Lapof, Ray C. 3,095,797.
- Barrett, Donald L., to The Goodyear Tire & Rubber Co. Tire repair unit. 3,080,907, 3-12-63, Cl. 152-367.
- Barrett, Fred O.: See—
- Myers, Latimer D., Goebel, and Barrett. 3,076,003.
- Barrett, Fred O., and C. G. Goebel, to Emery Industries, Inc. Process for manufacture of phenolated fatty acids. 3,074,983, 1-22-63, Cl. 260-413.
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- Barrett, George T.: See—
- Cohler, Edmund U., Barrett, and Lawless. 3,112,476.
- Barrett, George T., and A. H. Ashley, to Sylvania Electric Products Inc. Noise cancellation for magnetic memory devices. 3,112,470, 11-26-63, Cl. 340-174.
- Barrett, George T., and T. E. Baker, Jr., to Sylvania Electric Products Inc. Memory systems. 3,115,619, 12-24-63, Cl. 340-174.
- Barrett, Hillard E., and E. A. Gallo, to Curtiss-Wright Corp. Variable area nozzle and shroud combination. 3,081,596, 3-19-63, Cl. 60-35.6.
- Barrett, Homer D., R. T. Estes, and G. C. Stow, Jr., to Monsanto Chemical Co. Yarn manufacture and products obtained thereby. 3,113,369, 12-10-63, Cl. 28-75.
- Barrett, Jasper H., J. C. Wright, and B. B. Cowser, to Union Carbide Corp. Production of a solution of diacetyl peroxide in acetic anhydride. 3,079,443, 2-26-63, Cl. 260-610.
- Barrett, Nat. A., and N. H. Fuller. Automatic alarm system. 3,111,656, 11-19-63, Cl. 340-215.
- Barrett, Rowland M. Golf club. 3,102,726, 9-3-63, Cl. 273-81.2.
- Barrett, Terence, D. English, and K. J. Williams, to The United Kingdom Atomic Energy Authority. Viscosity groove type shaft seal. 3,109,658, 11-5-63, Cl. 277-3.
- Barrett, Walter R. C., and K. D. Harris, to Lakeshire Products, Inc. Infra-red heating apparatus. 3,108,173, 10-22-63, Cl. 219-35.
- Barrett, Wayne T., M. G. Sanchez, and M. C. Vanik, to W. R. Grace & Co. Stable silica-clad thoria sols and their preparation. 3,097,175, 7-9-63, Cl. 252-313.
- Barrow, James E. Leg structure for metal tables and the like. 3,096,791, 7-9-63, Cl. 138-151.
- Barrett, Wesley H., to Dowty Mining Equipment Ltd. Pushing devices for mine conveyors. 3,084,920, 4-9-63, Cl. 262-1.
- Barrett, William A., to W. P. Evans & Sons Ltd. Belt for suction boxes. 3,115,439, 12-24-63, Cl. 162-367.
- Barrett, William H., and J. C. Hart, to Minnesota and Ontario Paper Co. Method of treating coated fiberboard. 3,092,508, 6-4-63, Cl. 117-8.
- Barrez, Lucien, to Societe Anonyme dite Societe Normande de Carton Ondule. Package or carton. 3,077,294, 2-12-63, Cl. 229-6.
- Barricks, Joseph B., 5% to M. Zerin, and 95% to R. L. Lowell. Sound emitting device. 3,095,669, 7-2-63, Cl. 46-179.
- Barrie, Ferdinand J.: See—
- Charles, Alonza C. 3,077,129.
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- Barringer, Anthony R., and S. Kagan, to Barringer Research Ltd. Method and apparatus for the measurement of magnetic fields. 3,098,197, 7-16-63, Cl. 324-5.
- Barringer, Anthony R., to Selco Exploration Co. Ltd. Method and apparatus for the remote detection of ore bodies utilizing pulses of short duration to induce transient polarization in the ore bodies. 3,105,934, 10-1-63, Cl. 324-4.
- Barringer, Anthony R., to Barringer Research Ltd. Mounting system for the isolation of rotational vibrations. 3,115,326, 12-24-63, Cl. 248-358.
- Barringer, Charles M., to E. I. du Pont de Nemours and Co. Polyurethane cellular materials. 3,080,329, 3-5-63, Cl. 260-2.5.
- Barringer, Mary T.: See—
- Lovette, Edd H. 3,072,295.
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- Barringer, Anthony R. 3,115,326.
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- Barrington, Leonard F.: See—
- Blades, Charles E., and Barrington. 3,074,912.
- Barroero, Louis F. Refrigerating shelf structure. 3,090,211, 5-21-63, Cl. 62-256.



- Barroll, Alfred E., and K. H. Kretzschmar, to Socony Mobil Oil Co., Inc. Satellite gathering system. 3,095,889, 7-2-63, Cl. 137-14.
- Barron, Archie N.: *See—*  
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- Barron, Lee H. Portable hole cutting wire-saw machine. 3,093,021, 6-11-63, Cl. 83-201.
- Barrot, Paul M. E., and C. S. Y. L. Lemardeley, to Babbittless Means for suspending the shafts of gyratory crushers. 3,107,868, 10-22-63, Cl. 241-211.
- Barrows, Roger O.: *See—*  
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- Bar-Rup Corp.: *See—*  
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- Barrus, Donald M., to North American Aviation, Inc. Ball latch and drive mechanism. 3,074,577, 1-22-63, Cl. 214-658.
- Barry, Adelbert: *See—*  
Sandlin, Herman L., and Barry. 3,104,717.
- Barry, Adelbert, and W. D. Mounce, to Jersey Production Research Co. Apparatus for drill stem testing. 3,107,729, 10-22-63, Cl. 166-66.
- Barry, David T., to United States of America, Navy. Quick acting gate for voltage or current discharge. 3,100,269, 8-6-63, Cl. 307-88.5.
- Barry, John K., to South Chester Corp. Press insert having angular knurlings. 3,079,970, 3-5-63, Cl. 151-41.73.
- Barry, John P., and H. Schneiderman, to Aerojet-General Corp. Method of propulsion employing catalyzed nitroalkane-alkylene oxide composition. 3,098,350, 7-23-63, Cl. 60-35.4.
- Barry, Leonard D. Flux diverter. 3,072,750, 1-8-63, Cl. 179-100.2.
- Barry, Leonard D., to Ampex Corp. Tape recorder. 3,099,709, 7-30-63, Cl. 178-6.6.
- Barry, Leonard D. Magnetic recording and reproducing. 3,110,764, 11-12-63, Cl. 178-6.6.
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- Barry, Raymond L., and W. W. Richardson, to International Minerals & Chemical Corp. Production of potassium fluosilicate. 3,082,061, 3-19-63, Cl. 23-88.
- Barry, Robert D.: *See—*  
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- Barry, Sydney E., to Shawinigan Chemicals Ltd. Purification of phenol. 3,102,149, 8-27-63, Cl. 260-621.
- Barry, Thomas J., and W. Burke, to Ether Ltd. Means for controlling the temperature, pressure, or rate of flow of a fluid, or for other analogous purposes. 3,076,926, 2-5-63, Cl. 323-64.
- Barry-Wehmiller Machinery Co.: *See—*  
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- Nekola, William J., and Henigman. 3,111,131.
- Barry Wright Corp.: *See—*  
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- Barsel, Norman, to Chem Research Co. 7-halogenated adrenochrome derivatives. 3,098,858, 7-23-63, Cl. 260-295.
- Bart, Abraham: *See—*  
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- Barta, Henry J., to S & C Electric Co. Fuse construction for operation by an auxiliary circuit interrupter. 3,094,597, 6-18-63, Cl. 200-114.
- Barta, Henry R.: *See—*  
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- Bartel, Walter A. Double implement drawbar. 3,112,124, 11-26-63, Cl. 280-412.
- Bartels, Albert H.: *See—*  
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- Bartels, Erich, to Rheinmetall, G.m.b.H., Firma. Repeater-type cocking firing mechanism for guns. 3,095,781, 7-2-63, Cl. 89-27.
- Bartels, Erich, to Rheinmetall, G.m.b.H., Firma. Gun with cartridge magazine or propellant charge magazine. 3,099,937, 8-6-63, Cl. 89-24.
- Bartels, Henning G. Fluid moving apparatus. 3,073,248, 1-15-63, Cl. 103-87.
- Bartelt, Dietrich, to Mannesmann Aktiengesellschaft. Apparatus for classifying particulate material. 3,082,873, 3-26-63, Cl. 209-491.
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- Barter Laboratories, Inc.: *See—*  
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- Barter, LeRoy D., to Beckman Instruments, Inc. Transistorized voltage regulator. 3,116,447, 12-31-63, Cl. 323-22.
- Barth, Bruce P., to Union Carbide Corp. Punk resistant, powdered binder compositions comprising a phenolic novolac and a polymeric condensation product of an alkyl ether of dimethylol urea, and mineral fibers bonded therewith. 3,076,780, 2-5-63, Cl. 260-45.1.
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- Barth, Gilbert R.: *See—*  
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- Barth, Jacques, and E. Roche, to Societe Generale de Constructions Electriques & Mecaniques (Alsthom). 3,072,553, 1-8-63, Cl. 204-193.2.
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- Bartholomaeus, Werner J.: *See—*  
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- Bartkus, Edward A.: *See—*  
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- Bartkus, Marjorie M.: *See—*  
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- Bartl, Hugo: *See—*  
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- Bartl, Hugo, and E. Feess, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for printing of textile material. 3,094,369, 6-18-63, Cl. 8-65.
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- Bartlett, Allen R., to Mosler Harbor Metal Products Corp. Lock for sliding doors. 3,115,763, 12-31-63, Cl. 70-100.
- Bartlett, George A., to Howe Richardson Scale Co. Automatic lock-out switch. 3,098,536, 7-23-63, Cl. 177-12.
- Bartlett, Jeffrey H.: *See—*  
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- Bartlett, Marjorie: *See—*  
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- Bartling, James T., O. J. Sabolt, and B. Smith, to United States of America, Navy. Rocket assisted torpedo. 3,088,403, 5-7-63, Cl. 102-7.
- Bartmann, Rüdiger J. W. G., to Beteiligungs-und Patentverwaltungsgesellschaft mit beschränkter Haftung. Heating arrangement. 3,116,054, 12-31-63, Cl. 263-32.
- Barto, Ivan J. Table and bench assembly. 3,100,127, 8-6-63, Cl. 297-157.
- Bartocho, Bodo K. W., to United States of America, Navy. Method for the preparation of vinyl-alkali metal compounds. 3,098,881, 7-23-63, Cl. 260-665.
- Bartocho, Bodo K. W. New vinyl compounds and methods for their preparation. 3,100,217, 8-6-63, Cl. 260-448.
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- Bartok, William, and P. J. Lucchesi, to Esso Research and Engineering Co. Radiolytic oxidation of hydrocarbons. 3,099,613, 7-30-63, Cl. 204-162.
- Bartolat, Albert F. Rotating guide boring bar. 3,094,014, 6-18-63, Cl. 77-3.
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- Barton, Daniel M., and J. P. Haggerty, to Chemetron Corp. Production of organic sulfonyl chlorides. 3,108,137, 10-22-63, Cl. 260-543.
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- Barton, James, to The Udylite Corp. Conveying machine. 3,080,039, 3-5-63, Cl. 198-19.
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- Bartram, Mervyn: *See—*  
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- Bartram, Ralph H., to General Telephone and Electronics Laboratories, Inc. Ultra high frequency amplifier. 3,108,232, 10-22-63, Cl. 330-44.
- Bartson, Lester J.: *See—*  
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- Bartz, Quentin R.: *See—*  
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- Bartz, Raymond F., H. M. Helland, and C. J. Vincent, to Lockport Felt Co., Inc. Papermaker's felt. 3,086,276, 4-23-63, Cl. 28-79.
- Baruch, Jordan J., and B. G. Watters, to Bolt Beranek and Newman, Inc. Acoustic absorber. 3,087,572, 4-30-63, Cl. 181-93.
- Baruch, Jordan J., and B. G. Watters, to Bolt Beranek and Newman, Inc. Acoustic construction unit. 3,087,575, 4-30-63, Cl. 181-93.
- Baruh, Bradford G. Bottle with non-refilling liquid dispenser. 3,109,546, 11-5-63, Cl. 215-21.
- Barusch, Maurice R., to California Research Corp. Engine starting fluid. 3,108,864, 10-29-63, Cl. 44-53.
- Barvin, William R. Cap for containers. 3,115,979, 12-31-63, Cl. 215-9.
- Barzano, Piero. Method and apparatus for packaging articles. 3,103,773, 9-17-63, Cl. 53-392.
- Basa, Frank: *See—*  
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- Basaraba, Dan D.: *See—*  
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- Baschet, François. Musical instrument. 3,084,587, 4-9-63, Cl. 84-402.
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- Basebe, Arthur C., and H. A. Clements, to S.S.S. Gears Ltd. Rotary synchronous clutches. 3,093,226, 6-11-63, Cl. 192-67.
- Baselt, Frederick C., to American Can Co. Coffee package. 3,077,409, 2-12-63, Cl. 99-152.
- Basford, Kenneth A., and F. F. Gross. Liquid volume measuring devices. 3,102,424, 9-3-63, Cl. 73-202.
- Bashaw, Robert N., and B. G. Harper, to The Dow Chemical Co. Insoluble polyacrylic acid salts and method of preparing the same. 3,090,736, 5-21-63, Cl. 204-154.
- Bashe, Jerome T., to Robbins Aviation, Inc. Solenoid actuated fluid valve. 3,107,893, 10-22-63, Cl. 251-86.
- Bashor, Nelson P., and J. W. Appelgren, to W. F. and John Barnes Co. Bridge circuit control means with ganged switches effecting leakage compensation. 3,091,704, 5-28-63, Cl. 307-88.5.
- Basic Atomics Inc.: *See—*  
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- Basile, Gino, to Glamorise Foundations, Inc. Sewing machine needle guiding means. 3,107,639, 10-22-63, Cl. 112-227.
- Basile, Rocco F., to The Kent Mfg. Co. Conductor cable stripping tool. 3,102,444, 9-3-63, Cl. 81-9.5.
- Basilevsky, Alexis G., to Electrochemical Processes, Inc. Electrochemical process and apparatus with purification of mercury. 3,091,579, 5-28-63, Cl. 204-99.
- Baskerville, Ralph J., to General Electric Co. Ratchet mechanism for charging a closing spring in an electric circuit breaker. 3,084,238, 4-2-63, Cl. 200-153.
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- Bass, Harold E., to General Dynamics Corp. Valve. 3,100,499, 8-13-63, Cl. 137-246.22.
- Bass, John E., Jr., to Perfecting Service Co. Improved composite fluid and electrical coupling. 3,085,219, 4-9-63, Cl. 339-15.
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- Bassett, Albert, to Basic Products Corp. Transfer mechanism. 3,104,767, 9-24-63, Cl. 214-23.
- Bassett, Albert, to Basic Products Corp. Transfer apparatus. 3,104,768, 9-24-63, Cl. 214-23.
- Bassett, Alton H., to Johnson & Johnson. Sanitary napkins and methods of making the same. 3,095,878, 7-2-63, Cl. 128-290.
- Bassett, Charles R. Hydraulically actuated disc brake assembly. 3,108,658, 10-29-63, Cl. 188-72.
- Bassett, John B., to Standard Research Consultants, Inc. Paping and alarm system. 3,113,270, 12-3-63, Cl. 325-55.
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- Bassett, William E. Nail clipper. 3,093,147, 6-11-63, Cl. 132-75.5.
- Bassi, Alberto, C. Corsetti, F. Mantega, and G. Perona, to Centro Informazioni Studi Esperienze S.r.l. System and universal apparatus for the complete preparing of metallographic samples. 3,102,090, 8-27-63, Cl. 204-217.
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- Kramcsak, Michael, Jr. 3,080,601.
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- Bassin, Charles S. Garment hanger. 3,115,286, 12-24-63, Cl. 223-96.
- Bassist, Rudolph G. Knitting machine provided with independently adjustable thread-guide element. 3,074,259, 1-22-63, Cl. 66-84.
- Bassler, Gerald C., and A. F. Stang, to Armour & Co. Method of preparing long chain alkyl chlorides. 3,076,044, 1-29-63, Cl. 260-652.
- Basso, John E., to The Buehler Corp. Gate positioner. 3,070,954, 1-1-63, Cl. 60-35.5.
- Basso, John E., to The Buehler Corp. Direction control for jet boat. 3,071,101, 1-1-63, Cl. 115-12.
- Bassoff, Arthur B., to National Broach & Machine Co. Method for trimming a gear honing tool. 3,072,116, 1-8-63, Cl. 125-11.
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- Bastian, Arthur L., to Curtiss-Wright Corp. Thermal time delay relay. 3,076,881, 2-5-63, Cl. 200-122.
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- Billington, Evans R. 3,074,426.
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- Bastie, Paul. Fish pole holder. 3,089,674, 5-14-63, Cl. 248-40.
- Bastow, Donald, to Birfield Engineering Ltd. Universal joints. 3,106,076, 10-8-63, Cl. 64-17.
- Bastow, Gordon C. Reels. 3,084,886, 4-9-63, Cl. 242-107.6.
- Bataille, Claude, to Societe a responsabilite limitee dite Ateliers de Poclair-Bataille & Fils. Hydraulic engine. 3,092,085, 6-4-63, Cl. 121-61.
- Batcha, Emil. Sign bracket. 3,115,325, 12-24-63, Cl. 248-204.
- Batchelder, Charles F., and J. A. Rubico, to Batchelder Rubico, Inc. Quarter-gauging shoe last and height gauge. 3,110,915, 11-19-63, Cl. 12-141.
- Batchelder, John M. Disk computer. 3,092,717, 6-4-63, Cl. 235-61.5.
- Batchelder, Laurence, to United States of America, Navy. Navigation system with electroacoustic leader cables. 3,089,117, 5-7-63, Cl. 340-4.
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- Batcheller, Frederick A., to Perma Tubes Ltd. Method of producing a seismograph drillhole casing. 3,087,241, 4-30-63, Cl. 29-529.
- Batcheller, Hugh W., to Kent Mfg. Corp. Wire-gripping part of electric terminal member. 3,096,136, 7-2-63, Cl. 339-276.
- Batcheller, Hugh W., to Kent Mfg. Corp. Machine for crimping terminals on wires. 3,101,765, 8-27-63, Cl. 153-1.
- Batchelor, Clyde S., and W. R. Jensen, to Raybestos-Manhattan, Inc. Friction devices. 3,092,214, 6-4-63, Cl. 188-218.
- Batchelor, James D., G. P. Curran, and E. Gorin, to Consolidation Coal Co. Process for regenerating manganese oxide acceptors for hydrogen sulfide. 3,101,303, 8-20-63, Cl. 202-31.
- Batchelor, Joseph B., Jr., to Central Electronics, Inc. Inverse clipping circuit. 3,094,670, 6-18-63, Cl. 330-2.
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- Batdorf, Oscar E., to Vaco Products Co. Cutoff device for threaded bolts and screws. 3,089,241, 5-14-63, Cl. 30-226.
- Batdorf, Robert L., G. C. Dacey, and D. A. Kleinman, to Bell Telephone Laboratories, Inc. Improved tunnel diode. 3,109,758, 11-5-63, Cl. 148-33.1.
- Bate, Clavell, & Nephews Ltd.: *See*—
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- Bate, Frederick D., to Clavell Bate & Nephews Ltd. Sealing means for wrapping machines. 3,085,144, 4-9-63, Cl. 219-19.
- Bateman, Edward L. Ltd.: *See*—
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- Bateman, William S., Jr. Speaker enclosure. 3,080,013, 3-5-63, Cl. 181-31.
- Bates, Albert D. Room divider device. 3,111,723, 11-26-63, Cl. 20-4.
- Bates, Arthur C., and C. R. Huttinger, to I-T-E Circuit Breaker Co. Current interrupting device. 3,110,782, 11-12-63, Cl. 200-78.
- Bates, Arthur D., and M. J. Wells, to Western Geophysical Co. of America. Variable density camera. 3,107,137, 10-15-63, Cl. 346-33.
- Bates, Arthur I., to American Viscose Corp. Method for producing crimped regenerated cellulosic fibers. 3,077,374, 2-12-63, Cl. 18-54.
- Bates, Charles J., and A. A. Andre, to The Procter & Gamble Co. Prepared potato containing culinary mix. 3,089,773, 5-14-63, Cl. 99-94.
- Bates, David J., to Hughes Aircraft Co. Periodically focused traveling wave tube with tapered phase velocity. Re. 25,329, 2-19-63, Cl. 315-3.5.
- Bates, Robert L., and P. L. Fondy, to Chemineer, Inc. High shear impeller. 3,111,305, 11-19-63, Cl. 259-134.
- Batey, Robert W., to Drew Chemical Corp. Packaging method for pressurized dispensers. 3,103,957, 9-17-63, Cl. 141-12.
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- Maize, Paul F. 3,113,607.
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- Bathish, Louis N., to Pharmaseal Laboratories. Apparatus for administering liquids. 3,100,487, 8-13-63, Cl. 128-227.
- Batie, Glenn L., E. C. Fuerst, Sr., and V. U. Speed. Folding chair with fishing pole holder and tackle box. 3,077,327, 2-12-63, Cl. 248-42.
- Batlas, George X., and S. Baranski. Paper towel dispenser. 3,107,957, 10-22-63, Cl. 312-39.
- Batrow, John and P. P., to Batrow Laboratories, Inc. Electrophysiotherapy apparatus. 3,077,884, 2-19-63, Cl. 128-423.
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- Safranek, William H., Jr., Beach, and Faust. 3,111,464.
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- Batterton, Elmo L., and M. J. Lonsdale, to A. F. Meyer Mfg. Co. Grain dryer. 3,078,590, 2-26-63, Cl. 34-102.
- Batti, Mario, and L. B. Schweiger, to Miles Laboratories, Inc. Process for the production of itaconic acid. 3,078,217, 2-19-63, Cl. 195-36.
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- Battista, Orlando A., E. G. Fleck, Jr., and E. W. Neumann, to American Viscose Corp. Oxidation derivatives of cellulose crystallite aggregates. 3,111,513, 11-19-63, Cl. 260-212.
- Battista, Samuel P., to Arthur D. Little, Inc. Device for continuous delivery of metered amounts of liquid. 3,115,280, 12-24-63, Cl. 222-95.
- Battistin, Ferdinando. Variable-speed drives. 3,082,634, 3-26-63, Cl. 74-199.
- Battle Creek Packaging Machines, Inc.: *See*—
- Smith, John W., and Willbrandt. 3,083,514.
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- Battle, Frederick H., Jr., to Cutler-Hammer, Inc. Pulse-count threshold control circuit. 3,089,138, 5-7-63, Cl. 343-106.
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- Battner, Elliot, and H. A. Schaeffer, to Olin Mathieson Chemical Corp. Complexes of tetracycline antibiotics and preparations of same. 3,082,253, 3-19-63, Cl. 260-559.
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- Batzner, Hans, O. Ernst, and W. Fatzer. 3,4-epoxy-1-hydroxy-acetal-cyclohexanes and endomethylene cyclohexanes. 3,072,679, 1-8-63, Cl. 260-340.7.
- Batzner, Thomas H., to United States of America, Atomic Energy Commission. Fluid pressure and cam operated vacuum valve. 3,112,095, 11-26-63, Cl. 251-172.
- Bau, Robert G. Cosmetic make-up device. 3,071,143, 1-1-63, Cl. 132-88.7.
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- Baude, John, to Allis-Chalmers Mfg. Co. Pulse amplitude discriminator. 3,092,731, 6-4-63, Cl. 307-88.5.
- Baude, John, to Allis-Chalmers Mfg. Co. Compound cascade transistor switch having nonlinear resistance thermal runaway protection. 3,109,940, 11-5-63, Cl. 307-88.5.
- Baude, John, to Allis-Chalmers Mfg. Co. Pulse width discriminator. 3,112,218, 12-3-63, Cl. 307-88.5.
- Baude, John, to Allis-Chalmers Mfg. Co. Circuit breaker control employing saturable reactors. 3,116,440, 12-31-63, Cl. 317-54.
- Baude, John, to Allis-Chalmers Mfg. Co. Triggered blocking oscillator with surge prevention. 3,116,465, 12-31-63, Cl. 331-112.
- Baude, John, and W. S. Lorenz, to Allis-Chalmers Mfg. Co. Surge controller for protecting a source of electrical energy. 3,087,106, 4-23-63, Cl. 321-11.
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- Bauder, Ulrich, to Firma Fr. Hesser Maschinenfabrik-Aktiengesellschaft. Dispensing machine operating on volumetric principle. 3,100,584, 8-13-63, Cl. 222-55.
- Bauder, Ulrich, to Firma Fr. Hesser Maschinenfabrik-Aktiengesellschaft. Device for applying patches of greasy adhesives to razor blade wrappers. 3,107,181, 10-15-63, Cl. 118-211.
- Bauder, Ulrich, and K. Braun, to Firma Fr. Hesser Maschinenfabrik-Aktiengesellschaft. Volumetric filling machine. 3,073,400, 1-15-63, Cl. 177-56.
- Baudet, Jacques, to La Telemeccanique Electrique. Switch of the screw selector type. 3,102,174, 8-27-63, Cl. 200-33.
- Bauduin, George J., to Drott Mfg. Corp. Vehicle steering system. 3,075,603, 1-29-63, Cl. 180-79.2.
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- Baudoux, Edmond, to Etablissement Dic. Method of dry construction and set of elements for carrying out the same. 3,076,293, 2-5-63, Cl. 50-126.
- Baudry, Jean, to Institut Francais du Petrole, des Carburants et Lubrifiants. Process for operating controlled ignition engines with lean combustible mixtures. 3,087,480, 4-30-63, Cl. 123-119.
- Baudry, Rene A., to Westinghouse Electric Corp. Dynamo-electric machine. 3,110,827, 11-12-63, Cl. 310-55.
- Bauer, Alfred F., to National Lead Co. Method for producing coated die castings. 3,083,424, 4-2-63, Cl. 22-203.
- Bauer, Alfred F., to National Lead Co. Die casting method and article. 3,098,270, 7-23-63, Cl. 22-204.
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- Bauer, Arnold, to Patent-Treuhand-Gesellschaft fur Electriche Gluhlampen m.b.H. Electric high pressure discharge lamps. 3,090,883, 5-21-63, Cl. 313-113.
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- Bauer, Benjamin B., to Columbia Broadcasting System, Inc. Stereophonic loudspeaker arrays. 3,080,012, 3-5-63, Cl. 181-31.
- Bauer, Benjamin B., to Columbia Broadcasting System, Inc. Stereophonic to binaural conversion apparatus. 3,088,997, 5-7-63, Cl. 179-1.
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- Bauer, Edwin W., to International Business Machines Corp. Magnetic core logical device. 3,077,582, 2-12-63, Cl. 340-174.
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- Bauer, Herman R.: *See*—  
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- Bauer, Joseph L., to Belleville Sheet Metal Works, Inc. Ladder clamp. 3,105,667, 10-1-63, Cl. 248-361.
- Bauer, Karl. Hydraulic axial piston machine. 3,108,545, 10-29-63, Cl. 103-173.
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- Bauer, Kurt, H. Danziger, and G. Schulze, deceased (E. B. K. Schulze, nee Woiczinski, legal heir), to Farbenfabriken Bayer Aktiengesellschaft. Process for obtaining pure trimethylpropane. 3,082,259, 3-19-63, Cl. 260-637.
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- Bauer, La Verne N., to Rohm & Haas Co. Graft copolymer vinylthioalkyl unsaturated carboxylates on a polymeric backbone formed from a monovinylidene compound. 3,095,401, 6-25-63, Cl. 260-45.5.
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- Bauer, Myron J., and R. C. Wilson, to United States of America, Navy. Blast doors and span track arrangement for guided missile launching system. 3,095,780, 7-2-63, Cl. 89-1.7.
- Bauer, Oscar E. Vehicle mounted animal catching device. 3,095,858, 7-2-63, Cl. 119-151.
- Bauer, Peter, to Pye Ltd. Control devices for cameras. 3,108,527, 10-29-63, Cl. 95-45.
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- Bauer, Robert F., and R. B. Thornburg, to Shell Oil Co., Continental Oil Co., The Superior Oil Co., and Union Oil Co. of California. Pipe handling apparatus. 3,083,842, 4-2-63, Cl. 214-2.5.
- Bauer, Robert R.: *See*—  
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- Bauer, Sherrick L.: *See*—  
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- Bauer, Stefan G., to Rolls-Royce Ltd. Method of producing canned fuel rods for nuclear reactors. 3,096,264, 7-2-63, Cl. 204-154.2.
- Bauer, Stefan G., and N. Battle, to Rolls-Royce Ltd. Steam cooled reactor and fuel channel. 3,099,616, 7-30-63, Cl. 204-193.2.
- Bauer, Stefan G., and D. H. Jubb, to Rolls-Royce Ltd. Steam generating plant. 3,103,917, 9-17-63, Cl. 122-1.
- Bauer, Walther H., to Continental Can Co., Inc. Sheet pull-back mechanism. 3,073,593, 1-15-63, Cl. 271-60.
- Bauer, Werner R., to Robertshaw-Fulton Controls Co. Electromagnetic relay and armature therefor. Re. 25,351, 3-19-63, Cl. 200-87.
- Bauer, William C., A. P. McCue, and K. C. Rule, to FMC Corp. Method of crystallizing sodium bicarbonate. 3,072,466, 1-8-63, Cl. 23-300.
- Bauer, William G.: *See*—  
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- Bauer, William H., Jr., and J. A. Gervasi, to Minnesota Mining and Mfg. Co. Method of preparing dispersions from blend of fluorine containing polymers. 3,075,939, 1-29-63, Cl. 260-30.4.
- Bauerlein, Carl C.: *See*—  
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- Bauerlein, Carl C., to The Dole Valve Co. Impact ejecting ice making apparatus. 3,074,248, 1-22-63, Cl. 62-135.
- Bauermeister, Hermann, Maschinenfabrik und Muhlenbau G.m.b.H.: *See*—  
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- Bauerschmidt, Charles H., to C.H.B. Autobowling Corp. Automatic pin-setting machine. 3,072,405, 1-8-63, Cl. 273-43.
- Bauger, Louis J., R. Constant, and L. F. Jumelle, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Improvements to jet-propelled aircraft with directional discharge nozzles for vertical take-off. 3,096,954, 7-9-63, Cl. 244-23.
- Bauger, Louis J., A. J. B. Lacroix, and P. M. Phelipon, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Combustion equipment for jet propulsion units. 3,102,392, 9-3-63, Cl. 60-39.72.
- Baugh, Charles: *See*—  
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- Baugh, Charles W., Jr., to Westinghouse Electric Corp. Broadcast stereo receiver. 3,076,057, 1-29-63, Cl. 179-15.



- Baugh, Richard W.: *See*—  
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Baumann, Hans D., to Worthington Corp. Self-locking fluid operated valve actuating mechanism. 3,112,654, 12-3-63, Cl. 74-110.  
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Baumann, Rudolf G. H., to Daimler-Benz Aktiengesellschaft. Drive arrangement for foldable tops of motor vehicles or the like. 3,116,087, 12-31-63, Cl. 296-117.  
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Baumgartner, Herman J., P. Pezzaglia, and G. T. Williamson, to Shell Oil Co. Production of acrylic acid by the dealkoxylation of beta-alkoxy propionic acid. 3,115,522, 12-24-63, Cl. 260-526.  
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- Bavley, Abraham, and F. E. Resnik. Tobacco products. 3,109,436, 11-5-63, Cl. 131-17.
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- Baxa, James F. Protective device for tires and tubes. 3,106,953, 10-15-63, Cl. 152-427.
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- Baxter, Robert O., to International Paper Co. Bag closure. 3,099,384, 7-30-63, Cl. 229-62.
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- Baxter, Warren N., to E. I. du Pont de Nemours and Co. Process for the separation of hydrocarbons. 3,101,381, 8-20-63, Cl. 260-677.
- Bay, Paul G., to Abbott Laboratories. Process for making nitrocyclopropane. 3,100,805, 8-13-63, Cl. 260-644.
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- Bay, Thomas J. Condenser tube protector. 3,073,352, 1-15-63, Cl. 138-140.
- Bayard, Gaston, to Westland S.A. Conditioning system for cooling heated equipment. 3,113,440, 12-10-63, Cl. 62-170.
- Baybarz, Fred L., 1/2 to Green-Penny Co. Adjustable rack connection. 3,096,108, 7-2-63, Cl. 287-54.
- Baybarz, Russell D., and M. H. Lloyd, to United States of America, Atomic Energy Commission. Process for separating americium and curium from rare earth elements. 3,079,225, 2-26-63, Cl. 23-44.5.
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- Bayerl, George L. Feed leveling apparatus. 3,111,114, 11-19-63, Cl. 119-52.
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- Baylinson, S Brian. Motor hotel. 3,085,699, 4-16-63, Cl. 214-16.1.
- Bayluk, John. Corner support for a deck pallet. 3,114,339, 12-17-63, Cl. 108-53.
- Bayly, John G., to Atomic Energy of Canada Ltd. Time delay device for analogue computer. 3,087,143, 4-23-63, Cl. 340-173.
- Bayne, Robert T., to Varo Inc. Electrokinetics Division. D.C. to A.C. converter. 3,092,786, 6-4-63, Cl. 331-113.
- Baynes, Gene P., to The Bendix Corp. Clutch mechanism and the like. 3,091,314, 5-28-63, Cl. 192-104.
- Bays, Carl A., to FMC Corp. Method of creating an underground communication. 3,086,760, 4-23-63, Cl. 262-3.
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- Beach, Leland K., and J. E. Shewmaker, to Esso Research and Engineering Co. Process for making phosphonates. 3,093,673, 6-11-63, Cl. 260-461.
- Beach, Milton B., to Flexible Steel Lacing Co. Belt fastener. 3,074,132, 1-22-63, Cl. 24-33.
- Beach, T. Arnold. Combination expansion tank valve. 3,094,143, 6-18-63, Cl. 137-588.
- Beach, William A., and J. D. Soltis, to Esso Research and Engineering Co. Method of reducing noise in oil burners. 3,087,532, 4-30-63, Cl. 158-117.5.
- Beachem, Michael T., and J. T. Shaw, to American Cyanamid Co. Bis-sulfonic acid-olefin adducts. 3,084,195, 4-2-63, Cl. 260-593.
- Beachler, Edward D., to Beloit Iron Works. Suction roll perforation design. 3,097,995, 7-16-63, Cl. 162-371.
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- Beale, Richard D., N. H. Kent, and G. L. Wilde, to Rolls-Royce Ltd. Valve for gas turbine engines. 3,074,432, 1-22-63, Cl. 137-625.28.
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- Beall, Richard W., Jr. Acid solution dispenser. 3,078,883, 2-26-63, Cl. 141-198.
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- Beals, Kenneth M., and W. A. Horne, to Gulf Research & Development Co. Method of producing a medicinal mineral oil. 3,080,313, 3-5-63, Cl. 208-108.
- Beals, Vaughn L. R., Jr., S. R. Hurley, and W. R. Laidlaw, to North American Aviation, Inc. Aircraft flutter testing device. 3,113,451, 12-10-63, Cl. 73-67.2.
- Beam, Chester R.: *See*—  
Cohen, Stanley L., and Beam. 3,112,193.
- Beam Guidance, Inc.: *See*—  
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- Beam, Harry L.: *See*—  
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- Beam Products Mfg. Co.: *See*—  
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- Beam, Walter R., to Radio Corp. of America. Radar. 3,088,105, 4-30-63, Cl. 343-5.
- Beam, Walter W., to Conch International Methane Ltd. Insulated space and elements thereof. 3,109,206, 11-5-63, Cl. 20-4.
- Beaman, Alden G. Heterocyclic nitrogen compounds containing sulfonyl fluoride groups and method of producing same. 3,074,948, 1-22-63, Cl. 260-254.
- Beaman, John B., Jr.: *See*—  
Ott, Vivian L., and Beaman. 3,116,073.
- Beaman, John B., and V. L. Ott. Outboard motor carrier. 3,071,887, 1-1-63, Cl. 280-47.24.
- Beaman, John B., and V. L. Ott. Lawn edger. 3,073,101, 1-15-63, Cl. 56-249.
- Beaman, John B., and V. L. Ott. Skew hoe. 3,075,587, 1-29-63, Cl. 172-371.
- Beamish, Bernard D., to Johnson & Johnson. Contamination proof package. 3,104,012, 9-17-63, Cl. 206-46.
- Beamish, Thomas R. Aircraft float. 3,095,846, 7-2-63, Cl. 114-66.5.
- Bean, Arthur M., and M. F. Cetta, to Bean Bros. Inc. Bowling pin and method of producing the same. 3,093,171, 6-11-63, Cl. 144-310.
- Bean Bros. Inc.: *See*—  
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- Bean, Charles H., and F. J. Karesk, to United States of America, Atomic Energy Commission. Refractory metal tube drawing. 3,075,637, 1-29-63, Cl. 205-21.
- Bean, Charles J.: *See*—  
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- Bean, Charles P. Magnetic material. 3,110,613, 11-12-63, Cl. 117-71.
- Bean, Herbert A., Jr., to C. L. Berger & Sons, Inc. Plumb bob with retractable point. 3,113,387, 12-10-63, Cl. 33-216.
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- Bean, Raymond W., to United States of America, Atomic Energy Commission. Fuel element. 3,111,477, 11-19-63, Cl. 204-193.2.
- Bean Rubber Mfg. Co.: *See*—  
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- Bean, Xarifa L.: *See*—  
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- Beaney, Walter E.: *See*—  
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- Beanland, Eric: *See*—  
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- Bear, James H. Dish washing machine. 3,083,717, 4-2-63, Cl. 134-57.
- Bear Mfg. Co.: *See*—  
MacMillan, Charles W. 3,071,863.  
MacMillan, Charles W. 3,088,547.  
MacMillan, Charles W. 3,091,862.
- Bear, William L. Bird house. 3,078,826, 2-26-63, Cl. 119-23.
- Bear Brand Hosiery Co.: *See*—  
Blackstock, Emerson B. 3,092,953.  
Walrabenstein, Oscar G. 3,115,024.
- Beard, Chester S., J. E. White, and C. R. Le Wan, to General Controls Co. Proportional positioning system. 3,087,470, 4-30-63, Cl. 121-41.
- Beard, Edward S. Tubular fabric spreading and rolling machine. 3,076,249, 2-5-63, Cl. 26-55.
- Beard, Edward S. Tubular fabric extensible spreading means. 3,078,541, 2-26-63, Cl. 26-55.
- Beard, Lawrence R.: *See*—  
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- Beard, Walter C., Jr., to The Risdon Mfg. Co. Metering valve for pressure packages. 3,104,785, 9-24-63, Cl. 222-207.
- Bearde, John N. Building construction. 3,104,427, 9-24-63, Cl. 20-2.
- Bearden, William G.: *See*—  
Spurlock, James W., Holmgren, and Bearden. 3,110,346.
- Beards, Bertram M. Machine or mill for crushing or pulverizing materials. 3,079,095, 2-26-63, Cl. 241-85.
- Beardsley, Kenneth D., and E. J. Wilk, to General Electric Co. Magnetic core. 3,074,038, 1-15-63, Cl. 336-213.
- Beardsley, Melville W., to National Research Associates, Inc. Method of providing deceleration and lift for reentry body. 3,113,750, 12-10-63, Cl. 244-117.
- Beardsley, Osmer G. Safety bathtub. 3,113,323, 12-10-63, Cl. 4-173.
- Beardsley, Richard G., to Lockheed Aircraft Corp. Aircraft control system. 3,114,521, 12-17-63, Cl. 244-76.
- Bearing Inspection, Inc.: *See*—  
Matheson, Stuart N. 3,095,730.
- Bearss, Henry E.,  $\frac{1}{2}$  each to L. A. Bearss, and R. E. Bearss. Lead halter. 3,098,336, 7-23-63, Cl. 54-24.
- Bearss, Lawrence A.: *See*—  
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- Bearss, Robert E.: *See*—  
Bearss, Henry E. 3,098,336.
- Beart, Robert W., to Illinois Tool Works Inc. Lock washer. 3,072,168, 1-8-63, Cl. 151-35.
- Beasley, Jack M., and H. Greenwald, Jr., to Ling-Temco-Vought, Inc. Heating method. 3,106,594, 10-8-63, Cl. 13-1.
- Beasley, James P.: *See*—  
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- Beasley, Max M., to Singer-Cobble, Inc. Multiple pile height tufting machine. 3,108,553, 10-29-63, Cl. 112-79.
- Beasley, Olson B. Ironing machine. 3,071,878, 1-8-63, Cl. 38-15.
- Beasley, Robert M.: *See*—  
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- Beasley, Robert M., and H. L. Johns, to Horizons Inc. Inorganic fibers and method of preparation. 3,082,099, 3-19-63, Cl. 106-39.
- Beasley, Willis R. Bed having removable side and end panels. 3,093,838, 6-18-63, Cl. 5-331.
- Beason, Elmer C., Jr.: *See*—  
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- Beatrice Foods Co.: *See*—  
North, Gerald C., Noznick, and Bundus. 3,105,763.  
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Noznick, Peter P., Bundus, and Eggen. 3,090,688.
- Beatty Bros. Ltd.: *See*—  
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- Beatty, Donald C. Automatic telephone dialing device. 3,079,466, 2-26-63, Cl. 179-90.
- Beatty, Eugene F., to The Bendix Corp. Fluid pressure intensifying unit. 3,078,678, 2-26-63, Cl. 60-54.6.
- Beatty, John W., to United States of America, Air Force. Image intensifying photosensitive film. 3,078,369, 2-19-63, Cl. 250-65.
- Beatty, John W., to General Electric Co. Circuit breaker of gas blast type having insulator bushing means for externally locating an impedance means. 3,114,816, 12-17-63, Cl. 200-148.
- Beatty, Theodore R.: *See*—  
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- Beaty, Alden Q.: *See*—  
Harvey, James L., and Beatty. 3,093,327.
- Beau, Raymond, to Les Produits Semi-Conducteurs. Process for the manufacture of antimony of high purity. 3,108,934, 10-29-63, Cl. 204-105.
- Beauchamp, Albert J. Skid resistance tester. 3,098,377, 7-23-63, Cl. 73-9.
- Beauchamp, Wilfred A., to The Youngstown Steel Door Co. Rollers for doors of refrigerator and box cars. 3,106,600, 10-8-63, Cl. 20-23.
- Beaudin, Gerald P., Jr.: *See*—  
Kyser, Robert J., Prevost, and Beaudin. 3,086,226.
- Beaudoin, Andre. Core plug. 3,115,969, 12-31-63, Cl. 206-59.
- Beaudry, Walter A., E. P. Pollitt, and R. E. Smith, to F. W. Means Co. Automatic towel flattening device. 3,092,263, 6-4-63, Cl. 214-1.
- Beaudry, Walter A., E. P. Pollitt, and R. E. Smith, to F. W. Means & Co. Automatic towel flattening device. 3,092,271, 6-4-63, Cl. 214-152.
- Beaulaurier, Gerald H. Exercise device. 3,095,947, 7-2-63, Cl. 182-139.
- Beaumont Birch Co.: *See*—  
Davenport, William G., and Addison. 3,104,747.
- Beaunit Corp.: *See*—  
Brower, Paul V. 3,116,352.  
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- Beaunit Mills, Inc.: *See*—  
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- Beaupre, Ernest: *See*—  
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- Beauvais, John H. Teaching device. 3,093,912, 6-18-63, Cl. 35-8.
- Beauvais, Max.: *See*—  
Cheftel, Henri, and Beauvais. 3,071,478.
- Beauvais, Max. Continuous treatment of food containers. 3,101,995, 8-27-63, Cl. 21-78.
- Beaven, Ernest W. J., to Shell Oil Co. Reclaimed oil composition for rubber. 3,116,258, 12-31-63, Cl. 252-364.
- Beaven, Leslie W. Cycling shaft assembly for internal combustion engines. 3,091,927, 6-4-63, Cl. 60-39.34.
- Beaver, David J., and P. J. Stoffel, to Monsanto Chemical Co. 3,4-dichlorophenyl substituted alkyl ureas. 3,072,719, 1-8-63, Cl. 260-553.



- Beaver, David J., and P. J. Stoffel, to Monsanto Chemical Co. Preservation of rubber with alkoxypheyl alicyclic amines. 3,074,907, 1-22-63, Cl. 260—45.9.
- Beaver, David J., E. G. Jaworski, and A. J. Suhovecky, to Monsanto Chemical Co. Methods and compositions for the treatment of soil. 3,085,043, 4-9-63, Cl. 167—22.
- Beaver, David J., and P. J. Stoffel, to Monsanto Chemical Co. Cycloaliphatic chlorocarbanilates. 3,097,229, 7-9-63, Cl. 260—47.1.
- Beaver, David J., and P. J. Stoffel, to Monsanto Chemical Co. Alkoxyalkyl 3,4-dichlorocarbanilates. 3,100,222, 8-6-63, Cl. 260—47.1.
- Beaver, David J., and P. J. Stoffel, to Monsanto Chemical Co. Antiseptic detergent compositions and method of controlling bacterial growth. 3,103,467, 9-10-63, Cl. 167—58.
- Beaver, Garth H., to The Dow Chemical Co. Aqueous cellulosic compositions and method of making same. 3,108,890, 10-29-63, Cl. 106—186.
- Beaver Industries, Inc.: *See—*
- Holmes, Frank C. 3,080,929.
- Beaver, Millard B. Printing device. 3,071,071, 1-1-63, Cl. 101—380.
- Beaver, Millard B. Printing apparatus. 3,093,070, 6-11-63, Cl. 101—376.
- Beaver, Richard J., and J. H. Cherubini, to United States of America, Atomic Energy Commission. Selective separation of uranium from ferritic stainless steels. 3,089,751, 5-14-63, Cl. 23—14.5.
- Beaverson, Wayne A., and R. C. Ramsey, to Electro-Voice, Inc. Unidirectional microphone. 3,095,484, 6-25-63, Cl. 179—115.5.
- Beasley, Robert M., and H. L. Johns, to Horizons Inc. Inorganic fibers and preparation thereof. 3,110,545, 11-12-63, Cl. 13—54.
- Bebech, Michael J. Apparatus for filtering liquids. 3,115,458, 12-24-63, Cl. 210—241.
- Behinger, Jack E., to General Electric Co. Waste disposer. 3,084,877, 4-9-63, Cl. 241—46.
- Becanne, Robert: *See—*
- Roche, Andre, Grancher, Gajac, and Becanne. 3,096,377.
- Becanne, Robert L. P.: *See—*
- Pomot, Jean L. E., Luzarreta, and Becanne. 3,078,213.
- Pomot, Jean L. E., Luzarreta, and Becanne. 3,111,519.
- Beche, Hans. Die forging press. 3,107,559, 10-22-63, Cl. 80—19.
- Becher, Robert P., to E. I. du Pont de Nemours and Co. Yarn treating apparatus. 3,097,412, 7-16-63, Cl. 28—1.
- Becher, William S.: *See—*
- Taggart, Robert E., and Becher. 3,114,226.
- Bechert, James R.: *See—*
- Howe, Ralph S., Jr., and Bechert. 3,085,810.
- Bechle, Rudolph P., to Potdevin Machine Co. Hot melt adhesive extruder. 3,078,824, 2-26-63, Cl. 118—410.
- Bechler, Andre. Fine-adjustment device with threaded spindle. 3,078,582, 2-26-63, Cl. 33—170.
- Bechler, Andre. Automatic lathe. 3,103,146, 9-10-63, Cl. 90—15.1.
- Bechman, William O., to International Harvester Co. Angular adjusting means for a land clearing implement. 3,101,794, 8-27-63, Cl. 172—698.
- Bechtel, Robert J., to Hercules Powder Co. Nitric acid concentration. Re. 25,393, 6-11-63, Cl. 202—68.
- Bechtle, Richard, to American Messer Corp. Apparatus for simultaneous flame cutting and marking of profiled sheet metal. 3,114,205, 12-17-63, Cl. 33—23.
- Bechtler, Hans C. Centrifugal falling film evaporator. 3,107,194, 10-15-63, Cl. 159—6.
- Bechtold, Arthur W., to Chemway Corp. Sterile medicated strips. 3,075,527, 1-29-63, Cl. 128—260.
- Bechtold, Donald C., and E. W. Stanley, to Armstrong Cork Co. Web tension control for multi-unit printing press. 3,098,432, 7-23-63, Cl. 101—152.
- Bechtold, Max F., to E. I. du Pont de Nemours and Co. Molybdenum-titanium-silicon-nitrogen products and process for making same. 3,110,589, 11-12-63, Cl. 75—175.5.
- Bechtold, Max F., E. L. Little, Jr., H. J. McCauley, and F. J. Penozo, to E. I. du Pont de Nemours and Co. Silicide composition and method of manufacture. 3,110,092, 11-12-63, Cl. 29—182.5.
- Bechtold, Paul E. Window structure. 3,090,613, 5-21-63, Cl. 268—99.
- Bechtold, Robert H.: *See—*
- Bornemann, William, Bechtold, Philips, Freeman, Loretz, and Neuman. 3,099,199.
- Bechtold, Rudolph F., and J. N. Vincent, to Continental Can Co., Inc. Unloader for palletized bulk can package. 3,107,794, 10-22-63, Cl. 214—8.5.
- Beck, Arnold H. W., A. T. Starr, and T. H. Walker, to International Standard Electric Corp. Decoding arrangements for electric pulse code modulation systems. 3,115,623, 12-24-63, Cl. 340—347.
- Beck, Basil D., and A. B. Swain, to Owens-Illinois Glass Co. Glass furnace bubbler patterns. 3,104,967, 9-24-63, Cl. 65—178.
- Beck, Cyrus: *See—*
- Corson, Alan S., Beck, and Guarino. 3,091,962.
- Beck, Cyrus, and L. S. Guarino, to United States of America, Navy. Allowable load limit computer and indicator. 3,077,575, 2-12-63, Cl. 340—27.
- Beck, Dan H. Partitioned carton. 3,086,690, 4-23-63, Cl. 229—27.
- Beck, Earl J., Jr., to United States of America, Navy. Engine starting device. 3,110,422, 11-12-63, Cl. 222—83.5.
- Beck, Erich, to Alpine Aktiengesellschaft, Maschinenfabrik und Eisengiesserei. Apparatus for producing plastic filaments. 3,110,930, 11-19-63, Cl. 18—8.
- Beck, Franklin H.: *See—*
- Bidwell, Lawrence R., Beck, and Fontana. 3,082,082.
- Beck, Frederick R., and J. J. Kaleba, to Controls Co. of America. Timer. 3,074,282, 1-22-63, Cl. 74—3.52.
- Beck, Frederick W. and K. J. Linking machines. 3,083,655, 4-2-63, Cl. 112—27.
- Beck, Garvin L.: *See—*
- Borton, Robert O., and Beck. 3,076,226.
- Beck, Geoffrey E., to Marconi's Wireless Telegraph Co. Ltd. Doppler radar systems. 3,072,900, 1-8-63, Cl. 343—8.
- Beck, George W.: *See—*
- Mathues, Thomas O., Beck, Davis, and Forward. 3,088,539.
- Beck, George W., E. P. Harris, M. S. Millhouse, and C. L. Moorman, to General Motors Corp. Sealing strip. 3,110,938, 11-19-63, Cl. 20—69.
- Beck, Heinrich: *See—*
- Vohrer, Herbert, Beck, and Plank. 3,089,535.
- Beck, Heinz: *See—*
- Jacobi, Ernst, and Beck. 3,073,105.
- Beck, Herbert H., and K. J. Hall, to Armour & Co. Method of packaging food and the resulting package. 3,092,501, 6-4-63, Cl. 99—171.
- Beck, Jacob H. Tandem. 3,086,764, 4-23-63, Cl. 263—8.
- Beck, Jonathan, Jr., to Bil-Jax, Inc. Adjustable scaffolding. 3,071,205, 1-1-63, Cl. 182—146.
- Beck, Kenneth J.: *See—*
- Beck, Frederick W. and K. J. 3,083,655.
- Beck, Kurt, to F. Hichenberg and himself. Edible toy ball for dogs. 3,107,651, 10-22-63, Cl. 119—29.
- Beck, Merrill G., to Lord Mfg. Co. Spring suspension. 3,073,620, 1-15-63, Cl. 280—124.
- Beck, Quentin S., to L. F. Engle, Jr. Method of installing an areaway wall. 3,099,900, 8-6-63, Cl. 50—533.
- Beck, Robert B., to The Kendall Co. Carton. 3,100,074, 8-6-63, Cl. 229—44.
- Beck, Robert M.: *See—*
- Palevsky, Max, Beck, and Giel. 3,077,303.
- Beck, Russell R.: *See—*
- Zimmerley, Stuart R., Beck, Beck, and Pick. 3,096,172.
- Beck, Samuel J., to The Safety Skate Co., Inc. Railroad skate having lockable retainers. 3,096,729, 7-9-63, Cl. 104—260.
- Beck, Sigmund. Method and apparatus of producing converging bristle tufts. 3,071,415, 1-1-63, Cl. 300—19.
- Beck, Thomas M., and G. I. Klein, to Victor Chemical Works. Process for preparing ethyl paranitrophenyl thionophenylphosphonate. 3,071,608, 1-1-63, Cl. 260—461.
- Beck, Thomas M., and E. N. Walsh, to Stauffer Chemical Co. Bis(hydroxyalkyl)amino alkyl phosphonic acid diesters. 3,076,010, 1-29-63, Cl. 260—461.
- Beck, Urban R. Automatic car door lock. 3,104,124, 9-17-63, Cl. 292—280.
- Beck, William R., to Goodman Mfg. Co. Composite flight. 3,089,579, 5-14-63, Cl. 198—175.
- Beck, William R., Jr.: *See—*
- Keller, Daniel F., and Beck. 3,083,622.
- Keller, Daniel F., and Beck. 3,098,765.
- Beck, William W., to E. I. du Pont de Nemours and Co. Quenching process. 3,115,385, 12-24-63, Cl. 18—54.
- Becka, Paul N. Signal construction. 3,085,224, 4-9-63, Cl. 340—105.
- Beckadolph, Richard, to Continental Gummi-Werke Aktiengesellschaft. Pneumatic tire. 3,093,181, 6-11-63, Cl. 152—361.
- Beckadolph, Richard, W. Eckelmann, and W. Beissner, to Continental Gummi-Werke Aktiengesellschaft. Vehicle tire. 3,081,811, 3-19-63, Cl. 152—355.
- Beckadolph, Richard, H. Menell, and W. Niclas, to Continental Gummi-Werke Aktiengesellschaft. Machine for making carcasses for vehicle tires. 3,081,814, 3-19-63, Cl. 156—394.
- Beckadolph, Richard, and W. Niclas, to Continental Gummi-Werke Aktiengesellschaft. Mold for use in connection with the casting of transmission belts. 3,109,202, 11-5-63, Cl. 18—36.
- Beckadolph, Richard, and W. Niclas, to Continental Gummi-Werke Aktiengesellschaft. Method of making a precision transmission belt with meshing teeth. 3,114,598, 12-17-63, Cl. 18—59.
- Becke, Margot, nee Goehring, to Olin Mathieson Chemical Corp. Chlorine-free phosphorus nitrile-amides and method of their preparation. 3,084,997, 4-9-63, Cl. 23—190.
- Beckenbauer, Franz, and F. Oulehla, to Eisenwerk-Gesellschaft Maximilianshutte A.G. Method of excavating. 3,106,068, 10-8-63, Cl. 61—40.
- Becker, Abram: *See—*
- Horeau, Alain M., and Becker. 3,080,419.
- Becker, Alvin L.: *See—*
- Willis, William M., and Becker. 3,112,129.
- Becker, Anthony F. Shoe attachment. 3,075,307, 1-29-63, Cl. 36—7.7.
- Becker, August E., and S. Willeford, to Sterling Steel Casting Co. Cap for concrete pilings. 3,075,358, 1-29-63, Cl. 61—53.
- Becker, Bernard A.: *See—*
- Hays, Edwin E., and Becker. 3,081,231.



- Becker Crane & Conveyor Co.: *See*—  
Becker, Francis N. 3,091,189.
- Becker, Erwin W. A. Process for the production of water or hydrogen having an increased deuterium content. 3,087,791, 4-30-63, Cl. 23-204.
- Becker, Eugene H. Identification device. 3,094,801, 6-25-63, Cl. 40-70.
- Becker, Francis N., to Becker Crane & Conveyor Co. Conveyor. 3,091,189, 5-28-63, Cl. 104-94.
- Becker, Frank E., D. M. Bingham, and R. J. Young, to International Business Machines Corp. Typewriter input checking mechanism. 3,082,854, 3-26-63, Cl. 197-19.
- Becker, Frederick L., and R. J. Goodwin, to Gulf Research & Development Co. Process for plugging formations. 3,087,542, 4-30-63, Cl. 166-29.
- Becker, George D., to Nordberg Mfg. Co. Vibrating unit for screening and feeding. 3,076,549, 2-5-63, Cl. 209-367.
- Becker, Gerd A.: *See*—  
Lohest, Hans, Antrecht, and Becker. 3,075,342.
- Becker, Gerhard, to Anker-Werke Aktiengesellschaft. Change-computing cash register. Re. 25,431, 8-6-63, Cl. 235-2.
- Becker, Gerhard, to Anker-Werke Aktiengesellschaft. Selective control device for keyboard-type business machines. 3,076,595, 2-5-63, Cl. 235-27.
- Becker, Gerhard, to Huttenwerk Oberhausen Aktiengesellschaft. Means for the prevention of disintegration damage to the walls of tankers occasioned in carrying corrosive fluids. 3,086,678, 4-23-63, Cl. 220-63.
- Becker, Gerhard, A. Hecker, E. Lührmann, and K. Bruno, to Anker-Werke A.G. Inking device for inking ribbons, felt rollers, rubber coatings and the like. 3,072,053, 1-8-63, Cl. 101-336.
- Becker, Hans, to Steinbock G.m.b.H. Fork lift truck. 3,072,418, 1-8-63, Cl. 280-43,12.
- Becker, James L. Boat. 3,084,655, 4-9-63, Cl. 114-67.
- Becker, Johannes, to Optische Industrie "de Oude Delft" N.V. Color corrected optical system containing a concave spherical mirror and a meniscus lens. 3,110,752, 11-12-63, Cl. 88-57.
- Becker, John E.: *See*—  
Kenney, James T., and O'Loughlin. 3,104,106.
- Becker, John E. Fluid cooling devices for fluid couplings. 3,074,234, 1-22-63, Cl. 60-54.
- Becker, Joseph A.: *See*—  
Flannery, James N., and Becker. 3,094,885.
- Becker, Joseph A., to Bell Telephone Laboratories, Inc. Radiant energy translating device. 3,088,029, 4-30-63, Cl. 250-71.
- Becker, Lyman E. Flush valves. 3,083,732, 4-2-63, Cl. 137-624,14.
- Becker, Lyman E. Push button actuators for flush valves. 3,110,469, 11-12-63, Cl. 251-45.
- Becker, Nathan, to Seaview Industries, Inc. Roof deck support and attaching means. 3,115,728, 12-31-63, Cl. 50-199.
- Becker, Norbert V., to Johns-Manville Perlite Corp. Insulating material and the like. 3,095,347, 6-25-63, Cl. 162-181.
- Becker, Peter A.: *See*—  
Harrington, Dean B., and Becker. 3,116,429.  
Willyoung, David M., and Becker. 3,075,104.
- Becker, Robert E., to Logansport Machine Co., Inc. Chuck control circuit. 3,091,256, 5-28-63, Cl. 137-622.
- Becker, Robert H.: *See*—  
Ponson, Lloyd J., and Becker. 3,095,615.
- Becker, Roger T. and W. K., to Aero-Motive Mfg. Co. Apparatus for supporting a heavy load. 3,105,652, 10-1-63, Cl. 242-107,4.
- Becker, Roger T. and W. K., to Aero-Motive Mfg. Co. Cable release. 3,110,453, 11-12-63, Cl. 242-107,2.
- Becker, Rudolf: *See*—  
Lehmer, Wilhelm, and Becker. 3,105,360.  
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- Becker, Willi, to Arthur Pfeiffer G.m.b.H. Methods of and apparatus for the production of high vacua. 3,098,155, 7-16-63, Cl. 230-69.
- Becker, William A., and H. M. Wending, to Rolite Mfg., Inc. Window frame mounting construction. 3,086,326, 4-23-63, Cl. 50-122.
- Becker, William K.: *See*—  
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- Becker, William K., to Aero-Motive Mfg. Co. Inspection device. 3,103,723, 9-17-63, Cl. 24-3.
- Beckerich, John F., and J. L. Smith, Jr., to Collins Radio Co. Gated I.F. amplifier beam type. 3,089,099, 5-7-63, Cl. 330-46.
- Beckerman, David E.: *See*—  
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- Beckers, Joseph H. Roof construction. 3,115,725, 12-31-63, Cl. 50-58.
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- Beckett, Donald E. and W. N., to Beckett-Harcum Co. Stack type valves. 3,111,139, 11-19-63, Cl. 137-608.
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- Beckett, Joseph K., to Western Gulf Oil Co. Apparatus for backflushing a producing formation penetrated by a well. 3,073,399, 1-15-63, Cl. 165-68.
- Beckett, Joseph K., to Western Gulf Oil Co. Method for fracturing a subsurface formation. 3,077,930, 2-19-63, Cl. 166-42.
- Beckett, Leo G., and R. E. Lindenschmidt, to Whirlpool Corp. Home appliance. 3,096,628, 7-9-63, Cl. 62-265.
- Beckett, William N.: *See*—  
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- Beckfield, Franklin H. Vacuum and air pumps. 3,099,387, 7-30-63, Cl. 230-152.
- Beckford, James J., to The Eimco Corp. Material handling machine. 3,084,461, 4-9-63, Cl. 37-144.
- Becking, Augustus G. T., and P. Boxman, to North American Philips Co., Inc. Transistor amplifier. 3,072,860, 1-8-63, Cl. 330-23.
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- Beckington, Arthur R., to E. R. Doak. Aircraft control system. 3,086,731, 4-23-63, Cl. 244-52.
- Beckley, Arthur H., to Moore Dry Kiln Co. Automatic off-bearing assembly for dryers. 3,107,017, 10-15-63, Cl. 214-16,4.
- Beckley, Benton C. Molded shell trailer bodies. 3,084,973, 4-9-63, Cl. 296-31.
- Becklund, Orville A., R. G. Hoch, H. W. Terbush, and A. W. Wortham; 1/2 to Texas Instruments Inc., and 1/2 to Ling-Temco-Vought, Inc. Method and apparatus for determining altitude. 3,076,095, 1-29-63, Cl. 250-203.
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- Beckman, Johnson R.: *See—*  
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- Beckman, Paul. Half-bridge temperature compensating deflection sensor. 3,092,798, 6-4-63, Cl. 338-2.
- Beckman, Philip C. Portable spoiler for airplane. 3,108,766, 10-29-63, Cl. 244-40.
- Beckman, Walter S. Fruit and nut gatherer. 3,080,698, 3-12-63, Cl. 56-328.
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- Beckman, William R., and A. E. Kremiller, to Spotnails, Inc. Pneumatically operated driving machine for fasteners. 3,112,489, 12-3-63, Cl. 1-106.
- Beckmann, Hans. Method for conserving fish. 3,097,099, 7-9-63, Cl. 99-195.
- Beckner, Ralph, to American Air Filter Co., Inc. Method and apparatus for making a condensed filamentous mat. 3,092,533, 6-4-63, Cl. 156-167.
- Becks, Vernon C., to The Cleveland Trust Co., trustee. Bowling game apparatus. 3,091,458, 5-28-63, Cl. 273-54.
- Beckwith, Albert C., to Triangle Conduit & Cable Co., Inc. Coil former. 3,105,653, 10-1-63, Cl. 242-110.1.
- Beckwith-Ardon Inc.: *See—*  
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- Bedenk, William T., to The Procter & Gamble Co. Angel food cake mixes. 3,078,168, 2-19-63, Cl. 99-94.
- Bederson, Benjamin, J. Elisinger, and K. Rubin; said Elisinger assor. to Bell Telephone Laboratories, Inc. Particle separation apparatus utilizing congruent inhomogeneous magnetostatic and electrostatic fields. 3,113,207, 12-3-63, Cl. 250-41.9.
- Bedford, William A., Jr., to Thompson Bremer & Co. Vibration damper. 3,085,658, 4-16-63, Cl. 188-1.
- Bedker, Leo W. Thread rolling fixture. 3,110,202, 11-12-63, Cl. 80-6.
- Bednar, Thelma, to T. Cone, by court order of Jan. 16, 1961. Drapery and curtain support apparatus. 3,079,005, 2-26-63, Cl. 211-96.
- Bedol, Marshall T. Folding table. 3,083,066, 3-26-63, Cl. 108-50.
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- Bedson, Donald E., S. A. Di Nuzzo, and A. C. Suleski, to Hazeltine Research, Inc. Multiplanar printed circuits and methods for their manufacture. 3,102,213, 8-27-63, Cl. 317-101.
- Bee, Carl R., to American Flange & Mfg. Co. Inc. Closure assembly for containers and parts thereof. 3,101,878, 8-27-63, Cl. 222-542.
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- Beebe, Cedric H., M. D. Liston, and E. W. McKinley, to Beckman Instruments, Inc. Electrode. 3,098,813, 7-23-63, Cl. 204-195.
- Beebe, Herbert R., to American Doll & Toy Corp. Arm and leg joint construction for toy figures. 3,099,895, 8-6-63, Cl. 46-161.
- Beebe, John N., to Raytheon Co. Echo ranger with bottom signal amplitude compressor. 3,072,882, 1-8-63, Cl. 340-3.
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- Beeby, Cecil, to The Bendix Corp. Impact-operated flow control device. 3,105,506, 10-1-63, Cl. 137-38.
- Beech, Oren R., to T.O. Plastics, Inc. Vegetable package. 3,084,842, 4-9-63, Cl. 229-2.5.
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- Beecher, Brazier K., and F. C. Mericola, to Wyandotte Chemicals Corp. Dense sodium carbonate process. 3,113,834, 12-10-63, Cl. 23-63.
- Beeck, Otto A. Band controlled extension slide. 3,078,129, 2-19-63, Cl. 308-3.8.
- Beeck, Otto A. Roller mounted extension slide. 3,078,130, 2-19-63, Cl. 308-3.8.
- Beeck, Otto A. Extension slide having band adjustment means. 3,078,131, 2-19-63, Cl. 308-3.8.
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- Beede, Jeffs G., and P. Albani, said Albani assor. to said Beede. Verified depository for articles. 3,097,038, 7-9-63, Cl. 346-22.
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- Beer, Charles T., J. H. Cutts, and R. L. Noble, to Canadian Patents and Development, Ltd. Vincalukoblastine. 3,097,137, 7-9-63, Cl. 167-65.
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- Beer, Henri B., to Magneto-Chemie N.V. Electrolytic production of mixed metal oxides. 3,073,763, 1-15-63, Cl. 204-96.
- Beer, Henri B., to Amalgamated Curacao Patents Co., N.V. Noble metal coated titanium electrode and method of making and using it. 3,096,272, 7-2-63, Cl. 204-1.
- Beer, Henri B., to Amalgamated Curacao Patents Co., N.V. Diaphragm for use in electrolysis. 3,098,802, 7-23-63, Cl. 204-1.
- Beer, Wilhelm, 1/2 to Crossley Brothers Ltd., and 1/2 to himself. Transmission for machine tools. 3,071,982, 1-8-63, Cl. 74-359.
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- Beerli, George A., to Congoleum-Nairn Inc. Tape dispenser. 3,092,343, 6-4-63, Cl. 242-55.
- Beerli, Karl, to Spindel. Motoren-und Maschinenfabrik A.G. Electromotor-driven textile mill spindles. 3,095,687, 7-2-63, Cl. 57-100.
- Beerman, Henry P., to Victor Comptometer Corp. Method and materials for disposing of radioactive waste. 3,116,131, 12-31-63, Cl. 55-33.
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- Beers, Kenneth H., and J. L. Bower, to North American Aviation, Inc. D.C. power amplifier. 3,086,177, 4-16-63, Cl. 330-18.
- Beers, Robert T., to Chicago Pneumatic Tool Co. Splined socket member for wrenches. 3,073,192, 1-15-63, Cl. 81-121.
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- Beeson, Donald M., to Jersey Production Research Co. Recovery of oil from partially deleted reservoirs. 3,100,524, 8-13-63, Cl. 166-9.
- Beeson, Eric J. G., H. E. Stanyon, and L. J. Capp, to Associated Electrical Industries Ltd. Quartz-to-metal seals. 3,100,168, 8-6-63, Cl. 154-2.4.
- Beetle, Robert H., and H. R. Larson, to American Brake Shoe Co. Railroad car wheels. 3,078,160, 2-19-63, Cl. 75-123.
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- Beffa, Fabio, and G. Schetty, to J. R. Geigy A-G. Formazane dyestuffs containing heavy metal. 3,109,840, 11-5-63, Cl. 260-149.
- Begany, Stephen P., J. C. Fisher, Jr., L. M. Litz, and H. C. Quandt, to Union Carbide Corp. Cerium monosulfide articles, method of making same and composition therefor. 3,109,745, 11-5-63, Cl. 117-5.3.
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- Beger, Richard E., to The Lionel Corp. Closed face spinning reel. 3,074,664, 1-22-63, Cl. 242-84.2.
- Beggs, Donald, and W. A. Phillips, to Midland-Ross Corp. Ingot heating furnace. 3,097,836, 7-16-63, Cl. 263-41.
- Beghetto, Raymond A., Jr. Hand tool for box buckles. 3,073,029, 1-15-63, Cl. 30-361.
- Beghin, Jacques, to Organico, S.A. Coloring of super polyamide resins. 3,081,281, 3-12-63, Cl. 260-78.
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- Behncke, Hans J., to Equipment Imports, Inc. Pressing machine. 3,112,574, 12-3-63, Cl. 38-66.
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- Behnke, Robert C., and C. H. Palmer, to General Motors Corp. Composite valve lifter. 3,073,292, 1-15-63, Cl. 123-90.
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- Behrens, Curtis E., to Borg-Warner Corp. and J. D. Rohlins. Dry cleaning machine. 3,106,831, 10-15-63, Cl. 68-12.
- Behrens, Curtis E., to Borg-Warner Corp. Lint filtering and disposal arrangement for clothes cleaning machine. 3,108,464, 10-29-63, Cl. 68-19.
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- Beiler, Aaron P.: *See*—  
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- Beiler, Aaron P., to Sperry Rand Corp. Conveying apparatus. 3,114,450, 12-17-63, Cl. 198-128.
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- Beimler, Richard P.: *See*—  
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- Beisel, Frederick, Jr.: *See*—  
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- Beisenherz, Gerwin: *See*—  
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- Beisheim, Richard A.: *See*—  
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- Beispiel, Robert, to Cavus Mfg. Corp. Record card. 3,090,146, 5-21-63, Cl. 40-158.
- Beissner, Wilhelm: *See*—  
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- Beitscher, Herbert R., G. A. Coates, and R. H. Akin, to United States of America, Navy. Sonar calibrator. 3,079,583, 2-26-63, Cl. 340-5.
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- Bekkala, Ralph R., and H. G. Humphries, to General Motors Corp. Engine timing and balancing mechanism. 3,109,417, 11-5-63, Cl. 123-90.
- Belaieff, James F., to Frame S.A. Washing machine. 3,089,326, 5-14-63, Cl. 68-24.
- Belanger, William J.: *See*—  
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- Belar, Herbert: *See*—  
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- Belcher, Wallace E., Jr., to Minneapolis-Honeywell Regulator Co. Analog to digital converter. 3,072,846, 1-8-63, Cl. 324-99.
- Belcove, Allen S.: *See*—  
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- Beldin, Royal L., to Deere & Co. Material reducing mechanism. 3,074,527, 12-2-63, Cl. 193-32.
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- Belger, Myron P. Antenna supporting brackets. 3,094,303, 6-18-63, Cl. 248—40.
- Belicka, Michael E., R. J. Kenny, and L. Rodney, to Electrolux Corp. Surface treating machine. 3,101,505, 8-27-63, Cl. 15—320.
- Beling, Thomas E., and E. R. Schwartz, to International Telephone and Telegraph Corp. Continuous wave moving target information radar system. 3,081,455, 3-12-63, Cl. 343—77.
- Belisle, Adelard J., H. D. Allyn, and F. M. Re, to Dual Mfg. & Engineering Inc. Reclining chair. 3,084,974, 4-9-63, Cl. 297—89.
- Beliveau, Robert F.: See—  
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- Beljers, Hugh G., and L. van der Kint, to North American Philips Co., Inc. Asymmetrically conductive transmission system using adjacent dielectric plate to concentrate field in gyromagnetic plate. 3,105,946, 10-1-63, Cl. 333—24.2.
- Belk, Wilber C.: See—  
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- Belk, Wilber C., to FMC Corp. Article handling apparatus. 3,072,207, 1-8-63, Cl. 177—71.
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- Belknap, Kenneth E., to Hydrahone Equipment Co. Turkey leg flexor. 3,082,475, 3-26-63, Cl. 17—11.
- Belknap, Louis S., G. Berstein, and R. Antonsen, to Cabot Corp. Process for making titanium dioxide. 3,078,148, 2-19-63, Cl. 23—202.
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- Bell, Albert H., to Chrysler Corp. Air circulating system and blower structure. 3,089,637, 5-14-63, Cl. 230—117.
- Bell, Arthur, to American Machine & Foundry Co. Cigarette making machine. 3,113,576, 12-10-63, Cl. 131—21.
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- Bell, Currie G. Dock attachment. 3,084,517, 4-9-63, Cl. 61—48.
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- Bell Electric Co.: See—  
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- Bell, George L. Action game board. 3,098,657, 7-23-63, Cl. 273—123.
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- Bell, George R., E. L. Oberto, and R. F. Fraser, to Burgess Vibrocrafters Inc. Sprayer with turret nozzle assembly. 3,112,885, 12-3-63, Cl. 239—394.
- Bell & Gossett Co.: See—  
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- Bell, John, to Muirhead & Co. Ltd. Stabilization of floating bodies. 3,097,622, 7-16-63, Cl. 114—125.
- Bell, John F., to Zenith Radio Corp. Turret tuner. 3,083,339, 3-26-63, Cl. 325—438.
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- Bell, John T., to Container Corp. of America. Mandrel for forming containers. 3,094,906, 6-25-63, Cl. 93—59.
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- Bell, Kenneth A., and J. S. Conzola, to International Business Machines Corp. Two-step serial adder. 3,105,898, 10-1-63, Cl. 235—176.
- Bell, Leo R., and H. E. Britton, Jr., to Thompson Ramo Wooldridge Inc. Zero gravity vent system. 3,105,361, 10-1-63, Cl. 62—50.
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- Beltz, Klaus, and F. Rodis, to Knapsack-Griesheim Aktiengesellschaft. Process for the manufacture of neutralization products from phosphoric acid and sodium carbonate. 3,086,844, 4-23-63, Cl. 23-107.
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 Julow, Thomas M. 3,109,346.  
 Kanes, Murray. 3,083,576.  
 Kasten, Walter. 3,083,833.  
 Kasten, Walter. 3,097,165.  
 Keir, Roy A. 3,116,411.  
 Keir, Roy A., and Quatse. 3,081,032.  
 Kinney, John F. 3,094,839.  
 Kjellman, Thomas K. 3,100,826.  
 Kjellman, Thomas K. 3,115,557.  
 Knudson, Giltner J. 3,076,447.  
 Kucmerosky, Theodore L., and Peterson. 3,098,642.  
 Kuebler, Carl P. 3,108,381.  
 Kuhnappel, Robert H., and Sardo. 3,109,054.  
 Kuznitz, Andrew A. 3,092,966.  
 Kytta, Oswald O. 3,096,689.  
 Kytta, Oswald O. 3,106,759.  
 La Belle, Dick N. 3,074,430.  
 Le Febvre, Arthur H. 3,083,343.  
 Lanahan, John H. 3,112,643.  
 Lapham, Edmund F., Jr. 3,081,048.  
 Lapham, Edmund F., Jr., and McLaren. 3,081,050.  
 Lee, Robert A., and Marie. 3,090,829.  
 Logan, James J. 3,088,282.  
 MacDuff, Stanley I. Re. 25,494.  
 MacDuff, Stanley I. 3,114,580.  
 Mageoch, Nelson H., and Little. 3,090,241.  
 Martin, Steve E. 3,094,843.  
 May, Howard J. 3,106,993.  
 McCombs, Howard L., and Schnaible. 3,075,350.  
 McCombs, Howard L., Jr. 3,075,351.  
 McCombs, Howard L., Jr. 3,105,354.  
 McHenry, Vincent J. 3,108,238.  
 Meddock, Alvin A. 3,107,079.  
 Medlinski, William W., and Hodgman. 3,098,228.  
 Menz, Charles N., and Clancy. 3,074,105.  
 Messerly, George H. 3,083,574.  
 Miller, John L. 3,108,651.  
 Misner, Charles P. 3,076,948.  
 Mitchell, James I., and Weiss. 3,097,793.  
 Moretz, Bynum C. 3,102,299.  
 Morgan, William H. 3,086,306.  
 Morgan, William H. 3,089,131.  
 Mortin, Arthur K., and Boyd. 3,114,357.  
 Mossey, Joseph L., and Burnett. 3,074,514.  
 Murphy, Norman B. 3,093,121.  
 Noxon, Paul A. 3,075,729.  
 Pauve, Eldred H. 3,085,646.  
 Payne, Delmar V. 3,114,885.  
 Peczkowski, Joseph L., Adams, and Jandrasi. 3,085,556.  
 Pendorf, Harold. 3,095,612.  
 Peterson, Joel D. 3,071,974.  
 Poliseo, Joseph W. 3,099,222.  
 Potter, Frederick M. 3,073,979.  
 Potter, Frederick M. 3,074,002.  
 Potter, Frederick M. 3,104,901.  
 Prather, Edwin E. 3,075,499.  
 Price, Earl R. 3,100,379.  
 Price, Earl R. 3,109,282.  
 Price, Earl R. 3,110,031.  
 Price, Earl R., Hoover, Hager, and Pfeifer. 3,083,698.  
 Price, Earl R., and Hupp. 3,103,854.  
 Price, Robert A., and Massing. 3,096,854.  
 Puryear, David B. 3,096,723.  
 Putzer, Murray, Sylvander, and Molnar. 3,109,129.  
 Rafferty, Christopher A. 3,103,328.  
 Ransom, James R. 3,096,483.  
 Richards, James A. K. 3,087,153.  
 Rickel, Arthur M., Jr. 3,081,211.  
 Roberti, Michael A. 3,074,001.  
 Roe, Paul S. 3,075,620.  
 Rogers, Francis R., and Riggs. 3,106,934.  
 Sabatini, John J. 3,090,242.  
 Schiffman, Julius. 3,092,832.  
 Schultz, Harold B. 3,074,383.  
 Schultz, Harold B. 3,106,874.  
 Segall, Louis H., and Pelton. Re. 25,347.  
 Seyforth, Leslie V. 3,110,014.  
 Shaub, Kenneth D., and Wotell. 3,072,762.  
 Shutt, Paul B., Larsen, Barnes, and Pullano. 3,077,283.  
 Skinner, Robert L. 3,100,392.  
 Smith, Aubrey A., and Seliger. 3,082,978.  
 Sprague, Wesley I. 3,077,851.  
 Steinfeld, Joseph, and Zito. 3,093,792.  
 Straw, Edward F., and Kucmerosky. 3,116,017.  
 Sundberg, Alfred A. 3,108,219.  
 Swanson, George J. 3,076,951.  
 Sylvander, Frederick B., and Molnar. 3,108,263.  
 Tankersley, James A., and Driscoll. 3,095,064.  
 Teitelbaum, Bernard R., El, and Blatter. 3,105,671.  
 Thomas, Jacob E., Jr. 3,114,865.  
 Tracey, John E., and Wheeler. 3,091,986.  
 Troeger, Henry. 3,073,584.  
 Troeger, Henry. 3,080,030.  
 Tuszynski, Paul P. 3,114,581.  
 Twaddell, Russell W., Davies, and Hanni. 3,086,070.  
 Unger, Arnold, Diani, and Arnold. 3,103,329.  
 Van Dien, James R. 3,100,551.  
 Vick, Ralph L. 3,079,757.  
 Vitale, Joseph O. 3,103,615.  
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 Wahlstrom, Dale S. 3,091,255.  
 Wheeler, Harry L., Jr. 3,095,283.  
 Whiting, James C. 3,094,969.  
 Whiting, James C. 3,103,952.  
 Whitney, Maurice P., and Mageoch. 3,087,591.  
 Wiley, William C., Goodrich, and Adams. 3,080,750.  
 Williams, Howard J. 3,074,472.  
 Williams, Howard J. 3,078,669.  
 Williams, Howard J., Rogers, and Ryder. 3,103,785.  
 Williamson, John R., and Coleman. 3,082,600.  
 Winge, John L. 3,106,991.  
 Wippert, James A. 3,102,261.  
 Woodruff, Frank. 3,010,497.  
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 Woodward, Stephen G., and Bailey. 3,081,952.  
 Woodward, Stephen G., and Hartman. 3,106,196.  
 Worley, William E., and Farrar. 3,092,960.  
 Young, Peter H. 3,080,031.  
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- Bendix, Gordon H., and R. F. Tamm, to Continental Can Co., Inc. Feeding, gauging and sorting means for metal sheets. 3,080,967, 9-12-63, Cl. 209—82.
- Bendix-Westinghouse Automotive Air Brake Co.: *See*—  
 Dudzinski, Leonard R. 3,071,147.  
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 Gresko, Raymond S. 3,087,467.  
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 Ternent, George E. 3,070,960.  
 Valentine, Harry M. 3,071,393.  
 Valentine, Harry M. 3,104,133.  
 Valentine, Harry M. 3,107,126.  
 Valentine, Harry M. 3,115,371.  
 Valentine, Harry M., and Andrews. 3,095,244.  
 Valentine, Harry M., Ternent, and Schubert. 3,087,760.  
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- Bendixen, Alf H., to Joy Mfg. Co. Rotary earth boring drill. 3,072,203, 1-8-63, Cl. 175—114.
- Benedek, Andrew A.: *See*—  
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- Benedetto, Amedeo P., to Rote-Stalls Corp. Rotating milking and housing system. 3,103,912, 9-17-63, Cl. 119—14.4.
- Benedict, Bruce C., to Phillips Petroleum Co. Wax filtration process. 3,093,572, 6-11-63, Cl. 208—33.
- Benedict, Frank A., to Benson's Anchors, Inc. Windlass. 3,073,074, 2-19-63, Cl. 226—183.
- Benedict, Frank R., to Westinghouse Electric Co. Roll forming system. 3,074,461, 1-22-63, Cl. 153—21.
- Benedict, Joseph, to The DoAll Co. Band lubricator for cut-off machines and the like. 3,097,675, 7-16-63, Cl. 143—158.
- Benedict, Marcus C.: *See*—  
 Ledwith, Walter A., and Benedict. 3,071,925.
- Benedict, Marie A. Buckle. 3,114,185, 12-17-63, Cl. 24—74.
- Benedict, William N. Sail slide arrangement. 3,092,064, 6-4-63, Cl. 114—112.
- Benerito, Ruth R.: *See*—  
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- Benes, Gordon J., to Enco Mfg. Co. Tool support. 3,112,555, 12-3-63, Cl. 29—39.
- Benes, Wensel. Muffler for internal combustion engine. 3,074,506, 1-22-63, Cl. 181—58.
- Benes, Wensel. Homogenizer for fuel-air mixture from carburetor. 3,085,869, 4-16-63, Cl. 48—180.
- Benesch, Donald. Single line control system for model aircraft. 3,110,127, 11-12-63, Cl. 46—77.
- Benesch, Reinhold and R. E., to Research Corp. Thiolation of proteins with N-acylhomocysteine. 3,111,512, 11-19-63, Cl. 260—117.
- Benesch, Ruth E.: *See*—  
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- Benesi, Hans A., and D. L. Peterson, to Shell Oil Co. Separation of polymerizable hydrocarbons using nitrogen base-added molecular sieves. 3,106,593, 10-8-63, Cl. 260—681.5.
- Benevento, Nicholas A.: *See*—  
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- Ben-Ezra, Aaron: *See*—  
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- Ben-Ezra, Aaron, and E. S. Mackey, to General Aniline & Film Corp. Lower alkyl lactate coupler solvents. 3,092,495, 6-4-63, Cl. 96—100.
- Benford, Harold R., to International Harvester Co. Hydraulic controlled hitch. 3,106,966, 10-15-63, Cl. 172—9.
- Benge, Bill L., and T. B. Jordan, to Texaco Inc. Grease composition. 3,108,963, 10-29-63, Cl. 252—33.6.
- Bengelsdorf, Irving S., to United States Borax & Chemical Corp. Nitroalkyl glycol monoborate esters. 3,078,296, 2-19-63, Cl. 260—462.
- Bengelsdorf, Irving S., to United States Borax & Chemical Corp. Alkylene glycol borates. 3,090,802, 5-21-63, Cl. 260—462.
- Benger Laboratories Ltd.: *See*—  
 Fowler, Frank, and Golberg. 3,085,943.
- Benger, Walter C., and W. J. Ives, to Northern Electric Co., Ltd. Message sorter. 3,092,309, 6-4-63, Cl. 234—3.
- Bengtson, Lissa M. Diving and swimming aid. 3,089,155, 5-14-63, Cl. 9—8.
- Benham, Kent W., to The Sanymetal Products Co. Pilaster structures and hinge bracket assemblies. 3,085,665, 4-16-63, Cl. 189—46.
- Benham, Kent W., to The Sanymetal Products Co., Inc. Pilaster structures and hinge bracket assemblies. 3,104,428, 9-24-63, Cl. 20—16.
- Benham, Kent W., to The Sanymetal Products Co., Inc. Pilaster structure and hinge bracket assembly. 3,104,738, 9-24-63, Cl. 189—46.
- Benham, Kent W., to The Sanymetal Products Co., Inc. Door structures and hinge assemblies. 3,107,758, 10-22-63, Cl. 189—46.
- Benham, Norman R. Anchor structure for brake cables and the like. 3,101,205, 8-20-63, Cl. 285—162.
- Benichou, Samuel, N. R. Beyard, and G. D. Benzimra, to Societe d'Etudes de Techniques Industrielles Nouvelles. Apparatus for the catalytic oxidation of hydrocarbons. 3,072,465, 1-8-63, Cl. 23—288.
- Benichou, Samuel, N. R. Beyard, and G. D. Benzimra, to Societe d'Etudes de Techniques Industrielles Nouvelles. Production of phthalic anhydride. 3,072,682, 1-8-63, Cl. 260—346.4.
- Benick, Leonard J. Brush adapter for electric razor. 3,105,254, 10-1-63, Cl. 15—22.
- Beninger, Robert L., and P. W. Jacobsen, to H. G. Weber and Co., Inc. Hydraulic system. 3,088,688, 5-7-63, Cl. 242—57.1.
- Benish, George P., to Joy Mfg. Co. Circuit protecting device. 3,072,827, 1-8-63, Cl. 317—18.
- Benith, Benedict R., to American Machine & Foundry Co. Bread slicing machine. 3,096,802, 7-9-63, Cl. 146—88.
- Benjamin, Chester R., W. F. Hendershot, and C. W. Hessel-tine, to United States of America, Agriculture. Lactone of 2-oxo-6-(2-hydroxypropyl)-cyclo-hexanecarboxylic acid. 3,079,401, 2-26-63, Cl. 260—343.2.
- Benjamin, Frank E., and G. W. Jatho, to Wrightway Engineering Co. Combination aerator and hose coupling device. 3,110,445, 11-12-63, Cl. 239—432.
- Benjamin, Milton L., to Erickson Tool Co. Indexing device. 3,113,474, 12-10-63, Cl. 74—817.
- Benjamin, Milton L., and S. S., to Erickson Tool Co. Collet chuck. Re. 25,318, 1-8-63, Cl. 279—47.
- Benjamin, Milton L., and E. L. J. Syrene, to Erickson Tool Co. Spade drill blade. 3,076,357, 2-5-63, Cl. 77—68.
- Benjamin, Milton L., and F. E. Winnen, to Erickson Tool Co. Expandable mandrel. 3,076,661, 2-5-63, Cl. 279—2.
- Benjamin, Milton L., and D. D. Walker, to Erickson Tool Co. Hydraulic cylinder with adjustable cushioning means. 3,108,511, 10-29-63, Cl. 91—26.
- Benjamin, Milton L., and D. D. Walker, to Erickson Tool Co. Chuck for gears and the like. 3,108,412, 10-29-63, Cl. 51—234.
- Benjamin, Sidney K., M. J. Epstein, and R. M. Pincus, to General Precision, Inc. Sweep and flyback circuit. 3,105,235, 9-24-63, Cl. 343—8.
- Benjamin, Stanley S.: *See*—  
 Benjamin, Milton L. and S. S. Re. 25,318.
- Benjamins, Edwin, and B. M. Marks, to E. I. du Pont de Nemours and Co. Copolymer of methyl methacrylate and glycidyl methacrylate. 3,096,313, 7-2-63, Cl. 260—86.1.
- Benk, Karl, and W. Meyer, to Vereinigte Glanzstoff-Fabriken, AG. Mountaineering ropes of core-mantle structure. 3,073,209, 1-15-63, Cl. 87—6.
- Benken, Henry V. D.: *See*—  
 Hooper, Alfred T., and Benken. 3,102,284.  
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- Benko, John F.: *See*—  
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- Benko, Erwin, to Transogram Co., Inc. Ball propellers. 3,080,859, 3-12-63, Cl. 124—11.
- Benn, William R.: *See*—  
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- Bennat, Fritz: *See*—  
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- Benner, Floyd E., Jr.: *See*—  
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- Benner, Floyd E., Jr., R. R. May, Jr., and D. A. Reich, to Pittsburgh Plate Glass Co. Purification of methyl chloroform. 3,115,528, 12-24-63, Cl. 260—652.
- Benner, Paul B., D. R. Chicoine, and L. F. Dickeson, to Caterpillar Tractor Co. Hydraulic control system with pressure control valve. 3,088,488, 5-7-63, Cl. 137—621.
- Benner, Robert, to Armour and Co. Method and apparatus for wrapping products. 3,080,691, 3-12-63, Cl. 53—228.
- Bennett, Albert P. Golf tee. 3,112,111, 11-26-63, Cl. 273—203.
- Bennett, Allan I., Jr.: *See*—  
 Longini, Richard L., Bennett, and John. 3,106,764.
- Bennett, Allan I., Jr., to Westinghouse Electric Corp. Momentary electrical contact apparatus. 3,099,755, 7-30-63, Cl. 307—113.
- Bennett, Allan I., Jr., and R. L. Longini, to Westinghouse Electric Corp. Control apparatus. 3,076,134, 1-29-63, Cl. 322—20.
- Bennett, Anthony J.: *See*—  
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- Bennett, Arthur C. Divided electrical insulator. 3,101,389, 8-20-63, Cl. 174—156.
- Bennett, Charles H. Trim attachment for power boats. 3,111,103, 11-19-63, Cl. 114—66.5.
- Bennett, Earnest L., and D. F. Burns, to J. I. Holcomb Mfg. Co., Inc. Mop making apparatus. 3,100,670, 8-13-63, Cl. 300—16.



- Bennett, Edward L., A. L. Laich, and W. M. Young, to The Electric Auto-Lite Co. Aircraft anchor device. 3,075,731, 1-29-63, Cl. 244-115.
- Bennett, Elmer F.,  $\frac{1}{2}$  to Ledford-Todd Corp. Aligning device. 3,088,214, 5-7-63, Cl. 33-203.15.
- Bennett, Frank K.: See—
- Bender, Max, Bennett, and Kuckes. 3,104,295.
- Bennett, George A., W. Clarke, and J. Stirling, to Imperial Chemical Industries Ltd. Printing paste containing an organic sulphur compound and a dyestuff carrying a 4:6-dihalogeno-1:3:5-triazin-2-ylamino group, and method of printing. 3,096,141, 7-2-63, Cl. 8-63.
- Bennett, George W., to Ward Leonard Electric Co. Translation apparatus. 3,106,352, 10-8-63, Cl. 242-9.
- Bennett, Gerald A. Snow remover. 3,103,077, 9-10-63, Cl. 37-15.
- Bennett, Harry B., and H. W. Vaughn; said Vaughn assor. of 20% to said Bennett. Manufacture of honeycomb core. 3,092,711, 6-4-63, Cl. 219-81.
- Bennett, Henry M. Method of peg bundling and straightening lumber. 3,099,301, 7-30-63, Cl. 144-321.
- Bennett, Herbert S., to Chapehart Corp. Electromagnetic delay lines. 3,081,439, 3-12-63, Cl. 333-31.
- Bennett-Ireland, Inc.: See—
- Brunig, William D. 3,103,280.
- Bennett, John D.: See—
- Chaney, Preston E., Mayes, and Bennett. 3,086,167.
- Bennett, John D., to Sun Oil Co. Apparatus for bore hole drilling and logging. 3,074,493, 1-22-63, Cl. 175-107.
- Bennett, John D., to Sun Oil Co. Apparatus for controlling the movement of a tool through a tubular structure. 3,078,922, 2-26-63, Cl. 166-214.
- Bennett, John D., to Sun Oil Co. Side wall core taking apparatus. 3,085,637, 4-16-63, Cl. 175-77.
- Bennett, John D., to Sun Oil Co. Bore hole logging apparatus having separate landing member means to position a recording instrument casing above a drill bit. 3,112,442, 11-26-63, Cl. 324-1.
- Bennett, John D., and P. E. Chaney, to Sun Oil Co. Side wall core taking apparatus. 3,085,636, 4-16-63, Cl. 175-77.
- Bennett, John E., and S. A. Fierston, to Sylvania Electric Products Inc. Digitally positioned wave filter. 3,095,539, 6-25-63, Cl. 325-163.
- Bennett, John L., G. B. Wooton, and R. L. Claggett, to The Black and Decker Mfg. Co. High-efficiency permanent magnet motor. 3,102,964, 9-3-63, Cl. 310-154.
- Bennett, John W., and F. W. Perry, to The National Cash Register Co. Check feeding and aligning mechanism. 3,100,113, 8-6-63, Cl. 271-71.
- Bennett, Joyce K.: See—
- Hoff, Dale R., and Bennett. 3,107,201.
- Bennett, Marvin D. and R. D., to Thomsen Supply, Inc. Elastic ball check valve. 3,077,204, 2-12-63, Cl. 137-525.
- Bennett, Moreland P., and E. L. Hughes, to General Electric Co. Cooling device. 3,075,299, 1-29-63, Cl. 34-202.
- Bennett, Neill G.: See—
- Rogers, Edward A., and Bennett. 3,089,339.
- Bennett, Ovel F., to E. I. du Pont de Nemours and Co. Method for isolating aromatic carboxylic acids. 3,096,343, 7-2-63, Cl. 260-328.
- Bennett, Owen G.: See—
- Hopkins, James C., and Bennett. 3,097,600.
- Bennett, Paul J., to Reynolds Metals Co. Method of refining kyanite ore. 3,116,140, 12-31-63, Cl. 75-1.
- Bennett, Ralph D.: See—
- Fluke, Jefferson M. 3,112,685.
- Bennett, Richard A., and H. O. Kron, to King of Prussia Research & Development Corp. Hydraulic actuator. 3,090,360, 5-21-63, Cl. 121-38.
- Bennett, Richard D.: See—
- Bennett, Marvin D. and R. D. 3,077,204.
- Bennett, Sherman A. Aquatic amusement device. 3,091,453, 5-28-63, Cl. 272-1.
- Bennett, Thomas C., Jr. Animal cages with interlocking framing and interlocking gutter. 3,087,458, 4-30-63, Cl. 119-17.
- Bennett, Walter, and S. Barker, to Utility Trailer Mfg. Co. Vehicle running gear and suspension. 3,081,292, 3-12-63, Cl. 280-104.5.
- Bennett, Walter P.: See—
- Nielsen, Dale E., Olsen, and Bennett. 3,075,583.
- Nielsen, Dale E., Olsen, and Bennett. 3,104,134.
- Bennett, Willard H. Method and apparatus for producing electrically conducting coatings on vitreous substances. 3,075,861, 1-29-63, Cl. 117-211.
- Bennett, Willard H. Circuit for producing square wave pulses by parallel capacitors discharging through load at different rates. 3,097,341, 7-9-63, Cl. 328-67.
- Bennett, Willard H. Propulsion means for space vehicles. 3,102,384, 9-3-63, Cl. 60-35.5.
- Bennett, William B. Personal inflatable life raft. 3,105,981, 10-8-63, Cl. 9-316.
- Bennett, William D., and H. H. Green, to Dunlop Rubber Co. Ltd. Extruders. 3,103,037, 9-10-63, Cl. 18-12.
- Bennett, William F.: See—
- Moran, Lawrence F., and Bennett. 3,083,399.
- Bennett, William N., to Cypress Garden Skis, Inc. Ratchet ski binder. 3,102,279, 9-3-63, Cl. 9-310.
- Bennetts, John L.: See—
- Saller, Erik, Timmerman, Bennetts, and Armstrong. 3,109,866.
- Benning, Anthony F., to E. I. du Pont de Nemours and Co. Anti-knock motor fuels. 3,113,850, 12-10-63, Cl. 44-69.
- Benning, Bennie L. R., and C. J. Cuneo, to FMC Corp. Production of barium hydroxide monohydrate. 3,082,066, 3-19-63, Cl. 23-186.
- Benning, Wilbert O. Safety belt indicating device. 3,112,467, 11-26-63, Cl. 340-52.
- Benninger A.-G., Maschinenfabrik: See—
- Coester, Robert. Re. 25,409.
- Wildt, Edwin. 3,096,945.
- Benninghoff, William E., and J. W. Thomas, to The Ohio Crankshaft Co. Resistance welding method and apparatus. 3,098,146, 7-16-63, Cl. 219-59.
- Benninghoff, William L. Taper thread cutting die head with radially removable wedge elements for controlling the chasers. 3,082,446, 3-26-63, Cl. 10-120.5.
- Benno, Edward L., to The Frank G. Hough Co. Tractor loaders. 3,092,920, 6-11-63, Cl. 37-117.5.
- Benoit, George J., Jr., to California Research Corp. Lubricant composition. 3,110,673, 11-12-63, Cl. 252-51.5.
- Benoit, Horace O. J. Wire stripping tool. 3,080,469, 3-5-63, Cl. 219-29.
- Benoit, Roland A., to Royalmetal Corp. Drawer pull. 3,098,686, 7-23-63, Cl. 312-320.
- Benoti, Robert L.: See—
- Mackiw, Vladimir N., Kunda, and Benoti. 3,088,803.
- Bensema, Eugene E., and C. A. Brady, to United States Steel Corp. Apparatus for weighing a moving object. 3,106,259, 10-8-63, Cl. 177-12.
- Benson, Benjamin S., Jr., and R. S. Geocaris, to Thomas Industries, Inc. Combination lighting and ventilating fixture. 3,090,434, 5-21-63, Cl. 165-50.
- Benson, Carl F., to The Torrington Co. Constant velocity universal joint. 3,083,549, 4-2-63, Cl. 64-21.
- Benson, Donald H., and W. R. Pratt, to Vanguard Abrasive Corp. Method of making a diamond abrasive saw blade. 3,110,579, 11-12-63, Cl. 51-293.
- Benson, Everett H., to Bergevin & Carlson Mining and Milling Co. Process for extracting gold and apparatus therefor. 3,087,611, 4-30-63, Cl. 209-3.
- Benson, Gerald J. Device for mailing coins. 3,112,861, 12-3-63, Cl. 229-92.9.
- Benson, Gustav E., and H. M. Saunders, to Owens-Corning Fiberglas Corp. Apparatus for feeding a multifilament strand. 3,071,301, 1-1-63, Cl. 226-168.
- Benson, Harvey D.: See—
- Palopoli, Frank P., Feil and Benson. 3,075,014.
- Benson, Jack J.: See—
- Williams, Sam B., and Benson. 3,077,076.
- Benson, John O., to General Mills, Inc. Method of making star-shaped cereal. 3,077,406, 2-12-63, Cl. 99-81.
- Benson, Louis. Reciprocating permanent magnet switching device. 3,114,809, 12-17-63, Cl. 200-87.
- Benson, Louise P. Garment for infant of crawling stage. 3,085,248, 4-16-63, Cl. 2-80.
- Benson Mfg. Co., The: See—
- Dean, George A. 3,083,893.
- Benson, Marco D. Jack for light fixtures. 3,111,232, 11-19-63, Cl. 214-1.
- Benson, Richard W. H.: See—
- Ure, George R., Benson, and Barrass. 3,084,109.
- Benson, Robert W., to Xerox Corp. Image selector apparatus. 3,094,036, 6-18-63, Cl. 88-24.
- Benson, Robert W., and V. J. Raelson, to Armour Research Foundation of Illinois Institute of Technology. Method and apparatus for stress analysis. 3,101,608, 8-27-63, Cl. 73-67.5.
- Benson, Robert W., and J. O. Wilson, to Xerox Corp. Edge drag device. 3,104,872, 9-24-63, Cl. 271-61.
- Benson, Robert W., and J. O. Wilson, to Xerox Corp. Paper supply tray. 3,104,873, 9-24-63, Cl. 271-61.
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- Benteler, Helmut. 3,075,484.
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- Bentley, Arthur P., to Fred-Tex Machine, Inc. Constant tension hydraulic brake. 3,073,418, 1-15-63, Cl. 188-91.
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- Bentley, George P., to Instrument Development Laboratories, Inc. Temperature control system for viscous fluid instrumentation. 3,076,885, 2-5-63, Cl. 219-20.
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- Bentley, James S., to Teleflex Products Ltd. Vehicle seats with safety harness. 3,091,496, 5-28-63, Cl. 297-386.
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- Bentley, John M., and J. H. Brown, to United States of America, Navy. Direct current digital to analog decoder. 3,092,824, 6-4-63, Cl. 340-347.
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- Bentley Knitting Machinery Organization, Inc., The: See—  
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- Bentley, Richard E., Jr., to Texas Paint Supply Co. Paint container device. 3,091,793, 6-4-63, Cl. 15-257.06.
- Benton, Louis A., to Johns-Manville Corp. Continuous dry blender. 3,090,602, 5-21-63, Cl. 259-3.
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- Bentzinger, Harlan A., to Precision Chemical Pump Corp. Pump. 3,092,032, 6-4-63, Cl. 103-150.
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- Benway, Robert E., to Radio Corp. of America. Electron gun. 3,090,882, 5-21-63, Cl. 313-82.
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- Benz, Jakob, to Sandoz Ltd. Process for the production of 2,4,5,6-tetrachloropyrimidine. 3,075,980, 1-29-63, Cl. 260-251.
- Benz, Jakob, A. Schweizer, and W. Wehrli, to Sandoz Ltd. Monoazo diphenyl triazine dyestuffs. 3,093,628, 6-11-63, Cl. 260-153.
- Benz, Jakob, and L. Schneider, to Sandoz Ltd. Reactive dyestuffs. 3,114,746, 12-17-63, Cl. 260-163.
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- Benzing, Jacob M.: See—  
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- Benzing, Theodor H. Thermopile switching systems. 3,099,923, 8-6-63, Cl. 73-341.
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- Berard, Oreste. Composite louver slats for jalousie windows. 3,110,936, 11-19-63, Cl. 20-62.
- Berard, Thomas C., to American Massage Sales and Mfg. Corp. Kinesitherapy pad. 3,092,099, 6-4-63, Cl. 128-33.
- Berard, Thomas C. Kinesitherapy device. 3,096,757, 7-9-63, Cl. 128-36.
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- Berardinelli, Frank M., and R. W. Stevenson, to Celanese Corp. of America. Oxymethylene copolymers. 3,072,609, 1-8-63, Cl. 260-67.
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- Berberich, Helmut, and H. Thoma, to Thoma Co. Device for eliminating flying fibre from textile machines, particularly spinning and doubling frames. 3,086,240, 4-23-63, Cl. 15-312.
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- Berch, William H., to General Dynamics Corp. Routing means for telephone system. 3,098,125, 7-16-63, Cl. 179-18.
- Berch, William H., and B. A. Harris, to General Dynamics Corp. Recording control circuit. 3,094,700, 6-18-63, Cl. 346-74.
- Berch, William H., M. A. Clement, R. K. Kaye, and J. W. Newitt, to General Dynamics Corp. Toll ticketing telephone system. 3,102,166, 8-27-63, Cl. 179-7.1.
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- Berck, William F., to Ralph N. Brodie Co. Valve control mechanism. 3,094,004, 6-18-63, Cl. 74-2.
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- Beresford, Peter A. International standard time indicating device. 3,115,002, 12-24-63, Cl. 58-43.
- Beresin, Morris. Artificial teeth. 3,105,300, 10-1-63, Cl. 32-2.
- Beretvas, Helen S., to Standard Oil Co. Alkyl phenol lactates. 3,084,183, 4-2-63, Cl. 260-479.
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- Bereza, Helen D. Clothesline cover. 3,075,648, 1-29-63, Cl. 211-180.
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- Berg, Joseph A. Self-aligning seating construction. 3,080,195, 3-5-63, Cl. 297-312.
- Berg, Louis, to Duplic Industries. Frozen confection dispensing machine. 3,075,480, 1-29-63, Cl. 107-1.
- Berg, Louis. Power-operated screw-driver and parts assembly machine. 3,107,707, 10-22-63, Cl. 144-32.
- Berg, Quentin, to AMP Inc. Method of manufacturing electrical connectors. 3,074,150, 1-22-63, Cl. 29-155.55.
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- Berg, Richard D., to Western Electric Co., Inc. Torque testing apparatus. 3,088,313, 5-7-63, Cl. 73-139.
- Berg, Robert A., to Weyerhaeuser Co. Platform carton. 3,095,086, 6-25-63, Cl. 206-45.19.



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- Berg, William K., R. A. Riddell, E. G. Spencer, and L. E. Tomlinson, to North American Aviation, Inc. Vent and relief valve. 3,099,285, 7-30-63, Cl. 137-220.
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- Berge, Jacques M. A. C., to Ch. Gervias Societe Anonyme. Apparatus for the manufacture of cheese. 3,085,333, 4-16-63, Cl. 31-46.
- Berge, Sven E., to Bofors, Aktiebolaget. Device for guns on combat vehicles. 3,101,028, 8-20-63, Cl. 89-14.
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- Bergen, Charles R., and W. W. Woods, to Continental Oil Co. Method of producing heat-stable greases. 3,090,750, 5-21-63, Cl. 252-18.
- Bergen Machine & Tool Co., Inc.: *See*—  
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- Bergendahl, Raymond L., to Cherry-Burrell Corp. Container washing apparatus. 3,099,276, 7-30-63, Cl. 134-107.
- Bergener, Arthur C.: *See*—  
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- Bergenson, Harold L., and D. S. Potter; said Potter assor. to said Bergenson. Vehicle with boom. 3,077,338, 2-12-63, Cl. 254-139.1.
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- Berger, Charles V., to Universal Oil Products Co. Production of specific xylene isomers. 3,078,318, 2-19-63, Cl. 260-668.
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- Berger, Frank M., to Carter Products, Inc. Novel composition of matter for treatment of nervous disorders. 3,090,726, 5-21-63, Cl. 167-65.
- Berger, Frank M., and B. J. Ludwig, to Carter Products, Inc. Analgesic aryloxypropanolamines. 3,085,938, 4-16-63, Cl. 167-65.
- Berger, Frank M., and S. L. Plechner. Titanic acid complexes of hydroxy aliphatic carboxylic acids antiperspirant compositions. 3,090,728, 5-21-63, Cl. 167-90.
- Berger, Fritz, to Rheinmetall G.m.b.H. Mechanical fuze for projectiles. 3,090,311, 5-21-63, Cl. 102-71.
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- Berger, Fritz, to Rheinmetall G.m.b.H., Firma. Land mine, more particularly anti-tank mine. 3,098,440, 7-23-63, Cl. 102-8.
- Berger, George C. Vapor generating apparatus. 3,115,872, 12-31-63, Cl. 123-25.
- Berger, George E. Toy plane control device. 3,107,452, 10-22-63, Cl. 46-77.
- Berger, Johannes, to C. Zeiss. Five lens objective. 3,099,702, 7-30-63, Cl. 88-57.
- Berger, Kornel. Electric swivel connector. 3,104,897, 9-24-63, Cl. 285-166.
- Berger, Leon. Interchangeable disc for surgical drainage device. 3,077,192, 2-12-63, Cl. 128-283.
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- Berger, Paul, to Advance Transformer Co. Apparatus for igniting and operating gaseous discharge devices. 3,112,428, 11-26-63, Cl. 315-138.
- Berger, Paul, to Advance Transformer Co. Gaseous discharge ballast. 3,114,861, 12-17-63, Cl. 315-189.
- Berger, Pierre, to Compagnie des Ateliers et Forges de la Loire (St. Chamond-Firminy-St. Etienne-Jacob-Holtzer). Extrusion apparatus. 3,079,634, 3-5-63, Cl. 18-12.
- Berger, Richard K., A. J. Nicholas, and D. N. Shaw, to Worthington Corp. Means for converting a refrigeration compressor for use in a plural compressor refrigeration installation. 3,072,318, 1-8-63, Cl. 230-206.
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- Berger, Richard M., to U.S. Filter Corp. Products formed from continuous filamentary tows. 3,111,702, 11-26-63, Cl. 15-563.
- Berger, Werner W., E. S. Gwin, and W. P. Wood, to General Motors Corp. Vehicle body. 3,103,380, 9-10-63, Cl. 296-28.
- Berger, Wilhelm, to G. Buehler. Control means and method in a drier for macaroni products. 3,110,573, 11-12-63, Cl. 34-30.
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- Bergeron, Alfred L., and E. T. Walter, to Pneumatic Scale Corp., Ltd. Packaging machine. 3,107,774, 10-22-63, Cl. 198-32.
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- Bergfors, Gordon A., to Exercycle Corp. Pedal crank mechanism for exerciser. 3,081,645, 3-19-63, Cl. 74-594.1.
- Berggren, Grant W. Amalgamation table. 3,092,572, 6-4-63, Cl. 209-66.
- Berggren, John L. Record table drives for sound reproduction machines. 3,105,692, 10-1-63, Cl. 274-39.
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- Bergh, George G. and R. G., to Bergh Bros. Co., Inc. Box wall and base combination. 3,107,807, 10-22-63, Cl. 220-4.
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- Berghash, Hyman H., to Roberts Dental Mfg. Co., Inc. Mouth guard. 3,073,300, 1-15-63, Cl. 128-136.
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- Bergland, Harry R., and A. R. Wagner, to Burroughs Corp. Recording apparatus. 3,088,400, 5-7-63, Cl. 101-93.
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- Berglund, Erik E., to Hermorion Ltd. Tetrahedron producing method and apparatus. 3,090,175, 5-21-63, Cl. 53-28.
- Berglund, Gustav R., to L. M. Ericsson Telefonaktiebolaget. Mobile radio stations interconnected with a wire telephone system. 3,105,118, 9-24-63, Cl. 179-41.
- Berglund, Kurt K., A. O. Jacobsson, and G. A. Magni, to Jarnhs Elektriska Aktiebolag. Release system for radiographic exposures. 3,103,590, 9-10-63, Cl. 250-93.



- Berglund, Wilhelm A. Safety valve assembly for brake lines. 3,109,448, 11-5-63, Cl. 137-460.
- Bergman, Edward, to Art Steel Co., Inc. Interlocking cabinets. 3,084,985, 4-9-63, Cl. 312-111.
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- Bell, Edward K., Campanile, and Bergman. 3,105,801.
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- Bergman, Robert T. Drafting instrument. 3,081,545, 3-19-63, Cl. 33-27.
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- Bergmann, Artur E. H., to Klockner-Humboldt-Deutz Aktiengesellschaft. Froth flotation of cryolite. 3,082,872, 3-26-63, Cl. 209-167.
- Bergmann, Ernst R., to Goodman Mfg. Co. Continuous mining machine. 3,086,762, 4-23-63, Cl. 262-9.
- Bergmann, Ernst R., to Goodman Mfg. Co. Adjustable boring head for continuous mining machine. 3,109,635, 11-5-63, Cl. 262-26.
- Bergmann, Heinrich W., to Conch International Methane Ltd. Stabilization means for storage tanks. 3,095,107, 6-25-63, Cl. 220-15.
- Bergmann, Paul F., to Johnson Products, Inc. Rocker arm oiling system. 3,111,119, 11-19-63, Cl. 123-90.
- Bergmann, Paul F., J. W. Humphreys, and M. V. Dedd, to Johnson Products, Inc. Mechanical self-adjusting tappet. 3,115,128, 12-24-63, Cl. 123-90.
- Bergmeister, Eduard: *See*—
- Bauer, Hans, Bergmeister, and Heckmaier. 3,115,487.
- Bergmeister, Eduard, R. Fritzweiler, H. Schwarz, and H. Wimmer, to Wacker-Chemie G.m.b.H. Process and apparatus for continuously washing highly viscous masses. 3,086,243, 4-23-63, Cl. 18-1.
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- Bandioli, Edoardo. 3,090,444.
- Bergonzo, Pierre, to Tarex S.A. Automatic lathe for cutting threads. 3,089,160, 5-14-63, Cl. 10-101.
- Bergougnon, Maurice A., and T. Kalina, to Esso Research and Engineering Co. Process for the recovery of bitumen from tar sands utilizing a cooling technique. 3,114,694, 12-17-63, Cl. 208-11.
- Bergounhon, René, and G. Bellanger, to Adar S.A.R.L. Servo mechanism for controlling various members. 3,083,534, 4-2-63, Cl. 60-51.
- Bergquist, Dwight H., to Henningsen, Inc. Method of preparing powdered egg albumen. 3,082,098, 3-19-63, Cl. 99-210.
- Bergquist, Palmer. Bow pull indicator. 3,097,624, 7-16-63, Cl. 116-67.
- Bergquist, Roger K.: *See*—
- Jernberg, Evert H., and Bergquist. 3,091,714.
- Bergson, Gustav. Computer for taking squares of plurality of sums. 3,083,902, 4-2-63, Cl. 235-61.
- Bergstedt, John E. Display refrigerator doors. 3,074,124, 1-22-63, Cl. 20-19.
- Bergstein, Frank D., R. W. Nerenberg, and L. Baek, to Interstate Folding Box Co. Process and apparatus for the manufacture of cell interlined containers. 3,104,596, 9-24-63, Cl. 93-36.01.
- Bergsteinsson, Ingolfur I. D. Webb, and P. S. Backlund, to Union Oil Co. of California. Phosphoric acid. 3,077,381, 2-12-63, Cl. 23-165.
- Bergsten, Arvid H.: *See*—
- Bergsten, Frank R. and A. H. 3,109,813.
- Bergsten, Frank R. and A. H. Septic tanks. 3,109,813, 11-5-63, Cl. 210-532.
- Bergstrand, Ralph B.: *See*—
- Candlin, James E., Jr., and Bergstrand. 3,102,497.
- Bergsträsser, Georg, to Telefonbau und Normalzeit G.m.b.H. Manually operated generators for telephone service. 3,094,637, 6-18-63, Cl. 310-69.
- Bergstrom, Carl V. Flexible sealing grommet. 3,109,662, 11-5-63, Cl. 277-178.
- Bergstrom, Eric V. Device to aid drawing of true perspective views. 3,086,296, 4-23-63, Cl. 35-26.
- Bergstrom, Erick W., Jr. Pallet coupler. 3,073,613, 1-15-63, Cl. 280-24.
- Bergstrom, Frederick S., to Wood Conversion Co. Roof deck structure. 3,077,703, 2-19-63, Cl. 50-346.
- Bergstrom, Herman A., to General Aniline & Film Corp. Preparation of dyestuffs and pigments. 3,079,376, 2-26-63, Cl. 260-192.
- Bergström, Hilding O. V., and K. G. Trobeck (deceased, by A. Furrer, administrator). Process for combustion of waste liquors. 3,113,833, 12-10-63, Cl. 23-48.
- Bergstrom, Nils E. L. Method for mounting of plastic sheet material, particularly as ceiling covering in a room, and a tool accomplishing the method. 3,105,239, 10-1-63, Cl. 1-60.
- Bergstrom, Thomas A.: *See*—
- Birdsall, George T., and Bergstrom. 3,091,464.
- Bergwerksgesellschaft Hibernia A.G.: *See*—
- Ester, Wilhelm, and Sommer. 3,092,557.
- Ester, Wilhelm, and Sommer. 3,092,587.
- Bergwerksverband zur Verwertung von Schutzrechten der Kohlenteknik G.m.b.H.: *See*—
- Grosskinsky, Otto, Huck, and Klemp. 3,104,959.
- Bergy, Malcolm E., R. R. Herr, and D. J. Mason, to The Upjohn Co. Antibiotic lincolinsin and method of production. 3,086,912, 4-23-63, Cl. 167-65.
- Beriger, Ernst, to Ciba Ltd. New carbamoylalkyl phosphorus ester compounds. 3,092,541, 6-4-63, Cl. 167-22.
- Berk, Aristid D.: *See*—
- Kleinman, Leonard, and Berk. 3,076,132.
- Berk, Aristid D., and E. Strumwasser, to Hughes Aircraft Co. Bidirectional coupling between waveguides via two nonreciprocal gyromagnetic coupling rods. 3,099,805, 7-30-63, Cl. 333-24.1.
- Berk, Sigmund, to United States of America, Army. Radioisotope method for measuring the weight of the contents of assembled items. 3,089,378, 5-14-63, Cl. 86-32.
- Berk, Sigmund, to United States of America, Army. Radioactive temperature indicating devices. 3,090,862, 5-21-63, Cl. 250-43.5.
- Berkeley, Florence B.: *See*—
- Berkeley, Laurence J. 3,093,103.
- Berkeley, Laurence J., deceased; F. B. Berkeley, executrix. Method of producing spiral pipe. 3,093,103, 6-11-63, Cl. 113-35.
- Berkeley, Peter, Jr.: *See*—
- Martzewiller, Joseph K., Robbins, and Berkeley. 3,094,564.
- Berkelhammer, Gerald, F. A. Wagner, Jr., and R. J. Magee, to American Cyanamid Co. Triazinylalkyl phosphates. 3,102,885, 9-3-63, Cl. 260-248.
- Berkey, Reynold A., to Diamond Alkali Co. Method of killing microorganisms, plant pests, and plants with halogenated dihydrothiophene-1,1-dioxide compounds. 3,073,692, 1-15-63, Cl. 71-2.5.
- Berkin, George M., to International Business Machines Corp. Serial adder and subtractor. 3,083,910, 4-2-63, Cl. 235-153.
- Berkeley, Charles R., to Gulf Oil Corp. Chemical pump for oil wells. 3,097,605, 7-16-63, Cl. 103-6.
- Berkeley, Earl E.: *See*—
- Reddick, John A., Berkeley, Linthicum, and Buxton. 3,083,828.
- Berkley Machine Co.: *See*—
- Ehlscheid, Gunther. 3,086,338.
- Subklew, Hermann. 3,085,762.
- Winkler, Richard, and Dunnebie. 3,088,382.
- Winkler, Richard, and Dunnebie. 3,096,977.
- Winkler, Richard, and Dunnebie. 3,097,578.
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- Winkler, Richard, and Dunnebie. 3,103,842.
- Berkloo, Freerk: *See*—
- Allen, Chester, Jr., and Berkloo. 3,099,190.
- Berko Electric Mfg. Corp.: *See*—
- Knoll, David, and Greenhaus. 3,097,287.
- Berkowitz, Bernard, to Sperry Rand Corp. Ring scanning antenna adapted for flush mounting. 3,086,205, 4-16-63, Cl. 343-754.
- Berkowitz, David A., to Bell Telephone Laboratories, Inc. Positive or negative high gain image amplifier. 3,107,303, 10-15-63, Cl. 250-213.
- Berkowitz, Edward B., T. E. Makowski, B. G. Spars, and N. H. Berlin, to Esso Research and Engineering Co. Refining process for petroleum wax. 3,089,841, 5-14-63, Cl. 208-27.
- Berkowitz, Howard, and B. W. Mocs, to The Martin-Marietta Corp. Method and apparatus for automatic digital process control. 3,086,708, 4-23-63, Cl. 235-154.
- Berkowitz, Irving L., to Kason Display Hardware Inc. Fitting for attaching together tubular members. 3,089,716, 5-14-63, Cl. 287-54.
- Berkoz, Belg: *See*—
- Bowers, Albert, and Berkoz. 3,082,220.
- Zderic, John A., Bowers, Halpern, and Berkoz. 3,080,383.
- Zderic, John A., Bowers, Halpern, and Berkoz. 3,080,390.
- Berl, John T. Quick, detachable safety support or belt. 3,100,484, 8-13-63, Cl. 128-134.
- Berlant, Emmanuel. Transport mechanism. 3,109,603, 11-5-63, Cl. 242-55.12.
- Berleme, George H. Attachment device for vacuum cleaning spat-like articles. 3,110,923, 11-19-63, Cl. 15-394.
- Berlepsch, Joseph C., Jr., and C. J. Crowley, to The Seamless Rubber Co. Marking plastic covers. 3,091,562, 5-28-63, Cl. 156-245.
- Berlie (U.K.) Ltd.: *See*—
- Williams, Betty M. 3,113,572.
- Berlin, Daniel. Tray construction. 3,106,295, 10-8-63, Cl. 211-132.
- Berlin, Daniel. Laundry cart. 3,106,409, 10-8-63, Cl. 280-39.
- Berlin, Daniel. Convertible hammock and seat. 3,115,364, 12-24-63, Cl. 297-130.
- Berlin, Herbert: *See*—
- Rudszinat, Willy, and Berlin. 3,091,245.
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- Berlin, Norton: *See*—
- Berkowitz, Edward B., Makowski, Spars, and Berlin. 3,089,841.
- Berliner, Henry A. Convertible coffee-dining table. 3,087,442, 4-30-63, Cl. 108-19.
- Berliner, Henry A. Ventilating device. 3,090,292, 5-21-63, Cl. 98-2.



- Berlinghof, William L., to Motson Services Incorp. Printed circuit. 3,072,500, 1-8-63, Cl. 117-212.
- Berlinsky, Shmuel, to Holtzer-Cabot Corp. Gear cutting apparatus. 3,110,135, 11-12-63, Cl. 51-108.
- Berly, Edward M. Electrostatic precipitator. 3,108,865, 10-29-63, Cl. 55-131.
- Berlyn, Martin J. Harmonic balancing device for internal combustion engines. 3,112,658, 12-3-63, Cl. 74-603.
- Berlyn, Martin J., to Dominion Engineering Works Ltd. Stock inlet. 3,115,098, 12-24-63, Cl. 103-113.
- Berman, Aaron W., to Aarving Displays, Inc. Connection member for display racks. 3,092,408, 6-4-63, Cl. 287-113.
- Berman, Arthur: *See*—  
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- Berman, Elliot, to The National Cash Register Co. Photochemical printing. 3,090,687, 5-21-63, Cl. 96-48.
- Berman, Elliot, to The National Cash Register Co. Derivatives of 1,3,3 trimethyl-spiro (2'H-1'-benzopyran-2,2'-indolene). 3,100,778, 8-13-63, Cl. 260-319.
- Berman, Elliot, and H. Schwab, to The National Cash Register Co. Light sensitive element and process for recording images thereon. 3,072,481, 1-8-63, Cl. 96-48.
- Berman, Herbert, and S. Sporn, to United Aircraft Corp. Transistor demodulator. 3,075,150, 1-22-63, Cl. 329-50.
- Berman, Kurt: *See*—  
Adamson, Arthur P., and Berman. 3,112,612.
- Berman, Max, to General Electric Co. Series brake system for alternating current motors. 3,087,104, 4-23-63, Cl. 318-367.
- Berman, Morris. Expansion-contraction joint and groove form. 3,094,908, 6-25-63, Cl. 94-18.
- Berman, Richard M., and B. Schwartz, to Vector Mfg. Co., Inc. Body electrode. 3,085,577, 4-16-63, Cl. 128-418.
- Berman, Robert, and W. H. Fordham, Jr. Orthodontic appliance. 3,110,105, 11-12-63, Cl. 32-14.
- Berman, Robert A., to Medical Plastics, Inc. Mouth-to-mouth resuscitator. 3,080,864, 3-12-63, Cl. 128-29.
- Berman, Sanford. Mixed liquid dispenser. 3,097,670, 7-16-63, Cl. 141-83.
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- Scott, Margaret B. 3,079,004.
- Bermingham, Peter D., and M. Stiller, to Quikie Mfg. Co. Inc. Key case. 3,101,762, 8-27-63, Cl. 150-40.
- Berna, Albert J. Angular rotary drive. 3,103,799, 9-17-63, Cl. 64-20.
- Bernaden, Alex, Jr., J. H. Schmidt, and J. R. Quier, to General Motors Corp. Magnetically operable program controller. 3,114,084, 12-10-63, Cl. 317-189.
- Bernard, Collette G.: *See*—  
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- Bernard, David W.: *See*—  
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- Bernard, David W., to Sperry Rand Corp. Change of character detector for typewriter controlled punch. 3,106,337, 10-8-63, Cl. 234-23.
- Bernard, Frank J. Means for supporting panels, bars, rods and the like. 3,086,627, 4-23-63, Cl. 189-38.
- Bernard, George G.: *See*—  
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- Holm, Le Roy W., and Bernard. 3,082,822.
- Bernard, George G., to The Pure Oil Co. Antifreeze composition containing an indicator material. 3,079,343, 2-26-63, Cl. 252-75.
- Bernard, George G., to The Pure Oil Co. Superior water-flooding process. 3,096,820, 7-9-63, Cl. 166-9.
- Bernard, George G., to The Pure Oil Co. Method of controlling corrosion of ferrous metal due to pitting by addition of mineral acid. 3,098,700, 7-23-63, Cl. 21-27.
- Bernard, George G., to The Pure Oil Co. Process for selectively treating subterranean formations. 3,115,930, 12-31-63, Cl. 166-33.
- Bernard, James A., to General Motors Corp. Electromagnetic clutch. 3,082,933, 3-26-63, Cl. 230-15.
- Bernard, Jean L., M. Gauthron, and A. Gautier, to Commissariat a l'Energie Atomique. Methods and apparatus for the determination of thermal stresses. 3,075,378, 1-29-63, Cl. 73-156.
- Bernard, John E., Jr.: *See*—  
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- Bernard, John E., Jr., to Graham-White Mfg. Co. Reel assembly. 3,106,366, 10-8-63, Cl. 242-77.
- Bernard, Levio P., to International Business Machines Corp. Fluid immersed clutch mechanism having an externally positioned controlling electromagnet. 3,103,269, 9-10-63, Cl. 192-28.
- Bernard, Walter J., to Sprague Electric Co. Electrolytic capacitor and method for producing same. 3,087,872, 4-30-63, Cl. 204-39.
- Bernardin Bottle Cap Co., Inc.: *See*—  
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- Bernardini, Albert T., R. F. Managan, and R. D. McGuire. Formable bag construction for use as helmet liner or mattress. 3,070,802, 1-1-63, Cl. 2-6.
- Bernardoni, Edwin A.: *See*—  
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- Bernat, Charles A., to Plastic Wire & Cable Corp. Method of molding electrical connector plugs. 3,086,251, 4-23-63, Cl. 18-59.
- Bernat, Emile, & Sons Co.: *See*—  
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- Bernatis, Thomas S.: *See*—  
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- Bernauer, Karl, P. Karrer, and H. Schmid, to Hoffmann-La Roche Inc. C-dihydrotoxiniferin dihalides and a process for their preparation. 3,073,832, 1-15-63, Cl. 260-293.
- Bernd, Jules P., to Brunswick Corp. Tensioning device. 3,084,887, 4-9-63, Cl. 242-155.
- Berndt, Franz: *See*—  
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- Berndt, Richard F., to Virktotype Corp. Raised printing powder and method of making same and using same. 3,083,116, 3-26-63, Cl. 117-13.
- Berne, William E. Resistance exercising apparatus. 3,103,357, 9-10-63, Cl. 272-79.
- Bernemyr, Rune B., K. G. H. Lindberg, B. G. Magnusson, and C. G. Svala, to Telefonaktiebolaget LM Ericsson. Magnetic memory arrangement. 3,102,999, 9-3-63, Cl. 340-174.
- Berner, George W., Jr.: *See*—  
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- Berner, John: *See*—  
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- Berner, Roland A., to Ceramic Combustion and Engineering Co. Pallet. 3,077,982, 2-19-63, Cl. 206-65.
- Berner, Roland A., to Nalco Chemical Co. Scale removal. 3,095,862, 7-2-63, Cl. 122-379.
- Berner, William L., to Union Carbide Corp. Coupler. 3,110,510, 11-12-63, Cl. 287-129.
- Bernfeld, Isabel M. Garment construction. 3,098,236, 7-23-63, Cl. 2-106.
- Bernhard, Frank L., to United States of America, Navy. Automatic electrical connection device. 3,082,396, 3-19-63, Cl. 339-65.
- Bernhardt, Hermann: *See*—  
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- Bernhardt, Tom G., to Whiting Corp. Hydraulic classifier. 3,071,447, 1-1-63, Cl. 23-273.
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- Bernbauer, Konrad, to Hoffmann-La Roche Inc. Preparation of vitamin B<sub>12</sub> derivatives. 3,072,674, 1-8-63, Cl. 260-314.
- Berni, Ralph J., J. B. McKelvey, and R. R. Benerito, to United States of America, Agriculture. Perfluoroalkoxy-substituted propyl ethers of cellulose textile fiber and process of making. 3,079,214, 2-26-63, Cl. 8-120.
- Bernick, Leslie M., V. P. Pearson, and W. C. Sievert, to Inland Steel Co. Electrolytic tinning process. 3,093,555, 6-11-63, Cl. 204-28.
- Bernier, Chester A., to Square D Co. Tool for modifying electrical panelboards. 3,115,053, 12-24-63, Cl. 81-15.
- Bernier, Jean C. Axonometric drafting instrument. 3,070,894, 1-1-63, Cl. 33-189.
- Bernier, Jean C. Perspective drawing instrument. 3,109,240, 11-5-63, Cl. 33-77.
- Bernier, Lionel: *See*—  
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- Bernier, Louis E., to E. T. Wright & Co., Inc. Method for molding the inner side of a shoe at the heel end. 3,072,934, 1-15-63, Cl. 12-142.
- Bernier, Louis E., to E. T. Wright & Co., Inc. Shoe rack. 3,079,002, 2-26-63, Cl. 211-34.
- Bernier, Napoleon M., to California Stucco Products of N.E., Inc. Method of coloring stones and other mineral aggregates. 3,099,574, 7-30-63, Cl. 117-100.
- Bernier, Roland J. Car seat assembly. 3,094,354, 6-18-63, Cl. 297-112.
- Berning, Hans-Heinrich, K. Tredopp, and H. Stoff, to Robot Foto und Elektronik G.m.b.H., & Co., KG. Photographic camera for supervision purposes. 3,111,886, 11-26-63, Cl. 95-1.1.
- Berninger, Kenneth L., to General Motors Corp. Speed maintaining mechanism. 3,092,090, 6-4-63, Cl. 123-103.
- Berninger, Kenneth L., D. W. Miller, J. A. Remke, and R. A. Hirsch, to General Motors Corp. Variable pitch propeller. 3,115,939, 12-31-63, Cl. 170-160.2.
- Berno, Harmon E., to The Ford Motor Co. Brake adjustment link. 3,077,955, 2-19-63, Cl. 188-79.5.
- Bernotas, Ralph J., to General Motors Corp. Scraper bowl. 3,073,044, 1-15-63, Cl. 37-129.
- Bernotas, Ralph J., to General Motors Corp. Track roller assembly. 3,082,047, 3-19-63, Cl. 308-211.
- Bernotas, Ralph J., to General Motors Corp. Scraper bowl. 3,100,945, 8-20-63, Cl. 37-129.
- Bernreiter, Jaromir: *See*—  
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- Berns Air King Corp.: *See*—  
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- Bernson, Elmer R., M. E. Beyers, and J. H. Babbitt, Jr., to Caterpillar Tractor Co. Disc-type brake with vibration absorbing means. 3,072,220, 1-8-63, Cl. 188-72.
- Bernstein, Carl, to Witco Chemical Co., Inc. Polyurethane foams and polyesters for preparation thereof. 3,079,350, 2-26-63, Cl. 260-2.5.
- Bernstein, Charles N.: *See*—  
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- Bernstein, Herbert L.: *See*—  
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- Yale, Harry L., and Bernstein. 3,072,651.
- Yale, Harry L., and Bernstein. 3,106,561.
- Yale, Harry L., Sowinski, and Bernstein. 3,071,596.
- Bernstein, Jack, and H. L. Yale, to Olin Mathieson Chemical Corp. Derivatives of 3,4-dihydro-1,2,4-pyrido [2,3-a] thiazine-7-sulfonamide-1,1-dioxide. 3,103,511, 9-10-63, Cl. 260-243.



- Bernstein, Joel H., V. J. Parrillo, D. W. Reuther, and J. R. Vadas, to Sperry Rand Corp. V-beam radar system. 3,072,902, 1-8-63, Cl. 343-11.
- Bernstein, Joseph T., to Air Products and Chemicals, Inc. Method and apparatus for separating gaseous mixtures. 3,113,854, 12-10-63, Cl. 62-28.
- Bernstein, Malcolm E. Metro-audiometer. 3,093,914, 6-18-63, Cl. 35-35.
- Bernstein, Robert, and D. V. Zinn, to Fruehauf Trailer Co. Bottom dump trailer construction. 3,088,774, 5-7-63, Cl. 295-27.
- Bernstein, Seymour: *See*—  
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- Bernstein, Seymour, and M. D. Heller, to American Cyanamid Co. Substituted steroid ethers of the pregnane series. 3,086,031, 4-16-63, Cl. 260-397.45.
- Bernstein, Seymour, and G. R. Allen, Jr., to American Cyanamid Co. 9 $\alpha$ -halo-11 $\beta$ -hydroxy-16 $\alpha$ ,17 $\alpha$ -alkyldienedioxy-1,4-pregnadienes. 3,111,516, 11-19-63, Cl. 260-239.55.
- Bernstein, Wilbur: *See*—  
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- Bernt, Ernst W.: *See*—  
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- Berquist, Leonard G., W. A. Millious, and J. H. Newhouse, to Clark Equipment Co. Crane assembly. 3,076,558, 2-5-63, Cl. 212-55.
- Berres, Clifford R., G. E. Tabet, and E. A. Wilder, to S. C. Johnson & Son, Inc. Novel emulsifiable waxy linear polyesters. 3,088,928, 5-7-63, Cl. 260-29.2.
- Berridge, Frederick L., and R. S. Brooks, to Joseph Robb & Co., Ltd. Floating spring loaded riser device. 3,080,066, 3-5-63, Cl. 211-49.
- Berrutti, Raymond, to Heterochemical Corp. Vitamin K premix. 3,079,261, 2-26-63, Cl. 99-2.
- Berry Bros. Corp.: *See*—  
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- Berry, David A.: *See*—  
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- Berry, David A., to Esso Research and Engineering Co. Process for producing aromatic polyamides from acetamidobenzoic acids. 3,109,836, 11-5-63, Cl. 260-78.
- Berry, David G., to Collins Radio Co. Uni-directional circularly polarized log periodic antenna. 3,113,316, 12-3-63, Cl. 343-792.5.
- Berry, Ernest V. Method of prestressing a crankshaft and crankshaft formed as a result thereof. 3,090,712, 5-21-63, Cl. 148-146.
- Berry, Foster W.: *See*—  
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- Berry, Frank, to Differential Hydraulics, Inc. Spherical trajectory rotary power device. 3,075,506, 1-29-63, Cl. 123-43.
- Berry, Frank R.: *See*—  
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- Berry, Harry J. Internal combustion engine. 3,080,856, 3-12-63, Cl. 123-18.
- Berry, Henry W., to Minneapolis-Honeywell Regulator Co. Attitude controls. 3,097,816, 7-16-63, Cl. 244-14.
- Berry, John C., to Berry Bros. Corp. Stocking package and method. 3,099,353, 7-30-63, Cl. 206-79.
- Berry, John F., to International Packers Ltd. Humane electrical stunners. 3,104,417, 9-24-63, Cl. 17-1.
- Berry, John M., to Midland Chemical Corp. Fill-seal wood finishing method and product. 3,080,257, 3-5-63, Cl. 117-72.
- Berry, Kenneth L., to E. I. du Pont de Nemours and Co. Fibrous aluminum borate and its preparation. 3,080,242, 3-5-63, Cl. 106-65.
- Berry, Kenneth L., to E. I. du Pont de Nemours and Co. Spinnable mullite fibers and their preparation. 3,104,943, 9-24-63, Cl. 23-110.
- Berry, Paul D.: *See*—  
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- Berry, Ralph E. Web elastic holder and sewing guide. 3,089,691, 5-14-63, Cl. 269-1.
- Berry, Richard C., to Crouse-Hinds Co. Dead-front electrical receptacle. 3,078,435, 2-19-63, Cl. 339-111.
- Berry, Richard C., to Crouse-Hinds Co. Electrical connector. 3,078,436, 2-19-63, Cl. 339-143.
- Berry, Robert W., Jr., to Wesson Corp. Rotating cutter assembly. 3,091,138, 5-28-63, Cl. 77-58.
- Berry, Theodore L., and W. R. Gieske, to The Ford Alexander Corp. Tubing caliper instrument. 3,075,292, 1-29-63, Cl. 33-175.
- Berry, Vlvion C. Automatically adjustable mooring structure for vessels. 3,088,287, 5-7-63, Cl. 61-48.
- Berryhill, Emma L., and W. L. Sayer. Hair conditioner and retainer. 3,088,469, 5-7-63, Cl. 132-9.
- Berryman, Mrs. Katherine W.: *See*—  
Ames, Robert G. 3,070,827.
- Bers, Naum S., to Space Technology Laboratories, Inc. Transducing and control systems. 3,097,535, 7-16-63, Cl. 74-5.7.
- Berscheid, Irvine J. Drill bit. 3,080,934, 3-12-63, Cl. 175-410.
- Bersin, Richard L.: *See*—  
Brinkerhoff, Joris M., and Bersin. 3,084,255.
- Bersin, Theodor: *See*—  
Mueller, Arthur, Schwarz, and Bersin. 3,076,798.  
Müller, Arthur, and Bersin. 3,100,202.
- Berst, Neil W.: *See*—  
Von Smolinski, Alfred, Berst, and Alt. 3,072,515.
- Berst, Neil W., W. M. Gauntt, and E. F. Maisel, to The Diversey Corp. Finish remover compositions. 3,075,923, 1-29-63, Cl. 252-144.
- Berstein, Gregor: *See*—  
Belknap, Louis S., Bernstein, and Antonsen. 3,078,148.
- Bersworth, Frederick C. Method and composition for control of fish odors and odors of proteinaceous origin. 3,113,104, 12-3-63, Cl. 252-1.
- Bersworth, Frederick C., and A. E. Frost, to The Dow Chemical Co. Ammonium phosphate fertilizer and preparation thereof. 3,076,701, 2-5-63, Cl. 71-43.
- Berta, Remo J., and W. Haumann, to Union Carbide Corp. Cryogenic storage apparatus. 3,097,900, 7-16-63, Cl. 312-214.
- Bertao, Antonio M., 50% to H. W. Jarvis. Floating claw for milking machines. 3,094,099, 6-18-63, Cl. 119-14.54.
- Bertele, Hans C. Mercury-vapour electric discharge apparatus. 3,086,135, 4-16-63, Cl. 313-29.
- Bertell, Paul, to Standard Mirror Co., Inc. Support for mounting a rear vision mirror on a windshield. 3,096,061, 7-2-63, Cl. 248-288.
- Bertels, Josef, to Wibau Wesldeutsche Industrie- u. Strassenbau-Maschinen-Gesellschaft m.b.H. Tilttable container for transporting bulk materials. 3,089,725, 5-14-63, Cl. 294-73.
- Bertelsen, Bruce I., to International Business Machines Corp. Method of making plural layer thin film devices. 3,110,620, 11-12-63, Cl. 117-217.
- Bertelsen, William R., 25% to W. E. Martin, and 25% to Martin Engineering Co. Self propelled vehicle track. 3,074,499, 1-22-63, Cl. 180-9.62.
- Bertelsen, William R., 25% to W. E. Martin, and 25% to Martin Engineering Co. Air track. 3,074,764, 1-22-63, Cl. 305-11.
- Bertelsen, William R., 25% to W. E. Martin, and 25% to Martin Engineering Co. Ground effect machine equipped with auxiliary selectively adjustable ground engaging propelling mechanisms. 3,095,938, 7-2-63, Cl. 180-7.
- Bertelsmann, Rolf, to Max Langensiepen Kommandit Gesellschaft. Wall plugs. 3,080,787, 3-12-63, Cl. 85-2.4.
- Berth, Peter: *See*—  
Kaiser, Wilhelm J., and Berth. 3,100,739.
- Berthiaume, Leon A., to Bausch & Lomb Inc. Transmission. 3,098,399, 7-23-63, Cl. 74-366.
- Berthier, Emile A. Multipolar circuit maker and breaker. 3,102,933, 9-3-63, Cl. 200-89.
- Berthod, Louis: *See*—  
Grenon, Michel, Berthod, Cohen de Lara, Delachanal, and Halbronn. 3,074,874.
- Berthold, Cornelius E., and J. R. Kane, to San Antonio Chemicals, Inc. Recovery of cesium values from pollucite ore. 3,112,169, 11-26-63, Cl. 23-32.
- Bertie, Raymond J.: *See*—  
Woodle, Merlyn G., and Bertie. 3,075,464.
- Bertin, Daniel: *See*—  
Nomine, Gerard, Bertin, Tessier, Pierdet, and Bucourt. 3,101,354.
- Bertin, Daniel, to Roussel-UCLAF. 3 $\alpha$ -( $\alpha$ -trimethylammonio-acetoxy) - 20 - bis(nitratomethyl) - 21 - nitrate - 5 $\beta$  - pregnane-11-one hydroxide and acid salts thereof. 3,114,675, 12-17-63, Cl. 167-65.
- Bertin, Daniel, and L. Nedelec, to Roussel-UCLAF. Novel process of preparation of polyhydroxylated pregnanes. 3,079,385, 2-26-63, Cl. 260-239.55.
- Bertin, Daniel, H. Fritel, and L. Nedelec, to Roussel-UCLAF, S.A. Novel  $\Delta^4$ -pregnene-3-ones and preparation thereof. 3,094,524, 6-18-63, Cl. 260-239.55.
- Bertin, Daniel, and H. Fritel, to Roussel-UCLAF, S.A. 3 $\alpha$ -amino-20-bis(hydroxymethyl)-pregnanes and process therefor. 3,108,125, 10-22-63, Cl. 260-397.45.
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- Bertin, Jean H.: *See*—  
Hurel, Maurice L., Bertin, and Le Nabour. 3,080,137.
- Bertin, Jean H., to Societe Bertin & Cie. Heat exchange in a furnace. 3,113,764, 12-10-63, Cl. 263-10.
- Bertin, Jean H., and B. J. M. Salmon, to Societe Bertin & Cie (Societe a Responsabilite) Limited. Torque converter. 3,105,388, 10-1-63, Cl. 74-113.
- Bertl, Rudolf J.: *See*—  
Rasmussen, Arne P., Bertl, and Geyser. 3,085,354.
- Bertolacini, Ralph J., and G. W. Powers, Jr., to Standard Oil Co. Arsenic removal from hydrocarbons and conversion thereof. 3,093,574, 6-11-63, Cl. 208-91.



- Bertolacini, Ralph J., and H. M. Brennan, to Standard Oil Co. Method of controlling properties of porous metal oxides. 3,094,384, 6-18-63, Cl. 23—141.
- Bertoni, Vittorio. Film selection and drive means in a multi-film projector. 3,091,992, 6-4-63, Cl. 88—17.
- Bertorelli, Orlando L.: *See—*
- Osgood, Alain A., McGregor, and Bertorelli. 3,106,459.
- Bertorelli, Orlando L., to J. M. Huber Corp. Preparation of crystalline silicic acid pigments. 3,110,606, 11-12-63, Cl. 106—306.
- Bertram, Hans J.: *See—*
- Bork, Karl-Heinz, Bruckner, Mannhardt, Von Werder, Jahn, Bertram, and Hotovy. 3,113,143.
- Bertram, Klaus, to Telefunken G.m.b.H. Stereo sound control system. 3,110,769, 11-12-63, Cl. 179—1.
- Bertrang, Hermann, to Kienzle Apparate G.m.b.H. Setting arrangement for interconnected indicators. 3,105,731, 10-1-63, Cl. 346—20.
- Bertsch, Josef A., to Dana Corp. Dynamic testing machine. 3,106,840, 10-15-63, Cl. 73—71.6.
- Bertsche, Ralph H., Jr., R. A. Carlson, L. R. Hetzler, and L. J. Raver, to General Motors Corp. Electrical power converter. 3,078,409, 2-19-63, Cl. 321—8.
- Bertuzzi Andrew F., to Phillips Petroleum Co. Method of oil production by vertical gas drive. 3,073,386, 1-15-63, Cl. 166—9.
- Berven, Harold T., to Bemis Bro. Bag Co. Bag. 3,088,652, 5-7-63, Cl. 229—56.
- Bervoets, Johannes, to Staatsbedrijf Artillerie-Inrichtingen. Means for removably securing a bayonet to a rifle. 3,076,280, 2-5-63, Cl. 42—86.
- Berwin, Kurt, to Chicago Musical Instrument Co. Electrified accordion. 3,104,581, 9-24-63, Cl. 84—171.
- Beryllium Corp., The: *See—*
- Morana, Simon J., Simons, and Wummer. 3,116,110.
- Morana, Simon J., Simons, and Wummer. 3,116,111.
- Berz, Max and W. Device for cleaning dust-laden gases. 3,090,180, 5-21-63, Cl. 55—282.
- Berz, Wolfgang: *See—*
- Berz, Max and W. 3,090,180.
- Berzins, Talivaldis, to E. I. du Pont de Nemours and Co. Chemical plating solution and process for plating therewith. 3,096,182, 7-2-63, Cl. 106—1.
- Besal, Robert J.: *See—*
- Hawn, Walter M., Chann, Besal, and Vesely. 3,098,114.
- Besamer, Paul J., and R. M. De Long, to The Upjohn Co. Method for sealing hard filled capsules. 3,078,629, 2-26-63, Cl. 53—37.
- Besancon, Bernard A. G., and M. Durup, to Compagnie Francaise de Raffinage. Method of synthesis of hydroperoxides. 3,113,085, 12-3-63, Cl. 204—162.
- Besel, Wilhelm: *See—*
- Maurer, Albrecht, and Besel. 3,071,020.
- Besier, Matthews: *See—*
- Kolthoff, Jacob J., and Besier. 3,096,166.
- Besinger, Ollie L. Precast, reinforced concrete column construction. 3,110,982, 11-19-63, Cl. 50—191.
- Beskow, Stig: *See—*
- Palmqvist, Fredrik T. E., and Beskow. 3,108,953.
- Beskow, Stig, to Separator, Aktiebolaget. Teat cup for milking machines. 3,099,246, 7-30-63, Cl. 119—14.49.
- Besly-Welles Corp.: *See—*
- Fallon, Herbert J. 3,079,740.
- Hill, Keith A. 3,097,426.
- Welles, Donald P., Jr. 3,083,895.
- Besmer Teppichfabrik G.m.b.H., Firma: *See—*
- Vitek, Marcel A. 3,099,919.
- Vitek, Marcel A. 3,109,302.
- Besser, Eli D., to United States of America, Navy. Process for making extrudable propellant. 3,093,523, 6-11-63, Cl. 149—98.
- Besser, Eli D., R. T. Mather, and W. G. Finnegan, to United States of America, Navy. Process for making nitrocellulose propellant formulations having improved tensile strength and ballistic properties. 3,103,458, 9-10-63, Cl. 149—98.
- Bessette, Georges H. N. Chain and sprocket drive structure. 3,091,129, 5-28-63, Cl. 74—229.
- Bessette, Norman J. Car top carrier. 3,113,819, 12-10-63, Cl. 312—223.
- Bessiere, Pierre E. Self-regulating piston pumps and in particular fuel injection pumps. 3,071,074, 1-1-63, Cl. 103—41.
- Bessiere, Pierre E., to Precision Mecanique Labinal. Machines with slip-drives, particularly as applied to A-C generators. 3,075,137, 1-22-63, Cl. 322—40.
- Bessiere, Pierre E. Self regulating reciprocating pumps and in particular fuel injection pumps. 3,090,314, 5-21-63, Cl. 103—41.
- Bessiere, Pierre E. Self regulating reciprocating pumps in particular for the injection of fuel into engines. 3,091,180, 5-28-63, Cl. 103—41.
- Bessiere, Pierre E. Fuel injection pumps having distribution pistons. 3,099,217, 7-30-63, Cl. 103—2.
- Bessiere, Pierre E. Self-regulating reciprocating piston pumps, in particular for the injection of fuel into internal combustion engines. 3,099,219, 7-30-63, Cl. 103—41.
- Bessiere, Pierre E. Reciprocating pumps and in particular fuel injection pumps for internal combustion engines. 3,103,174, 9-10-63, Cl. 103—41.
- Bessiere, Pierre E., to Societe Anonyme pour l'Exploitation des Procédes Chimiques et Physiques. Self-regulating reciprocating pumps, in particular for the injection of fuel into internal combustion engines. 3,114,321, 12-17-63, Cl. 103—41.
- Bessonny, Al I., to Machine-O-Matic, Inc. Control system with adjustable selector switch means for web severing machine. 3,105,405, 10-1-63, Cl. 83—75.
- Best, Albert M.: *See—*
- Crane, Jack W., Best, Dwyer, and Searles. 3,090,295.
- Kline, Charles M., Hofmeister, Hobbs, and Best. 3,090,133.
- Best, Albert M., to Sperry Rand Corp. Forage distributing and conveying apparatus. 3,111,115, 11-19-63, Cl. 119—52.
- Best, Charles L., and D. J. Munson, to The J. R. Clark Co. Folding chair construction. 3,086,813, 4-23-63, Cl. 297—58.
- Best, Clarence A. Portable desk. 3,090,330, 5-21-63, Cl. 108—43.
- Best, Cyril: *See—*
- Molins, Desmond W., Best, and Rowlands. 3,080,871.
- Best, Cyril, to Molins Machine Co. Ltd. Device for counting cigarettes and similar rod-like articles. 3,104,754, 9-24-63, Cl. 198—40.
- Best, Cyril, to Molins Machine Co. Ltd. Cigarette-making machines. 3,105,498, 10-1-63, Cl. 131—66.
- Best, Edison F.: *See—*
- Swift, Howard R., and Best. 3,080,224.
- Best, Stanley G., to United Aircraft Corp. Flow control system for pressurized aircraft compartment. 3,078,778, 2-26-63, Cl. 98—15.
- Best, Thomas. Repair device. 3,083,597, 4-2-63, Cl. 81—15.7.
- Best, William N. Rolling game. 3,073,599, 1-15-63, Cl. 273—108.
- Bestian, Herbert: *See—*
- Clauss, Karl, and Bestian. 3,104,249.
- Bete Fog Nozzle, Inc.: *See—*
- Bete, John U. 3,104,063.
- Bete, John U., to Bete Fog Nozzle, Inc. Spray nozzle with a plurality of continuous grooves. 3,104,063, 9-17-63, Cl. 239—548.
- Beteiligungs- und Patentverwaltungsgesellschaft mit beschränkter Haftung: *See—*
- Bartmann, Rüdiger J. W. G. 3,116,054.
- Gerlach, Rudolph H. 3,103,315.
- Hammel, Siegfried, and Herzig. 3,113,994.
- Hoff, Hans S. 3,111,400.
- Bethardy, Arthur: *See—*
- Vargo, Louis A., Jr., and Bethardy. 3,079,878.
- Bethe, Günther, to Azoplate Corp. Electrophotographic plates comprising solid solutions of oxazolones. 3,072,479, 1-8-63, Cl. 96—1.
- Bethea, Barron. Cable clamp. 3,108,344, 10-29-63, Cl. 24—125.
- Bethea Co., Inc.: *See—*
- Smith, Karl E. 3,115,688.
- Bethea, Malcolm, Jr. Apparatus for taking the load off an insulator assembly. 3,111,553, 11-19-63, Cl. 174—40.
- Bethell, James R., D. J. Hadley, and B. Wood, to The Distillers Co. Ltd. Production of unsaturated aliphatic aldehydes. 3,094,565, 6-18-63, Cl. 260—604.
- Bethell, James R., and D. J. Hadley, to The Distillers Co. Ltd. Production of unsaturated aliphatic aldehydes. 3,098,102, 7-16-63, Cl. 260—604.
- Bethell, Marion I. H., and B. E. Wilde, deceased (by M. I. H. Bethell, administratrix), to Monsanto Chemicals Ltd. Lower secondary alkyl alkoxyanilines as rubber antiozonants. 3,114,730, 12-17-63, Cl. 260—45.9.
- Bethke, Donald G.: *See—*
- Tennis, Francis H., and Bethke. 3,112,763.
- Bethke, Raymond W. Electric current interchange contact. 3,087,038, 4-23-63, Cl. 200—166.
- Bethlehem Steel Co.: *See—*
- Bain, Charles R., and Kurtz. 3,094,946.
- Bigge, Henry C. 3,091,826.
- Brion, Dalton F., Norback, and Winkler. 3,088,821.
- Eaton, John F. 3,094,879.
- Epstein, Samuel, Frame, and Melloy. 3,076,361.
- Field, Joseph. 3,105,758.
- Francisco, Herbert H., Ressler, Roberts, and Snyder. 3,082,157.
- Garland, Christopher M., Wallace, Pitts, and Lin. 3,111,212.
- Kovatch, Robert J. 3,081,495.
- Maish, George O., and Seasholtz. 3,095,262.
- Osborn, Elbert F. 3,082,105.
- Peeling, Richard C. 3,111,060.
- Schwartz, Louis S. 3,081,548.
- Seymour, David J., and Welshko. 3,111,104.
- Soneki, Joseph H. 3,086,148.
- White, William E. 3,104,600.
- Worthen, Eugene P., and Barbour. 3,096,256.
- Bethoon, Dene, and R. D. Nowlin, Jr., to Pacific Seating Corp. Stadium seat. 3,116,091, 12-31-63, Cl. 297—325.
- Betner, Thomas E., to Plastomatic Corp. Plastic container with tear-off film cover. 3,073,477, 1-15-63, Cl. 220—54.
- Betner, Thomas E., to Plastomatic Corp. Film sealed container with pouring spout. 3,101,870, 8-27-63, Cl. 222—107.
- Betner, Thomas E., to Plastomatic Corp. Sealed plastic containers. 3,108,708, 10-29-63, Cl. 220—54.



- Betschmann, Otto. Method for the production of a coated paper product. 3,086,884, 4-23-63, Cl. 117-76.
- Better, Bernard R., to Scully-Jones and Co. Torque tester. 3,115,029, 12-24-63, Cl. 73-1.
- Better Sleep Mfg. Co.: See—  
Emery, William M. 3,115,647.
- Bettinger, Oskar, to International Standard Electric Corp. Automatic gain control circuit for IF-amplifiers of a large bandwidth. 3,111,631, 11-19-63, Cl. 330-133.
- Bettner, Carl F. Wire coating die. 3,110,625, 11-12-63, Cl. 118-125.
- Bettoli, Phillip S., and J. J. Klimas, to The Ruberoid Co. Flame-retardant asphaltic roofing materials. 3,096,196, 7-2-63, Cl. 117-32.
- Bettoni, Eugene C., to Holley Carburetor Co. Ignition device. 3,096,405, 7-2-63, Cl. 200-31.
- Bettoni, Eugene C., and F. S. Kerr, to Holley Carburetor Co. Ignition contacts. 3,076,064, 1-29-63, Cl. 200-19.
- Bettoni, Ezio, and G. Monti. Apparatus for card-drawing and doubling textile fibers. 3,071,820, 1-8-63, Cl. 19-98.
- Betts, Elmer H. Device for measuring and quantity registering of dry materials. 3,091,963, 6-4-63, Cl. 73-218.
- Betts, Robert E., to United States of America, Army. Igniter squib. 3,100,447, 8-13-63, Cl. 102-28.
- Betts, Robert E., to United States of America, Army. Hafnium-potassium perchlorate pyrotechnic composition. 3,109,762, 11-5-63, Cl. 149-42.
- Betts, William M. Fiberglass wet muffler for marine engines. 3,077,240, 2-12-63, Cl. 181-52.
- Betts, William M., and R. C. Regua. Underwater viewers. 3,081,726, 8-19-63, Cl. 114-66.
- Betz, Clarence G., to H. K. Porter Co. Tape rule. 3,087,251, 4-30-63, Cl. 33-138.
- Betz, Hans, to Fritz Heinzmann. Variable speed governor. 3,074,281, 1-22-63, Cl. 73-531.
- Betz Laboratories, Inc.: See—  
Kahler, Harry L., and Brown. 3,088,796.
- Betzen, John L. Quadruple acting internal combustion engines. 3,075,507, 1-29-63, Cl. 123-56.
- Beu, Richard A., to Hanau Engineering Co., Inc. Water heater. 3,089,941, 5-14-63, Cl. 219-38.
- Beuby, William C. Sailboat of the catamaran type. 3,077,850, 2-19-63, Cl. 114-39.
- Beuck, Coin J. Pen and pencil holder. 3,104,435, 9-24-63, Cl. 24-10.
- Beuhler, William B. Automatic parking control device. 3,083,483, 4-2-63, Cl. 39-6.
- Beuk, Jack F.: See—  
Denton, Arnold E., Beuk, Hogan, and McBrady. 3,098,014.
- Beuscher, Clinton J., to International Telephone and Telegraph Corp. Method of removing hardened photoresist material from printed circuit conductors. 3,081,203, 3-12-63, Cl. 134-28.
- Beuscher, Howard W., J. I. Geary, and D. J. Morris, to Allied Chemical Corp. Bitumen impregnated fiberboard. 3,087,851, 4-30-63, Cl. 162-171.
- Beushausen, Willi, to Micafl A.-G. Auxiliary attachment for layer winding machines for winding coils on relay cores and the like. 3,090,569, 5-21-63, Cl. 242-9.
- Beusman, Curtis C., to United Nuclear Corp. Transpiration cooled soot blower. 3,084,373, 4-9-63, Cl. 15-317.
- Beusman, Curtis C., L. Malin, and W. S. Mott, to United Nuclear Corp. Transpiration cooled boiler baffle. 3,110,273, 11-12-63, Cl. 110-98.
- Beuther, Harold, R. A. Flinn, A. M. Henke, and J. B. McKinley, to Gulf Research & Development Co. Hydrogenation process for preparation of lubricating oils. 3,078,221, 2-19-63, Cl. 208-111.
- Beuther, Harold, R. A. Flinn, A. M. Henke, and J. B. McKinley, to Gulf Research & Development Co. Hydrogenation catalyst and method of preparation. 3,078,238, 2-19-63, Cl. 252-439.
- Beutler, Leonard. Wedge type clamping rim for containers. 3,103,293, 9-10-63, Cl. 220-46.
- Bevan, Bernard J., and C. P. Anderson, to SCM Corp. Record medium winder. 3,113,742, 12-10-63, Cl. 242-67.1.
- Bevard, Roger L., to Lake Shore, Inc. Material handling apparatus. 3,077,992, 2-19-63, Cl. 212-15.
- Bevard, Roger L., to Lake Shore, Inc. Crane. 3,083,838, 4-2-63, Cl. 212-74.
- Beveridge, Harold N., and H. L. Carter, Jr., to Raytheon Co. Pulsed electron discharge systems. 3,096,517, 7-2-63, Cl. 343-17.1.
- Bevington, James R.: See—  
Herbold, Robert J. 3,103,906.
- Bewley, Lawrence L., and J. F. Foster, to Burroughs Corp. Data conversion system. 3,072,328, 1-8-63, Cl. 235-61.1.
- Bex, Wilhelmus, and G. Starre, to North American Philips Co., Inc. Method of manufacturing grids for use in electric discharge tubes. 3,102,560, 9-3-63, Cl. 140-71.5.
- Bey, Ahmet K., to Monarch Tool & Machinery Co. Magnetic key chain. 3,108,346, 10-29-63, Cl. 24-201.
- Bey, Ahmet K., to Monarch Tool & Machinery Co. Holder for keys and the like. 3,112,638, 12-3-63, Cl. 70-459.
- Beyer, Christa: See—  
Beyer, Eugen. 3,089,746.
- Beyer, Diana: See—  
Beyer, Eugen. 3,089,746.
- Beyer, Elmer J.: See—  
Balcomb, Philip E., and Beyer. 3,074,140.
- Beyer, Eugen, deceased, by M. (nee Feist), F. R., D. and C. Beyer; said M. Beyer assor. to said F. R., D. and C. Beyer. Feed control apparatus for record sheets. 3,089,746, 5-14-63, Cl. 346-138.
- Beyer, Fred R.: See—  
Beyer, Eugen. 3,089,746.
- Beyer, Jeno, to W. C. T. Hart & Zn. Instrument-en Apparatenfabrik N.V. Plying and twisting frame adapted to deliver cross-wound yarn packages. 3,111,804, 11-26-63, Cl. 57-76.
- Beyer, Martha: See—  
Beyer, Eugen. 3,089,746.
- Beyer-Olsen, Knut, and O. Steffenssen. Method for making by rotary casting a buoyant body of plastic furnished with a passage therethrough. 3,081,493, 3-19-63, Cl. 18-36.
- Beyer, Raymond H., to United States of America, Navy. Explosive quick-disconnect. 3,084,597, 4-9-63, Cl. 89-1.
- Beyer, Raymond H., J. E. Burke, and D. J. Hasley, to United States of America, Navy. Explosive cable-cutting fitting. 3,089,417, 5-14-63, Cl. 102-24.
- Beyer, Walter, and W. F. Kelley, to Cordova, Inc. Method of condensed motion picture films for projection. 3,115,806, 12-31-63, Cl. 88-24.
- Beyerle, Konrad. Damping bearing for the shafts of a gas centrifuge. 3,097,167, 7-9-63, Cl. 233-23.
- Beyers, Eugene J., and R. J. Wente, to General Motors Corp. Water injection system for a multistage compressor. 3,100,964, 8-20-63, Cl. 60-39.3.
- Beyers, Marvin E.: See—  
Bernson, Elmer R., Beyers, and Babbitt. 3,072,220.
- Beyersdorfer, Michael: See—  
Carrico, Ralph T., Ford, Halbrooks, Beyersdorfer, and Percfield. 3,111,860.
- Beyerstedt, John M., H. E. Erickson, and H. H. Talboys, to Nordberg Mfg. Co. Process of applying wear resistant metal coatings. 3,101,274, 8-20-63, Cl. 117-46.
- Beyerstedt, Ralph L., to The Frank G. Hough Co. Four wheel tractor steering arrangement. 3,075,784, 1-29-63, Cl. 280-91.
- Beyerstedt, Ralph L., J. C. Laegeler, Jr., and D. S. Strader, to The Frank G. Hough Co. Tractor loaders. 3,105,603, 10-1-63, Cl. 214-140.
- Beyler, Roger E.: See—  
Oberster, Arthur E., Beyler, and Sarett. 3,092,628.  
Oberster, Arthur E., Beyler, and Sarett. 3,100,204.  
Sarett, Lewis H., Beyler, and Hoffman. 3,079,407.
- Beyler, Roger E., to Merck & Co., Inc. Alkyl ethers of 17 $\alpha$ -hydroxy-19 nor progesterone. 3,105,840, 10-1-63, Cl. 260-397.4.
- Beynon, John H., and C. B. Milne, to Shell Oil Co. Halogen-containing hydrocarbon polymers. 3,081,294, 3-12-63, Cl. 260-139.
- Beynard, Norbert R.: See—  
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- Bezdel, Wincenty: See—  
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- Wright, Esmond P. G., Ridler, and Bezdel. 3,081,448.
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- Bezemes, Nicholas. Internal combustion engine exhaust muffler. 3,105,570, 10-1-63, Cl. 181-56.
- Beznan, Irving I., to Armstrong Cork Co. Preparation of cyclic phosphonitriles. 3,098,871, 7-23-63, Cl. 260-551.
- Beznan, Irving I., and J. H. Smalley, to Armstrong Cork Co. Quasiphosphonium compounds. 3,080,422, 3-5-63, Cl. 260-551.
- Bhend, Raymond E. Boat support and hold-down apparatus. 3,072,376, 1-8-63, Cl. 248-361.
- Bhimani, Bhupendrakumar V.: See—  
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- Bialczak, Edward C., to General Aniline & Film Corp. Diazotype materials for the production of black images. 3,113,025, 12-3-63, Cl. 96-91.
- Bialczak, Edward C., and W. J. Welch, to General Aniline & Film Corp. Dye brightening agent in diazotype process. 3,078,162, 2-19-63, Cl. 96-49.
- Bialkowski, Ludwik S., to The B. F. Goodrich Co. Accumulator for fluid power systems. 3,100,509, 8-13-63, Cl. 138-31.
- Bialo, Walter. Luggage construction. 3,098,548, 7-23-63, Cl. 190-49.
- Blanca, Edoardo G., to Silopark S.A. Hoisting arrangement. 3,083,792, 4-2-63, Cl. 187-1.
- Blanca, Edoardo G., to Silopark S.A. Elevator system in which drive mechanism is mounted upon the counterweight. 3,101,130, 8-20-63, Cl. 187-20.
- Bianchi, Eduardo A., to General Dynamics Corp. Discriminator responsive to uniformly spaced pulses utilizing normally damped resonant tank feeding threshold output circuit. 3,076,103, 1-29-63, Cl. 307-88.5.
- Bianchi, Eduardo A., and H. L. Hill, to General Dynamics Corp. Ramp self-testing system. 3,087,144, 4-23-63, Cl. 340-213.
- Bianchi, Joseph P., 40% to L. Berner, and 20% to W. J. Ruano. Lined paper box and method of making same. 3,114,300, 12-17-63, Cl. 93-36.6.
- Bianchini, Andrew F. Industrial hammer with replaceable heads. 3,088,506, 5-7-63, Cl. 145-36.
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- Bibanoff, George. Playing pieces for ball games. 3,106,399, 10-8-63, Cl. 273-95.
- Bibb, John T., to Lok-Products Co. T-runner. 3,101,661, 8-27-63, Cl. 98-31.
- Bibbero, Robert J., to Bulova Research and Development Laboratories, Inc. Multiple-sensor coordinated apparatus. 3,076,961, 2-5-63, Cl. 343-6.
- Biben, Edward, to Dunatic Industries, Inc. Label cut-off actuating device. 3,079,825, 3-5-63, Cl. 83-209.
- Biber, Albert, to Gulf Research & Development Co. Constant viscosity fuel injection nozzle. 3,100,084, 8-6-63, Cl. 239-463.
- Bible, Robert E.: See—  
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- Bible, Robert E., R. L. McIntyre, and D. A. Peterson, to Librascope, Inc. Computer. 3,074,638, 1-22-63, Cl. 235-167.
- Bible, Roy H., Jr., to G. D. Searle & Co. 17-(carboxymethoxy-2-hydroxyethoxy) - 3-methoxy - 17-methylestrane-1,3,5 (10)-triene. 3,081,315, 3-12-63, Cl. 260-397.1.
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- Biby, Edward E. Dual sofa bed. 3,092,846, 6-11-63, Cl. 5-18.
- Bice, Charles C.: See—  
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- Bichard, John A.: See—  
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- Bichard, John A., to Esso Research and Engineering Co. Method of preparation of surfacing material from tar sands. 3,110,605, 11-12-63, Cl. 106-281.
- Bichell, William J., and J. R. Ransom. Visual indicator. 3,076,187, 1-29-63, Cl. 340-378.
- Bichl, Josef. Machine for injection molding of self-hardening resins. 3,083,408, 4-2-63, Cl. 18-30.
- Bick, David E., to Dowty Hydraulic Units Ltd. Speed control apparatus for wheeled vehicles. 3,107,633, 10-22-63, Cl. 104-162.
- Bickel, Albert F.: See—  
Ter Borg, Arne P., van Helden, and Bickel. 3,110,735.
- Bickel, Hans: See—  
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- Bickel, Herman H., and W. Leigemann, to The Wickes Corp. Atomizing fuel burner construction. 3,092,332, 6-4-63, Cl. 239-405.
- Bickerdike, Robert L., and G. Hughes, to Minister of Aviation, in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Method of making carbon articles. 3,084,394, 4-9-63, Cl. 18-54.7.
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- Bickett, Milford J. Truck tire bead breaking device. 3,082,812, 3-26-63, Cl. 157-1.2.
- Bickford, Frank H.: See—  
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- Bickford, Warren H., to The Gilman Bros. Co. Method for producing a flexible, resilient low density web of cellular plastic. 3,082,483, 3-26-63, Cl. 18-48.
- Bicking, John B., to Merck & Co., Inc. Substituted pyrazole sulfonamides. 3,097,210, 7-9-63, Cl. 260-294.8.
- Bicking, John B., to Merck & Co., Inc. Substituted pyrazole sulfonamides. 3,113,949, 12-10-63, Cl. 260-310.
- Bicking, John B., and J. M. Sprague. Heterocyclic compounds. 3,113,075, 12-3-63, Cl. 167-65.
- Bickmore, John T., J. J. Codichini, and C. L. Huber, to Xerox Corp. Xerographic apparatus. 3,105,426, 10-1-63, Cl. 95-1.7.
- Bickmore, John T., H. Bogdonoff, and W. J. Burris, to Xerox Corp. Xerographic developing apparatus. 3,105,777, 10-1-63, Cl. 118-637.
- Bicknell, Charles E., to Pye Ltd. Machine for handling semiconductor material. 3,080,053, 3-5-63, Cl. 209-88.
- Bickoff, Emanuel M., A. L. Livingston, and A. N. Booth, to United States of America, Agriculture. Coumarone derivatives and use thereof. 3,077,404, 2-12-63, Cl. 99-2.
- Biczel, Henry J.: See—  
Brill, Richard H., and Biczel. 3,091,974.
- Biddick, Lloyd W., Jr. Kite trolley. 3,105,663, 10-1-63, Cl. 244-155.
- Biddison, John M., to H. W. Moore. Insulating machine. 3,076,258, 2-5-63, Cl. 29-205.
- Bidelman, Bruce B.: See—  
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Millard, George R., Bidelman, and Nobbs. 3,079,629.
- Bidwell, Howard, 1/2 to R. Bidwell. Apparatus for processing paper stock. 3,116,028, 12-31-63, Cl. 241-97.
- Bidwell, Joseph B., to General Motors Corp. Gas turbine accelerator. 3,097,485, 7-16-63, Cl. 60-39.14.
- Bidwell, Lawrence R., F. H. Beck, and M. G. Fontana, to The Ohio State University Research Foundation. High strength, corrosion-resistant alloy. 3,082,082, 3-19-63, Cl. 75-125.
- Bidwell, Rachel: See—  
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- Bieber, Clarence G., to The International Nickel Co., Inc. Nickel alloy. 3,093,518, 6-11-63, Cl. 148-31.
- Bieber, Frederick J., and C. I. Steinback, to Acrometal Products, Inc. Winding spool. Re. 25,390, 5-28-63, Cl. 242-118.61.
- Bieber, Herbert A.: See—  
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- Bieber, Herman, H. M. Hartzband, and W. M. Basch, to Esso Research and Engineering Co. Process for removing metallic contaminants from oils. 3,095,368, 6-25-63, Cl. 208-252.
- Bieber, Hermann: See—  
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- Bieber, Lawrence A. and H. A. Outdoor lighting fixtures. 3,104,065, 9-17-63, Cl. 240-25.
- Bieber, Philip. Simulated hedge for turf race track. 3,099,247, 7-30-63, Cl. 119-15.5.
- Biechler, Charles S., C. S. Pearsall, A. Staprans, and R. S. Symons, to Varian Associates. Radio frequency output circuits and output windows. 3,113,238, 12-3-63, Cl. 315-39.
- Biedendieck, Carl: See—  
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- Biedenstein, Vincent G., to R.C. Can Co. Tear type container closure. 3,083,858, 4-2-63, Cl. 220-27.
- Biederman, Paul R. Well casing protector. 3,112,961, 12-3-63, Cl. 308-4.
- Biedermann, Friedrich: See—  
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- Biedermann, Friedrich, and R. Wick, to Agfa Aktiengesellschaft. Photographic printing system and method. 3,076,378, 2-5-63, Cl. 88-24.
- Biedermann, Friedrich, and R. Wick, to Agfa Aktiengesellschaft. Photographic copying device. 3,102,463, 9-3-63, Cl. 95-73.
- Biedermann, Herbert: See—  
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- Biedess, Anthony R., to Goodman Mfg. Co. Loading machine. 3,096,893, 7-9-63, Cl. 214-90.
- Biedess, Anthony R., to Goodman Mfg. Co. Articulated conveyor. 3,100,563, 8-13-63, Cl. 198-124.
- Biefeld, Lawrence P., T. E. Philipps, and T. J. Collier, to Owens-Corning Fiberglass Corp. Glass fibers coated with an organo-silicon polyol. 3,081,195, 3-12-63, Cl. 117-126.
- Biegel, Donald R., and J. W. Willis, to Datanamics, Inc. Fluid flow control and metering device. 3,102,552, 9-3-63, Cl. 137-494.
- Biehl, Harold R.: See—  
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- Biehl, Richard E.: See—  
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- Biehl, Richard E., H. N. Price, and M. Sternberg, to Curtiss Wright Corp. Pre-filled propellant tank for rockets. 3,097,766, 7-16-63, Cl. 222-135.
- Biek, Paul A., to Goodman Mfg. Co. Power steering apparatus. 3,092,201, 6-4-63, Cl. 180-79.2.
- Biekart, Hendrik J. B., T. Bakker, and P. J. C. Kaasenbrood, to Stamicarbon N.V. Process of recovering unreacted ammonia from a urea synthesis melt by a two stage rectification operation. 3,114,681, 12-17-63, Cl. 202-67.
- Biel, Hans, and H. Hornung, to H. Sickinger. Apparatus for producing booklets. 3,085,265, 4-16-63, Cl. 11-1.
- Biel, Hans, and H. Hornung, to H. Sickinger. Conveying mechanism and feed member therefor. 3,090,481, 5-21-63, Cl. 198-221.
- Biel, John H.: See—  
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- Biel, John H., to Lakeside Laboratories, Inc. Tertiaryamino butynyl alcohols. 3,086,021, 4-16-63, Cl. 260-268.
- Biel, John H., to Lakeside Laboratories, Inc. Antidepressant: 3-pyrrolidyl glycolates. 3,091,570, 5-28-63, Cl. 167-65.
- Biel, John H., to Lakeside Laboratories, Inc. Composition consisting of 2-pyrrolidyl-methyl-N-lower alkyl and 3-piperidyl-N-lower alkyl phenyl glycolates as antispasmodics and central stimulant, and process of preparation. 3,094,463, 6-18-63, Cl. 167-65.
- Biel, John H., to Lakeside Laboratories, Inc. Cycloalkyl-alkyl hydrazines. 3,095,448, 6-25-63, Cl. 260-563.
- Biel, John H., to Lakeside Laboratories, Inc. Unsymmetrical N,N'-(N,N-disubstituted aminoalkyl)-hydrazines. 3,098,073, 7-16-63, Cl. 260-247.5.
- Bielawski, Mitchell S., and J. M. Mavity, to Universal Oil Products Co. Polymerization of olefins using a solid phosphoric acid catalyst. 3,112,350, 11-26-63, Cl. 260-683.15.
- Bielenberg, Waldemar: See—  
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- Bielenberg, Waldemar, F. Rodis, H. W. Ziegler, G. Dronsek, and A. Hirz, to Knapsack-Griesheim Aktiengesellschaft. Process and apparatus for the drying and burning of pellets. 3,100,106, 8-6-63, Cl. 263-8.
- Bielinski, George D.: See—  
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- Bielstein, Walter J., to Jersey Production Research Co. Wire line cementing tool. 3,100,535, 8-13-63, Cl. 166-162.
- Bielz, Heinrich, to Ernst Kratz. Surgical needle for medical purposes. 3,074,409, 1-22-63, Cl. 128-339.
- Bien, Hans-Samuel, and F. Baumann, to Farbenfabriken Bayer Aktiengesellschaft. Anthraquinone dyestuffs. 3,078,282, 2-19-63, Cl. 260-374.
- Bienert, Wenzel, to Farbenfabriken Bayer Aktiengesellschaft. Packing container. 3,098,559, 7-23-63, Cl. 206-42.
- Bieniecki, Henry S.: *See*—  
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- Bienvenue, Roland L.: *See*—  
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- Bier, Milan. Electrical filtering process and device. 3,079,318, 2-26-63, Cl. 204-180.
- Bierlich, Johannes H. Valve assembly. 3,111,162, 11-19-63, Cl. 160-19.
- Biermann, David, to Hartzell Propeller, Inc. Feathering propeller. 3,115,937, 12-31-63, Cl. 170-160.16.
- Biermann, Earl E., and M. Appleman, to United States of America, Navy. Launcher. 3,106,132, 10-8-63, Cl. 89-1.7.
- Biermann, William A., R. R. Bauer, and L. V. McCarty, to Controls Co. of America. Control device. 3,080,143, 3-5-63, Cl. 251-11.
- Biernatzki, Anton T., and F. König, to Auto Union G.m.b.H. Steering wheel mounting. 3,112,381, 11-26-63, Cl. 200-61.5.
- Biernson, George A.: *See*—  
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- Bierwagen, Otto T.: *See*—  
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- Bierwirth, Friedhelm, to Daimler-Benz Aktiengesellschaft. Adjusting mechanism for gas turbine fuel control. 3,111,809, 11-26-63, Cl. 60-39.28.
- Bierwirth, Herbert R.: *See*—  
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- Biesecker, Donald L., to Illinois Tool Works Inc. Ball bearing. 3,105,725, 10-1-63, Cl. 308-195.
- Biesecker, Donald L., to Illinois Tool Works Inc. Deformable lead screw grommet. 3,110,337, 11-12-63, Cl. 151-41.75.
- Bieselaar, Dirk: *See*—  
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- Bigaquette, Jean R. Closure for bags and the like. 3,114,184, 12-17-63, Cl. 24-30.5.
- Big Boy Mfg. Co., a division of Seidelhuber Steel Rolling Mill Corp.: *See*—  
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- Big Drum, Inc.: *See*—  
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- Bigelow, Charles G., Jr., to Selas Corp. of America. Burner. 3,078,914, 2-26-63, Cl. 158-99.
- Bigelow, Floyd E., Jr. Portable building and apparatus for the transportation and erection of the same. 3,095,616, 7-2-63, Cl. 20-2.
- Bigelow, Herbert L., to Baker Oil Tools, Inc. Tubing anchor and catcher apparatus. 3,077,933, 2-19-63, Cl. 166-217.
- Bigelow, Herbert L., to Baker Oil Tools, Inc. Parallel string packer. 3,106,961, 10-15-63, Cl. 166-134.
- Bigelow, John E., to General Electric Co. X-ray analyzing apparatus wherein two comparative detector channels have different absorption versus frequency characteristics. 3,100,261, 8-6-63, Cl. 250-51.5.
- Bigelow-Sanford, Inc.: *See*—  
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- Big Four Industries, Inc.: *See*—  
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- Biggart, Dora G.: *See*—  
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- Bigge, Henry C., to Bethlehem Steel Co. Hot top seal. 3,091,826, 6-4-63, Cl. 22-147.
- Bigge, Henry W. Steerable trailer. 3,102,735, 9-3-63, Cl. 280-81.
- Biggi, Victor: *See*—  
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- Biggs, Albert J., and E. Ribchester, to Hazeltine Research, Inc. Television receiver having fine tuning apparatus. 3,073,895, 1-15-63, Cl. 178-5.8.
- Biggs, Billy B.: *See*—  
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- Biggs, Ernest R., Jr., and H. E. Lewis, to Surgical Appliance Industries, Inc. Ankle brace. 3,073,305, 1-15-63, Cl. 128-166.
- Biggs, John: *See*—  
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- Biggs, Orrick H., T. Wroblewski, and D. R. Dayton, to Sylvania Electric Products Inc. Method and mechanism for the manufacture of laminated core inductors. 3,096,805, 7-9-63, Cl. 153-2.
- Biggs, Stanley C. Handgrip for a golfer's putter. 3,109,653, 11-5-63, Cl. 273-165.
- Bigler, James C., Jr. Collapsible or foldable seat for child. 3,097,016, 7-9-63, Cl. 297-457.
- Bigler, Robert R., and E. M. Washburn, to Radio Corp. of America. Crystal unit. 3,073,975, 1-15-63, Cl. 310-9.2.
- Bigliano, Robert P., to E. I. du Pont de Nemours and Co. Physiologic fluid pressure sensing head. 3,099,262, 7-30-63, Cl. 128-2.05.
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- Bignon, Lucien C. A. M. Windshield wiper blades. 3,089,174, 5-14-63, Cl. 15-250.36.
- Bigot, Bernard, to Compagnie de Saint-Gobain. Preparation of sodium tripolyphosphate. 3,094,382, 6-18-63, Cl. 23-107.
- Bigot, Bernard, to Compagnie de Saint-Gobain. Preparation of sodium tripolyphosphate. 3,110,559, 11-12-63, Cl. 23-107.
- Bigot, Johan A., and P. L. Kerkhoffs, to Stamicarbon N.V. Process for the preparation of  $\omega$ -lactams. 3,114,748, 12-17-63, Cl. 260-239.3.
- Bigsby, Frank L. Appetite control composition. 3,074,847, 1-22-63, Cl. 167-55.
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- Bihaly, Lajos, to Trubenised Co. (Registered Trust). Apparatus for guiding a workpiece under the needle of a sewing machine. 3,079,880, 3-5-63, Cl. 112-204.
- Biheller, Hans J., to Worthington Corp. Emergency shaft sealing device. 3,096,985, 7-9-63, Cl. 277-27.
- Bihr, Otto E., to Ruhr Intrans Hubstapler, G.m.b.H. Clamp attachment. 3,075,663, 1-29-63, Cl. 214-65.5.
- Bijl, Peter, to American Enka Corp. Warper. 3,072,998, 1-15-63, Cl. 28-32.
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- Bijloo, Johan D., and E. H. Reerink, to North American Philips Co., Inc. Phenazine for combating lungworm. 3,080,284, 3-5-63, Cl. 167-53.
- Bijvoet, Leonardus A. N., to Inland Steel Container Co. Shipping container. 3,086,679, 4-23-63, Cl. 220-63.
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- Bilane, Roland B. Roll forming machine. 3,089,660, 5-14-63, Cl. 242-56.
- Bilbrey, Donald L., to The Emerson Electric Mfg. Co. Detachable plug connector for submersible apparatus. 3,092,431, 6-4-63, Cl. 339-94.
- Bilde, Tord E. D., to Aktiebolaget Talongmaskiner. Calculating machine. 3,073,520, 1-15-63, Cl. 235-60.
- Bilderbeek, Derk, to W. J. Stokvis Koninklijke Fabriek van Metaalwerken. Plastic moulding. 3,092,441, 6-4-63, Cl. 18-55.
- Biles, James R., and R. R. Holmes, to Monsanto Chemical Co. Paper making process. 3,098,786, 7-23-63, Cl. 162-157.
- Bilger, Walter L. Article dispenser with reciprocating ejector. 3,087,592, 4-30-63, Cl. 194-85.
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- Bilker & Moyerman: *See*—  
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- Bill, Theodore R. Derriks. 3,071,255, 1-1-63, Cl. 212-35.
- Bill, Theodore R. Leveling and bracing legs for vehicles. 3,087,627, 4-30-63, Cl. 212-145.
- Billen, Peter, E. Emmerich, W. Haendeler, and W. Linerz, to Schloemann Aktiengesellschaft. Extruded tubes and cable sheaths. 3,085,684, 4-16-63, Cl. 207-10.
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- Billian, Carroll J.: *See*—  
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- Billian, Carroll J., to Owens-Illinois Glass Co. Phosphorescent glasses and method of making same. 3,077,456, 2-12-63, Cl. 252-301.6.
- Billian, Carroll J., to Owens-Illinois Glass Co. Conducting solder glass compositions. 3,080,328, 3-5-63, Cl. 252-513.
- Billig, Franklin A.: *See*—  
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- Billingham, James R. Jet device for water skis. 3,077,616, 2-19-63, Cl. 9—310.
- Billingham, Joseph, Ltd.: See—  
Peri, Albert H. F. 3,088,203.
- Billingshurst, John E. W.: See—  
Copp, Frederick C., McCoubrey, and Billingshurst. 3,090,725.
- Billings, Charles K.: See—  
Bullock, Norman J., Brubaker, and Billings. 3,091,954.
- Billings, Charles K., D. F. Alexander, and M. C. Harrold, to General Motors Corp. Fabric washing machine with means for regulating the temperature of the fabric prior to the spinning thereof. 3,078,700, 2-26-63, Cl. 68—12.
- Billings, Parnell S. Golf glove. 3,100,302, 8-13-63, Cl. 2—160.
- Billington, Evans R., to The Bastian-Blessing Co. Fixed pressure regulator. 3,074,426, 1-22-63, Cl. 137—505.25.
- Billington, Evans R., to The Bastian-Blessing Co. Liquid outage connection. 3,095,899, 7-2-63, Cl. 137—454.5.
- Billman, Louis S., to United Aircraft Corp. Lifting device. 3,082,836, 3-26-63, Cl. 180—7.
- Billmyer, William S. Sectional boat. 3,081,465, 8-19-63, Cl. 9—2.
- Bilotti, Paul, and L. W. Weiss. Multi-beat instrument. 3,095,775, 7-2-63, Cl. 84—484.
- Billow, Arthur H.: See—  
Hieber, George E., and Billow. 3,090,499.
- Bills, Claud H., Jr., to Axaline Golf Co. Long-handled, swingable driving instrument. 3,083,969, 4-2-63, Cl. 273—80.
- Bills, Floyd T., to Allegheny Ludlum Steel Corp. Polishing apparatus. 3,099,853, 8-6-63, Cl. 15—97.
- Bills, Lloyd W., and R. S. Quesinberry, to Mark Chemical Co. Mixing faucet. 3,104,674, 9-24-63, Cl. 137—218.
- Bilotti, Anthony G., and R. M. Hainer, to American Chicle Co. Slab chewing gums containing active ingredients and method of preparing same. 3,075,884, 1-29-63, Cl. 167—82.
- Billow, Norman, to The Dow Chemical Co. Stabilized chloroethylene polymer latexes. 3,075,937, 1-29-63, Cl. 260—29.6.
- Billow, Walter, to American Machine & Foundry Co. Bowling pin spotting machine. 3,083,017, 3-26-63, Cl. 273—43.
- Bilster, Halsey R., to International Harvester Co. Blow squeeze molding machine. 3,075,262, 1-29-63, Cl. 22—36.
- Bily, Peter J., to FMC Corp. Fluid conveying apparatus. 3,096,797, 7-9-63, Cl. 141—387.
- Bilz, Otto. Length compensation device for quick change chucks. 3,091,473, 5-28-63, Cl. 279—76.
- Bimber, Russell M.: See—  
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- Bimber, Russell M., to Diamond Alkali Co. Reaction of a thiophene-1,1-dioxide with conjugated dienes and resulting 1,3-cyclohexadiene derivatives. 3,110,739, 11-12-63, Cl. 260—648.
- Binaski, Theodore H.: See—  
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- Bincer, Hans, to Babcock & Wilcox Ltd. Method of and apparatus for ultrasonically testing butt welds. 3,100,987, 8-20-63, Cl. 73—67.7.
- Binder, Hans, and R. Heinle. New cyclic di-imide organophosphorus compounds and process for their production. 3,083,222, 3-26-63, Cl. 260—461.
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- Binder, Hermann, and E. Friedrich, to Rieker & Co. Welt shoe with vulcanized hole. 3,070,909, 1-1-63, Cl. 36—14.
- Binder, Hermann, and E. Friedrich, to Rieker & Co. Shoe having a midsole with an upwardly extending edge projecting laterally beyond the shoe upper. 3,107,443, 10-22-63, Cl. 36—2.5.
- Binder Magnete K.G.: See—  
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- Binder, Paul B.: See—  
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- Binder, Richard, to Fichtel & Sachs A.G. Automotive clutch control system. 3,084,772, 4-9-63, Cl. 192—3.5.
- Binder, Richard, to Fichtel & Sachs A.G. Automotive plate spring friction clutch. 3,093,228, 6-11-63, Cl. 192—89.
- Binder, Rolf: See—  
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- Binder, Rolf, and P. Stäheli, to Joh. Jacob Rieter & Cie, Actiengesellschaft. Apparatus for depositing open fibrous material in spinning plants. 3,111,348, 11-19-63, Cl. 302—59.
- Binder, Wilhelm, and R. Hauer, to Binder Magnete K.G. Electromagnetically releasable spring brake. 3,085,662, 4-16-63, Cl. 183—171.
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- Binger, Wayne W., and B. M. Ponchel, to Aluminum Co. of America. Removing flux residues. 3,074,824, 1-22-63, Cl. 134—28.
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- Bingham, Basil E. M.: See—  
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- Bingham, George H., Jr., to Cambridge Rubber Co. Last for use in making plastic footwear. 3,099,862, 8-6-63, Cl. 18—41.
- Bingham, George H., Jr., and O. Y. Olsson, to Cambridge Rubber Co. Method of making footwear having water-imperious outer soles. 3,101,496, 8-27-63, Cl. 12—142.
- Bingham, John D., to Henry Simon Ltd. Self-propelled brushes for reciprocating sieves. 3,113,923, 12-10-63, Cl. 209—388.
- Bingham, Raymond: See—  
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- Bingham, Sidney H. Monorail constructions. 3,092,040, 6-4-63, Cl. 105—150.
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- Bingley, Frank J., and J. F. Fisher, to Philco Corp. Composite image reproducing means. 3,113,180, 12-3-63, Cl. 178—6.8.
- Binkley, Caleb V. Valve compressor. 3,091,839, 6-4-63, Cl. 29—217.
- Binkley Co., The: See—  
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- Binkley, Harry M. 3,096,993.
- Binks Mfg. Co.: See—  
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- Binning, Robert C., to Standard Oil Co. Hydrogenation catalyst. 3,102,864, 9-3-63, Cl. 252—438.
- Binns, Jack N. Contour roll-turning lathe. 3,095,770, 7-2-63, Cl. 82—2.
- Binns, Jack N. Tracer finger for automatic tracer and method and means of coordinating same with a cutter. 3,096,688, 7-9-63, Cl. 90—62.
- Binns, John W.: See—  
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- Binon, Fernand A. G., G. J. L. Dechamps, deceased; by E. Dechamps, representative, to Societe Belge de l'Azote et des Produits Chimiques du Marly. Process for preparing hydrolysis products of  $\beta$ -dimethyl amino- $\beta$ -hydroxybutyronitrile chloromethylate. 3,096,368, 7-2-63, Cl. 260—534.
- Biochemie Gesellschaft mit beschränkter Haftung: See—  
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- Margreiter, Hans, Brunner, and Brandl. 3,093,547.
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- Biorseth, Elwin J.: See—  
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- Birch and Birch: See—  
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- Laws, Malcolm H. 3,104,663.
- Birch, Harry. Combination crib, highchair and wagon. 3,111,332, 11-19-63, Cl. 280—31.
- Birch, Marjorie A. Combined tooth brush and gum massager. 3,103,027, 9-10-63, Cl. 15—110.
- Birchfield, John R., and V. A. Gulalan, to Thompson Ramo Wooldridge Inc. Method and apparatus for forming conical and related shapes. 3,072,086, 1-8-63, Cl. 113—52.
- Birch-Jensen, Åke H. G., and G. Bjork, to Svenska Sockerfabriks Aktiebolaget. Apparatus for opening collapsed cartons. 3,111,066, 11-19-63, Cl. 93—53.
- Bird Electronic Corp.: See—  
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- Bird Machine Co.: See—  
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- Bird, Philip L.: See—  
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- Bird, Richard M., and R. Stanley, Jr., to General Precision, Inc. Digital servo loop with automatic tachometer control to provide variable damping. 3,093,776, 6-11-63, Cl. 318—28.
- Bird, Ruth. Electrical wire connectors. 3,083,260, 3-26-63, Cl. 174—87.
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- Bird & Son, Inc.: See—  
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- Birdair Structures, Inc.: See—  
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- Birdsall, Bruce E., to Carrier Corp. Air conditioning units. 3,092,178, 6-4-63, Cl. 165—1.
- Birdsall, Dale H., and R. E. Riley, to United States of America, Atomic Energy Commission. Magnetic shaping process. 3,088,200, 5-7-63, Cl. 29—421.



- Birdsall, George T., and T. A. Bergstrom. Game. 3,091,464, 5-28-63, Cl. 273-108.
- Birdsall, Robert E., to Enterprise Machine Parts Corp. Collet driving head. 3,073,612, 1-15-63, Cl. 279-4.
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- Birfield Engineering Ltd.: See—  
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- Birge, William T., to Kelsey-Hayes Co. Brake construction. 3,115,219, 12-24-63, Cl. 188-78.
- Biritz, Laszlo F., to Houston Chemical Corp. Tetraethyl lead preparation. 3,108,127, 10-22-63, Cl. 260-437.
- Birk, Harold W. Marine muffler. 3,115,210, 12-24-63, Cl. 181-52.
- Birk, Rudolf, H. Kaufer, and R. Schwab, to Agfa Aktiengesellschaft. Feed-controlling roller. 3,083,642, 4-2-63, Cl. 101-367.
- Birkenbeul, Robert M., and P. W. Johnson; said Birkenbeul assor. to said Johnson. Drum exerciser. 3,106,395, 10-8-63, Cl. 272-57.
- Birkenes, Bernhard, to Motorola, Inc. Radio receiver. 3,089,087, 5-7-63, Cl. 325-319.
- Birkenes, Bernhard, to Motorola, Inc. Radio receiver. 3,104,357, 9-17-63, Cl. 325-319.
- Birkhead, Frank G., to Chainveyor Corp. Automatic releasing drive carriage for power and free conveyor systems. 3,079,872, 3-5-63, Cl. 104-172.
- Birkner, Lars G., and S. T. Henriksson, to Bolidens Gruvaktiebolag. Wood preservative. 3,099,598, 7-30-63, Cl. 167-38.5.
- Birkness, Harold A., to Standard Oil Co. Locked-safe valve. 3,090,218, 5-21-63, Cl. 70-179.
- Birks, La Verne S., Jr., to United States of America, Navy. System for recording parallel X-rays. 3,079,501, 2-26-63, Cl. 250-51.5.
- Birmann, Rudolph. Compound power plant. 3,093,959, 6-18-63, Cl. 60-13.
- Birmans, Josef, and H. Steinert, to R. Dewas. Weaving method and loom. 3,092,150, 6-4-63, Cl. 139-122.
- Birmingham Small Arms Co. Ltd. The: See—  
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- Birmingham Sound Reproducers Ltd.: See—  
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- Birnbaum, Hermann, and J. Lederer, to Hachmeister-Inc. Process for producing monoglycerides of fatty acids. 3,102,129, 8-27-63, Cl. 260-410.7.
- Birnbaum, Morris M., and P. M. Salomon, to General Precision, Inc. Correlation circuit. 3,114,831, 12-17-63, Cl. 235-181.
- Biro, Jorge E.,  $\frac{1}{2}$  to F. F. Pita. Insecticidal composition comprising 1-halophenyl-1-nitro-phenyl-2-dihalo-3-monohalobutane. 3,107,200, 10-15-63, Cl. 167-30.
- Birosel, Dionisio M.,  $\frac{1}{4}$  each to T. C. Fisher, L. C. Padilla, and N. G. Fisher. Physico-mechanical process of obtaining high quality coconut oil. 3,106,371, 10-8-63, Cl. 260-412.2.
- Birrell, James G. Float with renewable selectively usable spreader. 3,105,318, 10-1-63, Cl. 43-43.15.
- Birther, Corp. The: See—  
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- Birtwell, William C., to Davol Rubber Co. Arterial catheter. 3,094,124, 6-18-63, Cl. 128-348.
- Birtwell, William C., to Davol Rubber Co. Heart pump apparatus. 3,099,260, 7-30-63, Cl. 128-1.
- Birum, Gail H.: See—  
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- Birum, Gail H., to Monsanto Chemical Co. Organic phosphorus compounds. 3,089,891, 5-14-63, Cl. 260-461.
- Birum, Gail H., to Monsanto Chemical Co. Toxic, O,O-dimethyl- and O,O-diethyl S-pentachlorophenyl phosphoro thioate. 3,094,457, 6-18-63, Cl. 167-30.
- Birum, Gail H., to Monsanto Chemical Co. Organic sulfur-containing compounds. 3,116,335, 12-31-63, Cl. 260-608.
- Birum, Gail H., and G. A. Richardson, to Monsanto Chemical Co. Organic antimony-phosphorus compounds. 3,081,327, 3-12-63, Cl. 260-446.
- Birum, Gail H., and G. A. Richardson, to Monsanto Chemical Co. Silicon-phosphorus compounds. 3,113,139, 12-3-63, Cl. 260-346.1.
- Birum, Herbert L., Jr.: See—  
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- Bisberg, Abraham: See—  
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- Bisch, William H., deceased, C. M. Bisch, executrix. Float for use in swimming pools and at beaches. 3,074,084, 1-22-63, Cl. 9-347.
- Bischof, Julius L., and W. A. Dosenbach. Denture attachment. 3,085,334, 4-16-63, Cl. 32-2.
- Bishay, Adli M., to United States of America, Atomic Energy Commission. Gamma radiation dosage-measuring glasses and method of using. 3,089,957, 5-14-63, Cl. 250-83.
- Bishman Mfg. Co.: See—  
Bishman, Walter A. 3,113,609.  
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- Bishman, Walter A., to Bishman Mfg. Co. Tire changer. 3,113,609, 12-10-63, Cl. 157-1.17.
- Bishoff, Theodore: See—  
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- Bishop, Albert B., 3rd, to Industrial Nucleonics Corp. Automatic process control. 3,075,700, 1-29-63, Cl. 235-151.
- Bishop, Arthur E. Apparatus for making variable lead hour-glass steering gear worms. 3,077,705, 2-19-63, Cl. 51-97.
- Bishop and Babcock Corp. The: See—  
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- Bishop, Charles J. Actuating cap. 3,110,426, 11-12-63, Cl. 222-505.
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- Bishop, Claude R., and M. Stern, to Union Carbide Corp. Means of preventing embrittlement in metals exposed to aqueous electrolytes. 3,109,734, 11-5-63, Cl. 75-174.
- Bishop, Donald, and J. H. Ripper, to National Research Development Corp. Tape-measures. 3,098,622, 7-23-63, Cl. 242-84.8.
- Bishop, Donald R., and L. O. Bruneau, to Polaroid Corp. Photographic apparatus. 3,091,379, 5-28-63, Cl. 225-89.
- Bishop, Earl L., and O. A. Pelkey, to The Akron Standard Mold Co. Air actuated motor unit. 3,081,743, 3-19-63, Cl. 121-38.
- Bishop, Edwin L.: See—  
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- Bishop, Fred W., to Great Lakes Carbon Corp. Composition and method for treating drilling fluids. 3,091,588, 5-28-63, Cl. 252-8.5.
- Bishop, Geoffrey S., to Elliott Bros. (London) Ltd. Automatic landing systems for aircraft. 3,110,458, 11-12-63, Cl. 244-77.
- Bishop, Gwendolin A.: See—  
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- Bishop, Harold F., D. E. Wiley, and M. Bock, II, to Exomet Inc. Exothermic welding apparatus. 3,103,719, 9-17-63, Cl. 22-58.
- Bishop, Harold F., D. E. Wiley, and M. Bock, II, to Exomet Inc. Welding process and material. 3,103,721, 9-17-63, Cl. 22-16.
- Bishop, Harry K.: See—  
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Reilly, Thomas A., Beckman, and Bishop. 3,115,429.
- Bishop, John J., R. M. Thomas, and G. K. Weiss, to Olin Mathieson Chemical Corp. Process for preparing N,N,N',N'-tetramethylmelamine, its dimer and its mercuric chloride complex. 3,110,715, 11-12-63, Cl. 260-242.
- Bishop, John W. H., to Bishop Spools, Inc. Ribbon spool construction. 3,112,020, 11-26-63, Cl. 197-175.
- Bishop, Lee P. Method for preparing soluble coffee wafers. 3,071,470, 1-1-63, Cl. 99-66.
- Bishop, Leon H.: See—  
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- Bishop, Leon H., to The Bendix Corp. Speed sensing device using two-phase alternator. 3,082,354, 3-19-63, Cl. 317-5.
- Bishop, Leonard J., to Mechanical Handling Systems, Inc. Flexible rail type stop and release mechanism for overhead conveyor. 3,088,419, 5-7-63, Cl. 104-172.
- Bishop, Leonard J., P. Klamp, and R. Krammer, to Mechanical Handling Systems, Inc. Entrance switch mechanism for overhead conveyor. 3,099,966, 8-6-63, Cl. 104-96.
- Bishop, Lewis H., and E. M. Pedersen, to Pierce Specialized Equipment Co. Machine for collating glue tipping and carbon interleaving. 3,114,543, 12-17-63, Cl. 270-58.
- Bishop, Morris, to Lipton Products Ltd. Load handling vehicles. 3,107,750, 10-22-63, Cl. 187-9.
- Bishop, Robert W., and C. H. O'Grady, to Kent-Moore Organization, Inc. Pinch-off tool. 3,078,904, 2-26-63, Cl. 153-24.
- Bishop, Ronald F., and F. Clifford, to Whessoe Ltd. Load supporting means. 3,109,551, 11-5-63, Cl. 220-1.
- Bishop, Ronald L., to American Bosch Arma Corp. Gyroscopic apparatus. 3,082,631, 3-26-63, Cl. 74-5.47.
- Bishop Spools, Inc.: See—  
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- Bishop, Thomas D., to The Deritend Engineering Co. Ltd. Apparatus for the treatment of cardboard and the like for the manufacture of cardboard boxes or containers. 3,111,067, 11-19-63, Cl. 93-58.2.
- Bishop, Thomas D., and E. L., deceased (G. A. Bishop and H. S. R. Cheate, executors). Mechanism for feeding cardboard and like blanks to creasing, slotting, folding or other treating machinery. 3,105,681, 10-1-63, Cl. 271-32.
- Bishop, Walter M., to Bell Telephone Laboratories, Inc. Stowage apparatus for cable instrumentality housings. 3,093,333, 6-11-63, Cl. 242-54.
- Bishop, William, to William Bishop Co. Container. 3,072,248, 1-8-63, Cl. 206-56.
- Bishop, William A., to Copolymer Rubber & Chemical Corp. Moisture content monitoring. 3,110,173, 11-12-63, Cl. 73-77.



- Bishop, William, Co.: *See*—  
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 Bitting, Miriam E. Protector. 3,074,399, 1-22-63, Cl. 128—132.  
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 Nye, Maurice A., and Bittman. 3,076,619.  
 Nye, Maurice A., and Bittman. 3,097,812.  
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 Bittman, Jess C., to The Vaughn Machinery Co. Stands for continuous pay-off of wire and the like. 3,082,973, 3-26-63, Cl. 242—129.  
 Bittman, Jess C., to The Vaughn Machinery Co. Wire packaging machine. 3,113,745, 12-10-63, Cl. 242—83.  
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 Bittner, Ernst, to The Scholl Mfg. Co., Inc. Sliding buckle for strap ends. 3,088,184, 5-7-63, Cl. 24—175.  
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 Bitzer, Edmund C.: *See*—  
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 Bivens, Arnold R. Portable undercutting saw. 3,111,969, 11-26-63, Cl. 143—43.  
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 Bixby, Guy T., to L. B. Weber. Combined tie clip and necktie protector. 3,085,247, 4-16-63, Cl. 2—46.  
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 Bixby, Wallace E., to Wedge Wire Corp. Screen. 3,116,239, 12-31-63, Cl. 209—395.  
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 Bjerk, Alf J. Dismountable shelving units. 3,111,916, 11-26-63, Cl. 108—152.  
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 Björkman, Anders E. G., and P. E. Andersson, to Billeruds Aktiebolag. Method for the recovery of sodium carbonate from alkali-containing spent cellulose liquors. 3,083,077, 3-26-63, Cl. 23—48.  
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 Black, James J., to Pullman Inc. Floor construction for refrigerated roadway vehicle. 3,092,220, 6-4-63, Cl. 189—34.  
 Black, James J., to Pullman Inc. Splash guard. 3,095,215, 6-25-63, Cl. 280—154.5.



- Black, James J., to Pullman Inc. Floor construction for refrigerated roadway vehicle. 3,102,334, 9-3-63, Cl. 29—548.
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- Black, Robert H. Control and guide for bowling ball. 3,094,329, 6-18-63, Cl. 273—49.
- Black, Robert H., to The Pannier Corp. Boron oxide derivative high temperature marking ink. 3,111,413, 11-19-63, Cl. 106—20.
- Black, Robert L., to General Motors Corp. Transmission. 3,088,339, 5-7-63, Cl. 74—761.
- Black, Robert L., to General Motors Corp. Transmission. 3,091,980, 6-4-63, Cl. 74—752.
- Black, Robert S. Truss-type adjustable joist. 3,078,970, 2-26-63, Cl. 189—37.
- Black, Ronald C., and E. J. Hohos, to Mine Safety Appliances Co. Rock drill tip holder. 3,089,552, 5-14-63, Cl. 175—400.
- Black, Roy D., to L. R. Crow. Educational devices. 3,074,182, 1-22-63, Cl. 35—19.
- Black, Roy D., to L. R. Crow. Educational device. 3,080,663, 3-12-63, Cl. 35—19.
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- Black, Warren R., B. W. Henrikson, and W. R. Van Loo, to American Seating Co. Simulated slat bench construction. 3,093,096, 6-11-63, Cl. 108—153.
- Black, William B., and H. G. Clark III, to Monsanto Chemical Co. Solution of polypyrrolidone in superheated water. 3,076,774, 2-5-63, Cl. 260—29.2.
- Black, William C., Sr., and P. A. Cresci. Load carrying vehicle. 3,090,514, 5-21-63, Cl. 214—512.
- Black, William H.: See—  
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- Black, William H. Method and apparatus for prefabricating prestressed monoplanar trusses. 3,100,301, 8-13-63, Cl. 1—160.
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- Blackburn Aircraft Ltd.: See—  
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- Blackburn, Alan B., to General Motors Corp. Method of making a permanent magnet rotor. 3,077,026, 2-12-63, Cl. 29—155.53.
- Blackburn, Alan P., and E. E. Miles, to The General Electric Co. Ltd. Apparatus for use in coating tubes internally with finely divided solid material. 3,111,429, 11-19-63, Cl. 118—7.
- Blackburn, Charles M., to United States of America, Navy. Pressure switch. 3,077,524, 2-12-63, Cl. 200—82.
- Blackburn, Charles M., to United States of America, Navy. Hydraulic power supply. 3,100,965, 8-20-63, Cl. 60—51.
- Blackburn, Hogard, to Monsanto Chemical Co. Mixers. 3,072,957, 1-15-63, Cl. 18—2.
- Blackburn, Jasper, Corp.: See—  
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- Blackburn, Richard E., to Container Corp. of America. End carrying container. 3,106,331, 10-8-63, Cl. 229—27.
- Blackburn, Walter L. Screw connector for barges or the like. 3,105,675, 10-1-63, Cl. 254—67.
- Blackburn, William E.: See—  
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- Blacker, Merrill S., to United States Steel Corp. Open hearth furnace door. 3,104,655, 9-24-63, Cl. 122—498.
- Blackerby, William S. Lawn mower having magnet attached. 3,084,495, 4-9-63, Cl. 56—255.
- Blackford, Benjamin B., to Johnson & Johnson. Porous extensible pressure-sensitive adhesive tape in which perforations are arranged to facilitate tearing. 3,085,024, 4-9-63, Cl. 117—4.
- Blackford, Benjamin B., deceased, to Johnson & Johnson. Tape. 3,085,572, 4-16-63, Cl. 128—156.
- Blackhall, Douglas J. W., and T. Robertson, to J. Blakeborough & Sons Ltd. Wedge type valves for fluids. 3,088,705, 5-7-63, Cl. 251—187.
- Blackham, Angus U.: See—  
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- Blackhurst, Robert V.: See—  
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- Blackman, Arthur W., Jr., to United Aircraft Corp. Nuclear powered propulsive device. 3,108,054, 10-22-63, Cl. 204—193.2.
- Blackman, Calvin C., and R. J. Beemer, to L. Wilson. Apparatus for annealing coils of strip metal. 3,081,074, 3-12-63, Cl. 263—47.
- Blackman, Paul R.: See—  
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- Blackman, Paul R., to Air Reduction Co., Inc. Arc welding apparatus. 3,102,947, 9-3-63, Cl. 219—130.
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- Blackmore, Richard H., to Union Carbide Corp. Electrode contact apparatus. 3,107,267, 10-15-63, Cl. 13—16.
- Blackstock, Emerson B., to Bear Brand Hosiery Co. Method and apparatus for forming yarn. 3,092,953, 6-11-63, Cl. 57—36.
- Blackstone Corp.: See—  
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Douglas, Peyton W. 3,085,418.  
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- Blackstone, Robert M. Distributor puller with adjustable fulcrum means. 3,110,959, 11-19-63, Cl. 29—267.
- Blackwell, Jennings P., to Phillips Petroleum Co. Stabilized nitric acid. 3,113,836, 12-10-63, Cl. 23—157.
- Blackwell, Lyman L., to B. K. Sweeney Mfg. Co. Electrostatic voltage metering device. 3,109,141, 10-29-63, Cl. 324—123.
- Blackwood, George W., and D. L. Shanklin, to W. R. Grace & Co. Cement pack set inhibitor. 3,093,499, 6-11-63, Cl. 106—90.
- Blackwood, Robert K.: See—  
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- Blackwood, Robert K., H. H. Rennhard, J. J. Beereboorn, and C. R. Stephens, Jr., to Chas. Pfizer & Co. Inc. Derivatives of tetracycline and its analogs. 3,109,007, 10-29-63, Cl. 260—346.2.
- Blades, Charles E., and L. F. Barrington; said Blades assor. to Air Reduction Co., Inc., and said Barrington assor. to A. E. Staley Mfg. Co. Stabilization of vinyl acetate. 3,074,912, 1-22-63, Cl. 260—45.95.
- Blades, Herbert, and J. R. White, to E. I. du Pont de Nemours and Co. Fibrillated strand. 3,081,519, 3-19-63, Cl. 28—81.
- Blagden, Jack H. Combined article for cleaning cleated golf shoes and grooved golf clubs and similar objects. 3,105,257, 10-1-63, Cl. 15—105.
- Blagg, Leon, to Schlumberger Well Surveying Corp. Borehole apparatus. 3,092,182, 6-4-63, Cl. 166—241.
- Blaha, Albert L., A. Feiner, T. Feldman, and R. H. Klie, to Bell Telephone Laboratories, Inc. Switching device. 3,075,059, 1-22-63, Cl. 200—102.
- Blaha, Eli W.: See—  
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Sabot, Albert R., Blaha, and Koskie. 3,109,814.
- Blaha, Emil, to Selas Corp. of America. Apparatus for forming clay spheres. 3,071,357, 1-1-63, Cl. 263—30.
- Blaha, Emil, to Selas Corp. of America. Apparatus for forming clay spheres. 3,071,358, 1-1-63, Cl. 263—30.
- Blaha, Emil, to Selas Corp. of America. Apparatus for forming clay spheres. 3,071,359, 1-1-63, Cl. 263—36.
- Blaha, Emil, to Selas Corp. of America. Air preheating burner. 3,101,773, 8-27-63, Cl. 158—109.
- Blach, Fritz, to A. Nattermann & Cie. Process for the production of a concentrate of active substance from senna. 3,089,814, 5-14-63, Cl. 167—56.
- Blach, Mason C.: See—  
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- Blaitkie, William R., and J. H. Murray, to Johnson & Johnson. Sterile surgical dressing unit. 3,095,088, 6-25-63, Cl. 206—63.2.
- Blaitklock, William J., and C. S. Reasby, to United States of America, Army. Gage for coupling members. 3,100,939, 8-20-63, Cl. 33—174.
- Blain, Paul, to Institut de Recherches de la Siderurgie. Hydraulic arrangement for adjusting the spacing of the rolls in rolling mills and for compensating mill spring. 3,075,417, 1-29-63, Cl. 80—56.
- Blain, Willard E. Holder for roll of toilet tissue. 3,079,099, 2-26-63, Cl. 242—55.2.
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- Blair, Benton, 25% to F. Blair. Eyeglasses holder for pockets. 3,115,687, 12-31-63, Cl. 24—3.
- Blair Displays, Inc.: See—  
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Portnoy, Allen J. 3,103,396.
- Blair, Edgar A., to Sun Oil Co. Preparation of tetrafluoroethylene. 3,096,379, 7-2-63, Cl. 260—653.3.
- Blair, Farnham: See—  
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- Blair, Gerald E.: *See*—  
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- Blair, J. Thomas: *See*—  
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- Blair, James, to Imperial Chemical Industries Ltd. Continuous production of liquid explosive nitric esters. 3,086,042, 4-16-63, Cl. 260—467.
- Blair, James E.: *See*—  
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- Blair, John W., to The Bendix Corp. Hydraulic pumping valve. 3,078,676, 2-26-63, Cl. 60—54.5.
- Blair, Richard W.: *See*—  
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- Blair, Ronald L. Undergarments. 3,115,880, 12-31-63, Cl. 128—567.
- Blair, Royer R., to Bell Telephone Laboratories, Inc. Transistor trigger circuit. 3,114,049, 12-10-63, Cl. 307—88.5.
- Blair, Winton B., to Schlumberger Well Surveying Corp. Strip gun improvements. 3,078,797, 2-26-63, Cl. 102—20.
- Blair, Winton B., to Schlumberger Well Surveying Corp. Expandable perforating apparatus. 3,094,930, 6-25-63, Cl. 102—20.
- Blaisdell, Donald, and T. J. Judge, to General Signal Corp. Dispatching system. 3,105,951, 10-1-63, Cl. 340—23.
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- Blake, Donald L., to Draper Corp. Filling bobbin. 3,094,297, 6-18-63, Cl. 242—118.3.
- Blake, Edward S., J. W. Edwards, and W. C. Hammann, to Monsanto Chemical Co. Isomeric mixtures of diphenoxyl, ditoloxyl, and phenoxyltoloxylbenzenes as functional fluids. 3,080,321, 3-5-63, Cl. 252—73.
- Blake, Francis E. Electric control device. 3,094,680, 6-18-63, Cl. 338—98.
- Blake, Francis W. Four wheel farm cart. 3,091,476, 5-28-63, Cl. 280—43.13.
- Blake, Frederick H., and F. M. Thorburn, to Sunnee Brand Meat Co., Inc. Mock chicken leg machine. 3,099,037, 7-30-63, Cl. 17—1.
- Blake, John L. Indicator device. 3,115,710, 12-31-63, Cl. 33—172.
- Blake, John T., to Scovill Mfg. Co. Fastener means. 3,094,757, 6-25-63, Cl. 24—265.
- Blake, Leslie R., to United Kingdom Atomic Energy Authority. Apparatus for indicating the metal oxide content of a liquid metal. 3,078,412, 2-19-63, Cl. 324—64.
- Blake, Leslie R., to United Kingdom Atomic Energy Authority. Fuel elements for nuclear reactors. 3,105,807, 10-1-63, Cl. 204—193.2.
- Blake, Leslie R., to United Kingdom Atomic Energy Authority. Nuclear reactors. 3,109,802, 11-5-63, Cl. 204—193.2.
- Blake, Oliver P.: *See*—  
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- Blake, Robert E., to Irvington Machine Works, Inc. Sorting apparatus. 3,080,969, 3-12-63, Cl. 209—90.
- Blake, William T., to Tew Mfg. Corp. Machine for separating articles according to size. 3,091,333, 5-28-63, Cl. 209—82.
- Blakeborough, J., & Sons Ltd.: *See*—  
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Haller, Augustine C. 3,082,097.
- Blakeslee, David G., to G. S. Blakeslee & Co. Dish washing machine pump and drain. 3,108,607, 10-29-63, Cl. 134—186.
- Blakeslee, G. S., & Co.: *See*—  
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- Cumming, John. 3,086,641.
- Galas, Charles P. 3,104,607.
- Pokorny, Joseph. 3,073,721.
- Blakesley, George R., Sr. Air conditioner apparatus. 3,097,506, 7-16-63, Cl. 62—263.
- Blakewood, Charles H., D. C. Reynolds, and D. M. Warschauer, to United States of America, Air Force. Energy storage device. 3,093,735, 6-11-63, Cl. 250—83.
- Blakey, Angus R., Jr., and R. T. Fields, to E. I. du Pont de Nemours and Co. Extrusion device. 3,114,170, 12-17-63, Cl. 18—12.
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- Blakney, Robert M., E. Fuerst, M. Levy, and J. B. Wells, to Xerox Corp. Process for treating selenium. 3,077,386, 2-12-63, Cl. 23—209.
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- Blanchard, Frederick W. Dishwashing machine. 3,114,375, 12-17-63, Cl. 134—138.
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- Blanchard, Robert L.: *See*—  
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- Blanchard, Samuel E., to The Borden Co. Method of adhering surfaces. 3,112,235, 11-26-63, Cl. 156—310.
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- Blanchet, Joseph E. A., to Sonoco Products Co. Article separating device. 3,114,198, 12-17-63, Cl. 29—200.
- Blanchet, Lucien, to Joy Mfg. Co. Bar-carried detachable electrical terminal blocks. Re. 25,442, 9-10-63, Cl. 339—198.
- Blanchet, Lucien. Spacer for conductors. 3,087,009, 4-23-63, Cl. 174—135.
- Blanchette, Joseph M.: *See*—  
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- Blanco, Angel A., to Imperial Chemical Industries Ltd. Neutron radiation shielding material. 3,106,535, 10-8-63, Cl. 252—478.
- Blanco, Elias, to Daystrom Inc. Phasable ganged potentiometer. 3,100,883, 8-13-63, Cl. 338—148.
- Bland, Albert N., and D. A. Davies, to Automotive Products Co. Ltd. Clutch operating mechanism for vehicles. 3,083,804, 4-2-63, Cl. 192—91.
- Bland, George F., to International Business Machines Corp. Traveling wave parametric amplifiers. 3,093,801, 6-11-63, Cl. 330—5.
- Bland, Richard E., J. E. Le Francois, W. J. Leiss, and H. F. Wegener, to United States of America, Navy. Directional underwater magnetostriction transducer. 3,082,401, 3-19-63, Cl. 340—11.
- Bland, Robert C., to Kellogg Co. Display shelf planning. 3,080,664, 3-12-63, Cl. 35—53.
- Blanding, Wendell S., and J. F. Frazier, to Corning Glass Works. Coffee maker. 3,084,614, 4-9-63, Cl. 99—285.
- Blanford, George W., 55% to J. H. Bloksom, 5% to S. J. Ginsberg, and 5% to G. A. Schwenzer. Self-service automatic vehicle-washing devices. 3,089,168, 5-14-63, Cl. 15—4.
- Blank, Hans G., to General Telephone and Electronics Laboratories, Inc. Electroluminescent cells controlled by impedance networks. 3,098,175, 7-16-63, Cl. 315—250.
- Blank, Hans G., to General Telephone and Electronics Laboratories, Inc. Electroluminescent information processing circuit. 3,112,403, 11-26-63, Cl. 250—208.
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- Blank, William. Steam pressing iron. 3,071,879, 1-8-63, Cl. 38—77.
- Blanken, Robert M., R. T. Carey, and D. E. Mook, to The Borden Co. Method of making a readily dispersible egg yolk powder and product. 3,114,645, 12-17-63, Cl. 99—210.
- Blankenship, Ernest B., to Varo Mfg. Co., Inc. Deposition control means. 3,071,533, 1-1-63, Cl. 204—298.
- Blankenship, Paul V., and R. J. Pierce, to United States of America, Army. Variable die for strand cutting machine. 3,104,579, 9-24-63, Cl. 83—355.
- Blankenship, Roy W. Equine training device. 3,104,507, 9-24-63, Cl. 54—71.
- Blankevoort, Dirk. Method of constructing movable building sections and apparatus applying this method. 3,097,493, 7-16-63, Cl. 61—43.
- Blanscet, Lon: *See*—  
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- Blanshine, Allison W., to Sperry Rand Corp. Forage harvester. 3,100,370, 8-13-63, Cl. 56—21.
- Blanshine, Allison W., to Sperry Rand Corp. Control device for adjusting a harvester platform. 3,100,373, 8-13-63, Cl. 56—214.
- Blanton, James B. Electric air purifier. 3,094,400, 6-18-63, Cl. 55—102.
- Blanton, John W., to Bell Aerospace Corp. Hydromechanical rate damped servo system. 3,101,650, 8-27-63, Cl. 91—433.
- Blardinelli, Albert J., and W. H. Yanko, to Monsanto Chemical Co. Dimerization of dichloroethylene. 3,085,953, 4-16-63, Cl. 204—154.
- Blardinelli, Albert J., and W. H. Yanko, to Monsanto Chemical Co. Chlorination. 3,113,084, 12-3-63, Cl. 204—158.
- Blasbalg, Herman L., to United States of America, Air Force. Voltage comparator of stored samples of plural modulated pulses and controlling threshold gate. 3,076,144, 1-29-63, Cl. 328—147.
- Blasberg, Lawrence A., L. J. Lader, and R. A. Young, to Hughes Aircraft Co. High-power resonance absorption isolator having ferrite slab offset from polepieces so as to be non-uniformly magnetized. 3,099,806, 7-30-63, Cl. 333—24.2.
- Blaschek, Rudolf, and M. Schuffler, to Erfurter Malzerei u. Speicherbau, VEB. Cooking device. 3,073,236, 1-15-63, Cl. 99—420.
- Blaser, Bruno: *See*—  
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- Blaser, Bruno, H. Rogner, and G. Ziehr, to Henkel & Cie. G.m.b.H. Process for foam-cleaning metal surfaces. 3,078,190, 2-19-63, Cl. 134-10.
- Blaser, Robert. Flat folding cup. 3,087,640, 4-30-63, Cl. 220-6.
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- Blass, Judd, and H. M. Kintzel, to Maxson Electronics Corp. Three-port waveguide switch for selectively connecting one port to either of two other ports. 3,112,459, 11-26-63, Cl. 333-7.
- Blaszowski, Henry. Dynamic exercising apparatus. 3,081,634, 3-19-63, Cl. 73-379.
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- Blattner, Emil H., deceased (E. Blattner, executrix), to Symington Wayne Corp. Method of removing a railway coupler. 3,082,518, 3-26-63, Cl. 29-427.
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- Blau, Henry H., Jr., and R. S. Davis, to Arthur D. Little, Inc. Radiation reference standard. 3,077,539, 2-12-63, Cl. 250-85.
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- Schlieder, Harold A. 3,078,713.
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- Blazek, Robert J., to Westinghouse Electric Corp. Light-transmitting, electrically conducting element. 3,074,816, 1-22-63, Cl. 117-211.
- Blazek, Robert J., and H. B. Bullinger, to Westinghouse Electric Corp. Electroluminescent device and method of making. 3,110,836, 11-12-63, Cl. 313-108.
- Blazon, Inc.: *See*—  
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- Grudoski, Daniel A. 3,088,734.
- Bleachers Association Ltd.: *See*—  
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- Blackley, William J., to National Research Council. Variable insertion sliding post-slotted line tuner having means preventing energy loss past sides of post. 3,110,002, 11-5-63, Cl. 333-98.
- Blazez, John C., and J. Preston, to Radio Corp. of America. Acoustical apparatus. 3,073,411, 1-15-63, Cl. 181-32.
- Blecker, Raymond H., to Simmons Co. Sofa bed construction. 3,079,613, 3-5-63, Cl. 5-13.
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- Bleier, Ernest L., and T. W. Kucharski, to General Dynamics Corp. Universal cell for printed circuit boards. 3,098,177, 7-16-63, Cl. 317-101.
- Bleikamp, Roy H., Jr., to Olin Mathieson Chemical Corp. Rocket motor control system. 3,073,112, 1-15-63, Cl. 60-35.6.
- Bleiler, Richard, R. M. Harries, N. C. Jeckel, and S. H. Lanport, to United States Catheter & Instrument Corp. Woven articles. 3,095,017, 6-25-63, Cl. 139-387.
- Bleiweiss, Arthur F., G. Colombo, J. B. Dickson, and B. Orlov, to Signal-Stat Corp. Current operated flasher with voltage and temperature compensation. 3,098,139, 7-16-63, Cl. 200-122.
- Blend, Merle C., Jr. Device for converting vehicle trunks into animal pens. 3,107,649, 10-22-63, Cl. 119-15.
- Blendinger, George W. Coin-carrying card. 3,075,638, 1-29-63, Cl. 206-84.
- Blenkle, Herbert A., to Fairchild Engine and Airplane Corp. Regenerative steering. 3,081,647, 3-19-63, Cl. 74-710.5.
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- Blennan, William G., to General Motors Corp. Automatic pressure limiting valve. 3,104,675, 9-24-63, Cl. 137-225.
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- Bletso, Nelson C., to The Goodyear Tire & Rubber Co. Compositions of polyamides and sulfides of dialkylated phenols. 3,086,960, 4-23-63, Cl. 260-45.95.
- Bletz, Howard W., to Stevens Mfg. Co., Inc. Infinite control switch. 3,083,282, 3-26-63, Cl. 200-122.
- Bletzinger, John C., to Kimberly-Clark Corp. Cellulosic product. 3,110,609, 11-12-63, Cl. 117-25.
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- Blewitt, Roy E., Jr., to The American Machine & Foundry Co. Bowling pin spotting machines. 3,082,001, 3-19-63, Cl. 273-43.
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- Blews, Richard R., Jr., to Curtiss-Wright Corp. Powerplant transmission system. 3,115,936, 12-31-63, Cl. 170-135.2.
- Bley, Rudolph S., to Beunitt Mills, Inc. Melt spinning apparatus. 3,080,607, 3-12-63, Cl. 18-8.
- Blicke, Frederick F., and J. H. Biel; said Blicke assor. to Regents of the University of Michigan, and said Biel assor. to Lakeside Laboratories, Inc. N-(aminoalkyl)-piperidyl esters. 3,094,532, 6-18-63, Cl. 260-268.
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- Bliss, E. W., Co.: *See*—  
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- Meyer, David. 3,093,314.
- Bliss, Harvey N., and G. W. White, to Veeder-Root, Inc. Preselector mechanism for liquid dispensing apparatus. 3,087,651, 4-30-63, Cl. 222-16.
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- Bliss, John W., and B. J. Schill, to J. I. Case Co. Chain tightener. 3,115,046, 12-24-63, Cl. 74-242.11.
- Bliss, Robert W., to The Magnavox Co. Inertial energy generator storage system. 3,093,163, 7-16-63, Cl. 310-8.4.
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- Blitzer, Bud. Structural panels and elements thereof. 3,086,629, 4-23-63, Cl. 189-82.
- Blitzer, Sidney M., A. P. Giraitis, and J. R. Zietz, Jr., to Ethyl Corp. Preparation of bimetallic hydrides. 3,098,706, 7-23-63, Cl. 23-14.
- Bliven, Charles V., and H. D. Lange, to Ford Motor Co. Hydraulic shock absorber. 3,111,201, 11-19-63, Cl. 188-88.
- Blixt, Clarence H., to No-Joint Concrete Pipe Co. Apparatus for producing cast-in-place pipe. 3,113,364, 12-10-63, Cl. 25-32.
- Blizard, Robert B., to Schlumberger Well Surveying Corp. Acoustic well logging apparatus. 3,080,010, 3-5-63, Cl. 181-5.
- Blizard, Robert B., to Schlumberger Well Surveying Corp. Acoustic logging apparatus. 3,102,251, 8-27-63, Cl. 340-18.
- Bloch, Elsie C., and G. Loop pile fabric. 3,115,436, 12-24-63, Cl. 161-65.
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- Bloch, Herman S., to Universal Oil Products Co. Method of catalytically purifying exhaust gases of internal combustion engines and regenerating the lead-contaminated catalyst. 3,072,457, 1-8-63, Cl. 23-2.
- Bloch, Herman S., to Universal Oil Products Co. Control of automotive exhaust gases. 3,074,391, 1-22-63, Cl. 123-122.
- Bloch, Herman S., to Universal Oil Products Co. Method for multiple zone treating of waste gas streams. 3,086,839, 4-23-63, Cl. 23-2.
- Bloch, Herman S., to Universal Oil Products Co. Polymerization of unsaturated organic compounds. 3,113,165, 12-3-63, Cl. 260-683.15.
- Bloch, Herman S., and E. M. Gelsner, to Universal Oil Products Co. Preparation of 1,2-diarylethanes. 3,082,266, 3-19-63, Cl. 260-668.
- Bloch, Roy W.: See—  
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- Blocher, Thomas J., Jr., to Westinghouse Air Brake Co. Data handling system. 3,113,295, 12-3-63, Cl. 340-172.5.
- Block, Aleck, to Merit Product, Inc. Expendable rotatable abrasive grinding device. 3,109,267, 11-5-63, Cl. 51-193.5.
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- Block, Charles, and A. O. Di Giulio, to Burroughs Corp. Motion stop assemblage. 3,085,668, 4-16-63, Cl. 192-149.
- Block and Co., Inc.: See—  
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- Block, Donald E., to United States of America, Air Force. Binary storage element. 3,076,182, 1-29-63, Cl. 340-174.
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- Block, Karl. Ticket holder. 3,081,570, 3-19-63, Cl. 40-142.
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Blumenshine, Hugh M., and Block. 3,113,565.
- Hollingsworth, John H. 3,073,296.
- Block, Myron J., to Block Engineering, Inc. Generation of optical surfaces. 3,072,742, 1-8-63, Cl. 178-7.5.
- Block, Paul, 50% to H. Cote. End gate latch. 3,073,637, 1-15-63, Cl. 292-201.
- Block, Zenas, H. T. Hunter, and W. S. Hodges, to DCA Food Industries Inc. Comestible treating apparatus. 3,078,979, 2-26-63, Cl. 198-82.
- Blocker, Leo R. Cultivating and weeder attachment for tractors. 3,071,198, 1-1-63, Cl. 172-123.
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- Blodgett, Edwin O., to Commercial Controls Corp. Motorized reader for record media. 3,084,857, 4-9-63, Cl. 235-61.11.
- Blodgett, Edwin O., to Commercial Controls Corp. Coded-information translating system. 3,102,253, 8-27-63, Cl. 340-146.1.
- Blodgett, Edwin O., and H. F. Stiffler, to Commercial Controls Corp. Character wire printer. 3,082,687, 3-26-63, Cl. 101-93.
- Blodgett, Edwin O., and J. V. Neel, to Commercial Controls Corp. Coded information translation system utilizing plural parallel to serial distributors. 3,108,253, 10-22-63, Cl. 340-146.1.
- Blodgett, Norman S.: See—  
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- Blodgett, Stewart B., and F. D. Sher, to Foils Packaging Corp. Automatic weighing and packaging apparatus. 3,073,398, 1-15-63, Cl. 177-53.
- Blodgett, Stewart B., and F. D. Sher, to Foils Packaging Corp. Self-taring net weigher. 3,077,940, 2-19-63, Cl. 177-165.
- Blodgett, William G., F. M. Cummings, and W. H. Fleming, to Space Equipment Corp. Force responsive electrical impulse generator. 3,116,428, 12-31-63, Cl. 310-15.
- Bloecher, Frederick W.: See—  
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- Blom, Jan: See—  
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- Blom, Stanford W., to Specialties Development Corp. Method of making resistance elements. 3,110,088, 11-12-63, Cl. 29-155.5.
- Blomberg, Le Roy C. Lever lock. 3,082,640, 3-26-63, Cl. 74-531.
- Blomberg, Nils B. D., and S. S. Hedlund, to Oresundsvarret AB. Detachable tween deck construction. 3,109,402, 11-5-63, Cl. 114-76.
- Blomberg, Richard N., to E. I. du Pont de Nemours and Co. Aqueous dispersion containing viscose and a polymer of acrylonitrile and process of preparing same. 3,087,903, 4-30-63, Cl. 260-17.4.
- Blomborg, Karl G. Easy chair. 3,072,377, 1-8-63, Cl. 248-373.
- Blomeke, Loren C., and W. G. Kautz, to The Aro Corp. Pump structure. 3,094,938, 6-25-63, Cl. 103-50.
- Blomfield, Rodney A., to Wyandotte Chemicals Corp. Fabric softeners. 3,095,373, 6-25-63, Cl. 252-8.8.
- Blomgren, Evert, to United States of America, Army. Spring-started generator. 3,093,076, 6-11-63, Cl. 102-70.2.
- Blomgren, Oscar C., Jr.: See—  
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- Blomgren, Oscar C., Sr. and O. C. Blomgren, Jr. Gear pump assembly. 3,105,446, 10-1-63, Cl. 103-126.
- Blomquist, Arthur G., and W. F. Heins, to Northern Ordnance, Inc. Indicating push button type signal light assembly. 3,093,718, 6-11-63, Cl. 200-167.
- Blomquist, Arthur G., L. Larsen, and P. G. Wermager, to United States of America, Navy. Missile contactor. 3,095,132, 7-16-63, Cl. 200-50.
- Blomquist, Arthur G., and W. F. Heins, to Northern Ordnance, Inc. Tri-color indicator light. 3,113,303, 12-3-63, Cl. 340-378.
- Blomqvist, Olle. Medical tipping tables. 3,089,692, 5-14-63, Cl. 269-323.
- Blomstrand, John H., 1/2 to F. W. Nyquist. Self-centering tool holder. 3,098,283, 7-23-63, Cl. 29-96.
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- Blonder, Charles, to Anchor Post Products, Inc. Terminal fitting. 3,092,407, 6-4-63, Cl. 287-54.
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- Blonder Tongue Electronics: See—  
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- Blondiau, Edgard, to Societe STOP. Deformable diaphragm apparatus. 3,099,189, 7-30-63, Cl. 137-784.
- Blonn, William A., to General Electric Co. Apparatus for thermal treatment of metal. 3,102,009, 8-27-63, Cl. 34-159.
- Blonski, George. Top with sounding means. 3,114,986, 12-24-63, Cl. 46-66.
- Blonsky, Joseph E., to West Virginia Pulp and Paper Co. Tilt-able load-carrying vehicle. 3,107,801, 10-22-63, Cl. 214-506.
- Blonsky, Joseph E., to West Virginia Pulp and Paper Co. Side discharging containers and vehicles. 3,107,802, 10-22-63, Cl. 214-515.
- Blood, Arthur J.: See—  
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- Blood, Perley T. Photoprint developing machines. 3,093,053, 6-11-63, Cl. 95-94.
- Blood, Raymond, to William Cotton, Ltd. Straight bar knitting machines and variable control means primarily applicable thereto. 3,073,138, 1-15-63, Cl. 66-110.
- Bloodgood, Claude F., Jr. Lamp fixture. 3,106,349, 10-8-63, Cl. 240-8.3.
- Bloodworth, Henry D. Bed pan with disposable liner. 3,115,644, 12-31-63, Cl. 4-112.
- Bloom, Aaron, to Sierra Engineering Co. Suffocation inhibiting inhalator-exhalator valve. 3,088,477, 5-7-63, Cl. 137-64.
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- Bloom, Barry M., and R. E. Carnahan, to Chas. Pfizer & Co., Inc. Certain substituted omega-hydrazine alkanolic acid amines. 3,113,946, 12-10-63, Cl. 260-295.
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- McCutcheon, William N., Jr. 3,088,681.
- Bloom, Frederick S. Temperature controlled forge furnace or the like and method of operating same. 3,099,457, 7-30-63, Cl. 263-43.
- Bloom, Frederick S. Metal heating furnace. 3,100,811, 8-13-63, Cl. 266-5.
- Bloom, Frederick S., and R. L. Hoffman; said Hoffman assor. to Bloom Engineering Co., Inc. Recuperative radiant tube burner mechanism. 3,079,910, 3-5-63, Cl. 126-91.
- Bloom, Martin S.: See—  
Bradford, Bernard W., Heslop, Lord, and Bloom. 3,085,870.



- Bloom, Murray, and R. M. Washburn, to American Potash & Chemical Corp. Reactions of boron halides and tetra-substituted boron compounds. 3,096,370, 7-2-63, Cl. 260-543.
- Bloomer, Milton D.: *See*—  
Yerman, Alexander J., and Bloomer. 3,085,431.
- Bloomer, Ward J., and S. W. Martin, deceased (by B. B. Martin, administratrix), to The Lummus Co. Process for producing substantially ash-free bituminous coal, subbituminous coal and lignite. 3,109,803, 11-5-63, Cl. 208-8.
- Bloomfield, Peter R. Heat resistant article comprising phosphorus oxynitride. 3,082,120, 3-19-63, Cl. 117-126.
- Bloomquist, Egner L. Wirework carrier. 3,100,059, 8-6-63, Cl. 220-117.
- Bloomster, Clarence H.: *See*—  
Ross, Wilfred T., Bloomster, and Bardsley. 3,102,850.
- Bloomster, Clarence H., and Y. B. Katayama, to United States of America, Atomic Energy Commission. Alloy for fuel of neutronic reactors. 3,086,930, 4-23-63, Cl. 204-154.2.
- Bloor, James H., and F. G. Chandler, to United Kingdom Atomic Energy Authority. Actuator for electrically operable device. 3,097,327, 7-9-63, Cl. 317-134.
- Bloor, Robert R.: *See*—  
Kehe, Henry J., Johnson, Driscoll, and Bloor. 3,071,619.
- Blose, John A., to Grand Steel & Mfg. Co. Work conveyor apparatus for use with buffing or grinding or spray painting equipment and the like. 3,109,533, 11-5-63, Cl. 198-181.
- Blosser, Howard W. Pin guide and stabilization bar. 3,094,120, 6-18-63, Cl. 128-92.
- Blount, Luther H. Controllable pitch propeller with hinging trailing edge. 3,074,488, 1-22-63, Cl. 170-160.1.
- Blount, Luther H. Fairing for a controllable pitch propeller. 3,106,248, 10-8-63, Cl. 170-160.58.
- Blount, Luther H. Controllable pitch propeller. 3,109,498, 11-5-63, Cl. 170-160.46.
- Blout, Elkan R., S. Kasman, and M. S. Simon, to Polaroid Corp. Anthrapyridone dye developers. 3,076,808, 2-5-63, Cl. 260-278.
- Blout, Elkan R., M. Green, H. G. Rogers, and M. S. Simon, to Polaroid Corp. Novel compounds and syntheses. 3,076,820, 2-5-63, Cl. 260-377.
- Blout, Elkan R., S. G. Cohen, M. Green, and M. S. Simon, to Polaroid Corp. Photographic color processes, products and compositions. 3,077,402, 2-12-63, Cl. 96-29.
- Blout, Elkan R., H. O. Buzzell, and L. C. Farney, to Polaroid Corp. Method of applying a mar-resistant surface coating to thermoplastic sheets. 3,097,106, 7-9-63, Cl. 117-64.
- Blowers, Ivan L., to Kal-Equip Co. Compression tester. 3,115,033, 12-24-63, Cl. 73-116.
- Blowney, David P., R. S. Brannin, J. J. Morrone, J. C. Wilcox, and J. E. Zupanick, to Sperry Rand Corp. Cooperative collision avoidance system. 3,097,354, 7-9-63, Cl. 343-6.5.
- Blubaugh, Sylvester H.,  $\frac{1}{2}$  to J. W. McCormick. Continuous sandblast apparatus. 3,075,319, 1-29-63, Cl. 51-8.
- Blubaugh, Sylvester H.,  $\frac{1}{2}$  to J. W. McCormick. Method of painting treated concrete surfaces. 3,075,854, 1-29-63, Cl. 117-37.
- Blue, Charles V. Permanently installed battery charging system for automobile sales or display lots. 3,105,929, 10-1-63, Cl. 320-2.
- Blue, Emerald R. Rule holder. 3,087,250, 4-30-63, Cl. 33-107.
- Blue, John, Co., Inc.: *See*—  
Johnston, Douglas. 3,107,638.
- Blue, Robert D.: *See*—  
Kroon, James L., and Blue. 3,072,544.
- Blue, Sidney D. Shirts with attached collars. 3,114,152, 12-17-63, Cl. 2-116.
- Blueberry Equipment, Inc.: *See*—  
McKibben, Horace E., and Jones. 3,099,115.
- Bluemle, Lewis W., Jr.: *See*—  
Gobel, Charles, and Bluemle. 3,077,268.
- Bluestein, Ben A., to General Electric Co. Pyridine derivatives. 3,071,561, 1-1-63, Cl. 260-46.5.
- Bluestone, Henry, to Diamond Alkali Co. Method of killing microorganisms, plant pests, and plants with halogenated thiophene-1,1-dioxide compounds. 3,073,691, 1-15-63, Cl. 71-2.5.
- Bluestone, Henry, to Diamond Alkali Co. Chemical compositions and process. 3,082,214, 3-19-63, Cl. 260-327.
- Bluestone, Henry, to Diamond Alkali Co. Thianaphthene 1,1-dioxide compounds. 3,099,658, 7-30-63, Cl. 260-332.1.
- Bluestone, Henry, and R. M. Bimber, to Diamond Alkali Co. Sulfone derivatives of mercaptohaloethylene. 3,101,377, 8-20-63, Cl. 260-607.
- Bluhm, Elmer: *See*—  
Vander Zee, Michiel, and Bluhm. 3,104,817.
- Blum, Fred E., and F. O. Hough, to General Motors Corp. Electroplating apparatus. 3,103,483, 9-10-63, Cl. 204-242.
- Blum, Louis, to Blumcraft of Pittsburgh. Ornamental railing structures. 3,076,636, 2-5-63, Cl. 256-65.
- Blum, Louis, to Blumcraft of Pittsburgh. Rail post assembly. 3,114,941, 12-24-63, Cl. 20-10.
- Blum, Robert J., to The Mead Corp. Packaging method and article. 3,112,826, 12-3-63, Cl. 206-65.
- Blumberg, Morris: *See*—  
Britt, Norman G., Engle, Carroll, and Blumberg. 3,085,896.
- Blumberg, Richard, and G. Moore. Length measuring and marking apparatus. 3,075,569, 1-29-63, Cl. 156-378.
- Blumcraft of Pittsburgh: *See*—  
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- Blum, Louis. 3,114,941.
- Blümel, Johannes, to Rheinstahl Union Brückenbau AG. Apparatus for transporting pipe sections in tunnels and like excavations. 3,094,942, 6-25-63, Cl. 104-138.
- Blumenfeld, Arthur C.: *See*—  
Hubka, Theodore, and Blumenfeld. 3,090,955.
- Blumenfeld, Charles M. Swimming pool cleaner and filter. 3,078,998, 2-26-63, Cl. 210-169.
- Blumenkopf, Norman, to General Aniline & Film Corp. Polypyrrolidone treatment of polyacrylonitrile gel fibers and the product thereof. 3,104,934, 9-24-63, Cl. 8-115.5.
- Blumenkranz, James J., and R. O. Lightfoot, to Paddock Pool Equipment Co. Filter unit for swimming pool. 3,080,060, 3-5-63, Cl. 210-169.
- Blumenshine, Hugh M., and L. Block, to The Siegler Corp. Furnace for hot air heating systems. 3,113,565, 12-10-63, Cl. 126-91.
- Blumenstein, Walter K., and A. David, to The Otto Knigslog Mfg. Co. Ampoule applicator. 3,094,121, 6-18-63, Cl. 128-218.
- Blumenthal, Edwin I., to Sperry Rand Corp. Card-to-tape converter. 3,085,229, 4-9-63, Cl. 340-172.5.
- Blumenthal, Ernest, to Imperial Chemical Industries Ltd. Sodium carbonate manufacture. 3,103,413, 9-10-63, Cl. 23-63.
- Blumenthal, Jack H., to International Flavors & Fragrances, Inc. Terpene alcohol, ester thereof and process for making same. 3,075,003, 1-22-63, Cl. 260-488.
- Blumentritt, Wolfram, to Siemens-Elektrogeräte Aktiengesellschaft. Peltier cooling apparatus. 3,111,813, 11-26-63, Cl. 62-3.
- Blumer, Max: *See*—  
Scheller, Walter, and Blumer. 3,110,585.
- Blunt, Julian A., to The American Tobacco Co. Cigarette ejecting system. 3,095,091, 6-25-63, Cl. 209-121.
- Bluth, Edward J., and J. R. Green, to The Emerson Electric Mfg. Co. Connection for submersible motors. 3,084,210, 4-2-63, Cl. 174-65.
- Bly, Donald A.: *See*—  
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- Bly, Donald A., to Hamilton Watch Co. Automatic regulator. 3,113,417, 12-10-63, Cl. 58-85.5.
- Blydenburgh, John B. Surveyor's transit theodolite chaining attachment. 3,083,464, 4-2-63, Cl. 33-1.
- Blydorp, Abraham A., to Halliburton Co. Well bore plugging apparatus. 3,079,997, 3-5-63, Cl. 166-134.
- Blyth, John W.: *See*—  
Godcharles, Charles A., Blyth, Jacobson, and Gabrielson. 3,100,942.
- Blyth, Reginald A., deceased, by W. Harris, executor. Cam actuated ball valve. 3,090,595, 5-21-63, Cl. 251-258.
- Blythe, Clarence M.: *See*—  
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- Blythe, James E., and P. E. Prince, to National Distillers and Chemical Corp. Apparatus and method for automatically wrapping and sealing articles in thermoplastic overwrap film material. 3,115,731, 12-31-63, Cl. 53-33.
- Blythe, William R., and A. Klein, to The Regents of the University of California. Moisture measuring apparatus. 3,105,214, 9-24-63, Cl. 338-35.
- Bo, Gilbert, E. Fichet, A. Perrot, and P. Perras, to Societe des Usines Chimiques Rhone-Poulenc. Production of ethylene polymers using a catalyst based on titanium tetrachloride and aluminum. 3,079,371, 2-26-63, Cl. 260-94.9.
- Bo, Gilbert, and P. Perras, to Societe des Usines Chimiques Rhone-Poulenc. Process for the preparation of cyclohexyl-ethyl alcohol. 3,109,563, 11-5-63, Cl. 260-617.
- Boadway, John D.: *See*—  
Vroom, Alan H., and Boadway. 3,086,717.
- Boake, A., Roberts & Co. Ltd.: *See*—  
Chathfield, Herbert W. 3,086,949.
- Fysh, Derick. 3,109,827.
- Board, Richard G. Football game with play-selecting cards. 3,103,361, 9-10-63, Cl. 273-94.
- Boas Box Co.: *See*—  
Ullger, Joseph W. 3,073,505.
- Ullger, Joseph W. 3,073,506.
- Ullger, Joseph W. 3,107,040.
- Ullger, Joseph W. 3,112,858.
- Boatman, Paul M., to The Bendix Corp. Oxygen determination. 3,088,809, 5-7-63, Cl. 213-232.
- Boaz, Charles W., and C. J. Litz, Jr., to United States of America, Army. Sliding door opening mechanism. 3,107,616, 10-22-63, Cl. 102-61.
- Bobbi-Lou Shoe Co., Division of Shoo-Zees Mfg. Co.: *See*—  
Frodge, Theodore, and R. W. 3,114,160.
- Bobbitt, Eugene F. Combination supporting and pleating structure for curtains. 3,115,182, 12-24-63, Cl. 160-25.
- Bobby, Leonard, to King-Seely Thermos Co. Electrical control apparatus. 3,099,731, 7-30-63, Cl. 200-122.
- Bobear, William J., to General Electric Co. Organopolysiloxane rubber stabilized with nickel, copper or tungsten salts or oxides. 3,098,836, 7-23-63, Cl. 260-37.
- Bobear, William J., to General Electric Co. Radiation shielding compositions. 3,114,721, 12-17-63, Cl. 252-478.
- Bobek, Andrew H., to Bell Telephone Laboratories, Inc. Magnetic memory devices. 3,083,353, 3-26-63, Cl. 340-174.



- Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Electrical information handling circuits. 3,090,946, 5-21-63, Cl. 340-173.
- Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Magnetic core flip-flop. 3,093,745, 6-11-63, Cl. 307-88.
- Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Magnetic memory arrays. 3,105,226, 9-24-63, Cl. 340-174.
- Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Magnetic memory circuits. 3,105,962, 10-1-63, Cl. 340-174.
- Bobeck, Andrew H., to Bell Telephone Laboratories, Inc. Electrical selection circuits. 3,109,161, 10-29-63, Cl. 340-166.
- Bobo, Frank E., Jr.: See—  
Latham, James M., Bobo, and Matthews. 3,115,745.
- Bobo, Frank E., Jr., and R. M. Matthews, to Chadbourn Gotham, Inc. Support stocking. 3,077,757, 2-19-63, Cl. 66-178.
- Bobo, Roy A., to Phillips Petroleum Co. Method of drilling with high velocity jet cutter rock bit. 3,112,800, 12-3-63, Cl. 175-67.
- Bobowich, Alex.: See—  
Kahn, Elliot, and Bobowich. 3,084,405.
- Bobrick Mfg. Corp.: See—  
Cowan, Arnold A. 3,107,025.
- Bobrick, Mitchell, to Sunbeam Lighting Co. Wall mounted hospital bed light fixture and service console combination. 3,084,247, 4-2-63, Cl. 240-2.
- Bobrick, Mitchell, to Sunbeam Lighting Co. Spotlight lamp. 3,112,076, 11-26-63, Cl. 240-47.
- Bobrov, Boris S. Instrument for stitching gastric stump. 3,078,465, 2-26-63, Cl. 1-50.
- Bobrov, Boris S., and J. J. Grizman. Instrument for placing lateral gastro-intestinal anastomoses. 3,079,606, 3-5-63, Cl. 1-120.
- Bobrov, Joseph A. Apparatus for molding an embedment within a plastic mass. 3,074,112, 1-22-63, Cl. 18-36.
- Bobrowsky, Alfred R., to Engelhard Industries, Inc. Solid lubricant. 3,105,048, 9-24-63, Cl. 252-12.
- Bobscott, Ronald J.: See—  
Hunter, William H., Bobscott, Sherman, and Worthing. 3,078,286.
- Bobst, J., and Son S.A.: See—  
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- Bobula, Louis A., and K. A. Oplinger, to Westinghouse Electric Corp. Nonlinear electromagnetic motion responsive device. 3,099,823, 7-30-63, Cl. 340-199.
- Boccaccio, Anthony A., and L. J. Kolodzeski, to Grumman Aircraft Engineering Corp. Machining work holding method. 3,114,201, 12-17-63, Cl. 29-424.
- Boccoli, Temistocle. Manufacturing process for shoes of polymerizing elastomers. 3,113,830, 12-10-63, Cl. 18-59.
- Boch, Robert F. E., E. A. Rios, and A. P. Lefort, to Societe des Usines Chimiques Rhone-Poulenc. Atomising discharge valves. 3,085,720, 4-16-63, Cl. 222-394.
- Boch, Robert F. E., E. A. Rios, and A. P. Lefort, to Societe des Usines Chimiques Rhone-Poulenc. Atomising discharge valves. 3,104,061, 9-17-63, Cl. 239-337.
- Bochan, John, to General Electric Co. Clothes washing machine with rinsing agent dispenser arrangement. 3,088,304, 5-7-63, Cl. 68-12.
- Bochan, John, to General Electric Co. Three-way valve. 3,089,515, 5-14-63, Cl. 137-610.
- Bochan, John, to General Electric Co. Treating agent dispenser system for washing machines. 3,091,110, 5-28-63, Cl. 68-207.
- Bochan, John, to General Electric Co. Clothes washing machine. 3,095,721, 7-2-63, Cl. 68-133.
- Bochan, John, to General Electric Co. Clothes washing machine having unbalance sensing means. 3,098,372, 7-23-63, Cl. 68-24.
- Bochan, John, to General Electric Co. Combination washer dryer with forced air drying system. 3,106,832, 10-15-63, Cl. 68-20.
- Bochan, John, to General Electric Co. Clothes washing machine having vibration isolating means. 3,108,465, 10-29-63, Cl. 68-24.
- Bochan, John, to General Electric Co. Three-way valve. 3,108,613, 10-29-63, Cl. 137-609.
- Bochan, John, to General Electric Co. Rotation sensing device. 3,109,076, 10-29-63, Cl. 200-82.
- Bochman, Harry L., Jr.: See—  
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- Bochumer Eisenhutte Heintzmann & Co.: See—  
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- Bochumer Verein fur Gusstahlfabrikation Aktiengesellschaft: See—  
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- Bocil Corp.: See—  
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- Bock, Charles D.: See—  
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- Bock, Fred J., to Milprint, Inc. Tear tape spool. 3,116,033, 12-31-63, Cl. 242-118.4.
- Bock, Henry. Retaining device. 3,073,421, 1-15-63, Cl. 189-88.
- Bock, Jorgen, E. V. Hartman, and P. A. Tatusko, to International Business Machines Corp. Printing-roller etching machine of the spray type. 3,113,901, 12-10-63, Cl. 156-345.
- Bock Laundry Machine Co.: See—  
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- Bock, Michael, II: See—  
Bishop, Harold F., Wiley, and Bock. 3,103,719.  
Bishop, Harold F., Wiley, and Bock. 3,103,721.
- Bock, Willy, and H. Prohaska, to SWF-Spezialfabrik fur Autozubehoer Gustav Rau G.m.b.H. Securing device for windshield wiper blades. 3,082,463, 3-26-63, Cl. 15-250.32.
- Bock, Willy, and H. Prohaska, to SWF-Spezialfabrik fur Autozubehoer Gustav Rau G.m.b.H. Connecting device for windshield wiper. 3,085,277, 4-16-63, Cl. 15-250.32.
- Bock, Willy, E. Mutschler, and F. Schreiber, to SWF-Spezialfabrik fur Autozubehoer Gustav Rau G.m.b.H. Windshield washing pump with switch for windshield wiper motor for motor vehicles. 3,100,906, 8-20-63, Cl. 15-250.02.
- Bockemuehl, Robert R., to General Motors Corp. Millivolt inverter. 3,076,129, 1-29-63, Cl. 321-8.
- Bockemuehl, Robert R., to General Motors Corp. Direct analog converter. 3,085,237, 4-9-63, Cl. 340-347.
- Bockemuehl, Robert R., and E. A. Hanyasz, to General Motors Corp. Digital counter. 3,073,522, 1-15-63, Cl. 235-92.
- Böcker, Ernst, D. Delfs, G. Unterstenhofer, and W. Behrenz, to Farbenfabriken Bayer Aktiengesellschaft. O-(2-isopropoxyphenyl)-N-methyl and N,N-dimethylcarbamate. 3,111,539, 11-19-63, Cl. 260-479.
- Bockhold, Ralph O. Carton cutter. 3,092,903, 6-11-63, Cl. 30-2.
- Bocobo, Gaudencio T.: See—  
Movilla, Elpidio M., and Bocobo. 3,073,265.
- Boddey, Ronald F., to Fosco International Ltd. Exothermic alloying composition for addition to molten steel. 3,104,996, 9-24-63, Cl. 149-40.
- Bode, Albert: See—  
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- Bode, Harold C. Assembling tool. 3,104,462, 9-24-63, Cl. 29-271.
- Bode, Harold E. Process for sizing textiles and the disposition of sizing wastes therefrom. 3,093,504, 6-11-63, Cl. 117-102.
- Bode, Hendrik W., and H. J. McSkimin, to Bell Telephone Laboratories, Inc. Selective paging system. 3,114,142, 12-10-63, Cl. 340-311.
- Bode, Robert H.: See—  
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- Bodem, Roy C., R. H. Brandes, R. A. Hirsch, E. H. McDonald, and C. F. Wood, to General Motors Corp. Variable pitch propeller assembly for multi-power plant aircraft. 3,091,295, 5-28-63, Cl. 170-160.31.
- Bodenhamer, Roy H.: See—  
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- Bodenroder, Karl, to Record Automaten, A.G. Record changing mechanism. 3,085,805, 4-16-63, Cl. 274-10.
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Moller, Waldemar. 3,082,628.
- Bodge, Clifford A., to Texas Instruments Inc. Thermal relays. 3,112,384, 11-26-63, Cl. 200-122.
- Bodi, Gilbert M., and D. Hauri, to Libbey-Owens-Ford Glass Co. Apparatus for pressing glass sheet and plastic assemblies. 3,071,066, 1-1-63, Cl. 100-171.
- Bodian, Marcus, to Sunbeam Lighting Co. Movable arm for examination light. 3,072,374, 1-8-63, Cl. 248-278.
- Bodine, Albert G. Sonic earth boring drill with jacket. 3,096,833, 7-9-63, Cl. 175-56.
- Bodine, Albert G. Oscillatory fluid stream driven sonic generator with elastic autoresonator. 3,111,931, 11-26-63, Cl. 116-137.
- Bodine, Albert G., Jr. Sonic materials separation apparatus. 3,076,544, 2-5-63, Cl. 209-1.
- Bodine, Albert G., Jr. Sonic process for materials separation. 3,076,545, 2-5-63, Cl. 209-1.
- Bodine, Albert G., Jr. Sonic apparatus for material separation. 3,076,547, 2-5-63, Cl. 209-20.
- Bodine, Albert G., Jr. Sonic pump. 3,102,482, 9-3-63, Cl. 103-5.
- Bodkin, Laurence G. Composition for the alleviation of pain in tumor growth. 3,105,007, 9-24-63, Cl. 167-58.
- Bodkin, Lawrence E. Stylus and record protector and adapter therefor. 3,104,109, 9-17-63, Cl. 274-1.
- Bodkins, Roy L., to Phillips Petroleum Co. Injection molding apparatus. 3,111,717, 11-26-63, Cl. 18-42.
- Bodley, Robert W., to Union Tank Car Co. Valve structure for storage tank system. 3,095,113, 6-25-63, Cl. 220-85.
- Bodmeier, Gottfried: See—  
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- Bodmer, Maximiliaan H., to North American Phillips Co., Inc. Double helical waveguide feed with linear slot array for frequency scanning. 3,105,968, 10-1-63, Cl. 343-771.
- Bodnar, John J., and S. Lewis, to Melrose Hospital Uniform Co., Inc. Body restraint device for bed patients. 3,108,292, 10-29-63, Cl. 5-317.
- Bodnar, Michael: See—  
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- Bodrov, Alexander D.: See—  
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- Body, Albert J., to The United States Time Corp. Watch lubrication system. 3,080,703, 3-12-63, Cl. 58-140.



- Body, Alfred C.: *See*—  
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- Boe, Carsten F., and L. I. Osipow; said Osipow, assor. to said Boe. Pressure-packed polymerizable materials. 3,096,001, 7-2-63, Cl. 222-135.
- Boecker, Bruce B.: *See*—  
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- Boeddeker, William T., and H. L. Frick, to Whirlpool Corp. Retractable knob device. 3,100,404, 8-13-63, Cl. 74-553.
- Boehler, Max: *See*—  
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- Fuehring, Heinrich. 3,104,936.
- Boehler & Weber Kommanditgesellschaft: *See*—  
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- Fuehring, Heinrich. 3,104,936.
- Boehm, Hans, M. Fischer, F. Haubach, G. Schiller, E. Umlauf, and H. Weber, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of olefine polymers. 3,116,274, 12-31-63, Cl. 260-94.9.
- Boehm, Josef, to United States of America, Army. Cam producing apparatus. 3,106,868, 10-15-63, Cl. 90-13.
- Boehm, Josef, and L. L. Mitchum. Vision skirt. 3,109,608, 11-5-63, Cl. 244-1.
- Boehme, Carl A. Fish locating instrument. 3,111,762, 11-26-63, Cl. 33-64.
- Boehme, Werner R., and E. T. Chinery, to Ethicon, Inc. Process for preparing soluble, sporidically active solid polyglyoxals. 3,079,985, 3-5-63, Cl. 159-48.
- Boehringer, C. F., & Soehne G.m.b.H.: *See*—  
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- Popelak, Alfred, and Lettenbauer. 3,108,107.
- Popelak, Alfred, and Lettenbauer. 3,113,134.
- Ruge, Ulrich. 3,100,149.
- Boehringer, C. H., Sohn: *See*—  
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- Boeijinga, Ruurd. Aligning devices for printing forms. 3,104,475, 9-24-63, Cl. 33-184.5.
- Boeing Airplane Co.: *See*—  
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- Adams, Clarence R. 3,112,140.
- Champoux, Louis, and Siebol. 3,094,017.
- Cook, Walter L. 3,092,361.
- Cook, Walter L. 3,099,057.
- Cook, Walter L., and McKelvey. 3,092,360.
- Doss, Joseph H., and Graham. 3,099,261.
- Edmunds, Arthur B., Jr. 3,095,873.
- Evelyn, George B., Newell, and Peterson. 3,101,918.
- Gall, Joseph R., and Johnson. 3,108,902.
- Gall, Joseph R., Wheeler, and Johnson. 3,108,987.
- Gerstine, Milton I. 3,099,421.
- Gozinsky, John R. 3,087,139.
- Hastings, Allan J., and Julian. 3,081,059.
- Hebeler, Henry K. 3,089,318.
- Kero, Arthur L. 3,074,630.
- Lunden, Clarence D. 3,090,020.
- Miller, Glen E. 3,099,798.
- Oh, Luis. 3,099,807.
- Oh, Luis L. 3,113,267.
- Oh, Luis L. 3,113,276.
- Preikschat, Fritz K. 3,113,315.
- Quenzler, Henry H. W. 3,081,964.
- Quenzler, Henry H. W. 3,089,666.
- Quenzler, Henry H. W., and Schmidt. 3,109,610.
- Reinhart, William A. 3,095,697.
- Reinhold, Richard S. 3,076,964.
- Schmitt, Hubert A. 3,091,277.
- Schreiber, Robert E. 3,070,998.
- Smith, Raymond G. 3,109,285.
- Steidl, Robert H. 3,109,614.
- Streimer, Irving. 3,087,488.
- Streimer, Irving. 3,097,638.
- Streimer, Irving. 3,097,639.
- Trifonoff, George T. 3,074,320.
- Vetter, Earl E. 3,080,707.
- Boeke, Jan, and J. N. Welch. Watermelon cutter-press. 3,094,062, 6-18-63, Cl. 100-94.
- Boemle, Wayne A. Collar for preventing fur chewing. 3,072,098, 1-8-63, Cl. 119-106.
- Boenau, Arthur H., to Socony Mobil Oil Co., Inc. Heated and cooled mixture of wax and polyethylene. 3,105,823, 10-1-63, Cl. 260-28.5.
- Boenig, Hermann V., and D. S. Weir, to The Goodyear Tire & Rubber Co. N-di (piperazino carboxy alkyl) allyl carbamate. 3,072,657, 1-8-63, Cl. 260-268.
- Boenig, Hermann V., and N. Walker, to Brookpark, Inc. Stain resistant aminoplast resins. 3,111,420, 11-19-63, Cl. 117-72.
- Boenning, Robert A., and L. S. Otis, 1/2 to W. G. Finch. Contact switch device. 3,111,608, 11-19-63, Cl. 317-146.
- Boensel, Donald W., to United States of America, Army. Reduced turn-off time transistor switch. 3,089,041, 5-7-63, Cl. 307-88.5.
- Boerdor, William R. Illuminated display fountain. 3,104,814, 9-24-63, Cl. 239-18.
- Boeryd, Arne G. T., to Telefonaktiebolaget L M Ericsson. Signalling arrangement for telephone instruments. 3,075,048, 1-22-63, Cl. 179-84.
- Boesch, Moritz C., to Consolidated Cigar Corp., Distributing and conveying system. 3,105,587, 10-1-63, Cl. 198-79.
- Boesch, Philip W.: *See*—  
Hardinger, Kermit E., and Boesch. 3,109,172.
- Boese, Arthur H. Flow control neck or head. 3,102,651, 9-3-63, Cl. 215-31.
- Boese, Peter: *See*—  
Lott, Heinz Günter, Bütz, and Boese. 3,109,092.
- Boesel, Walter F., A. G. Carter, E. Oldfield, and G. L. Tiley, to Canadian Westinghouse Co., Ltd. Motor control system. 3,075,133, 1-22-63, Cl. 318-148.
- Boeskool, Bernice L. Game apparatus having selectively movable cover elements for progressively exposing portions of a puzzle. 3,110,499, 11-12-63, Cl. 273-139.
- Boettcher, Stephen A. Lapping machine fixture. 3,090,169, 5-21-63, Cl. 51-131.
- Boettcher, Stephen A., to Speedlap Corp. Lapping machine. 3,110,988, 11-19-63, Cl. 51-131.
- Boettcher, Stephen A., to Speedlap Corp. Device for feeding an abrasive mixture to a lapping machine. 3,110,991, 11-19-63, Cl. 51-263.
- Boettner, Fred E.: *See*—  
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- Boettner, Fred E., and J. Dupré, to Rohm & Haas Co. Surfactants. 3,079,348, 2-26-63, Cl. 252-355.
- Boetto, Charles: *See*—  
Morkoski, James, Boetto, Bauman, and Westerfield. 3,080,930.
- Boffa, Antonio E. Mold for the manufacture of flat flexible articles. 3,072,966, 1-15-63, Cl. 18-34.
- Bofors, Aktiebolaget: *See*—  
Aldrin, Henry W., and Johnson. 3,111,182.
- Andersson, Gustav T., and Engman. 3,109,344.
- Berge, Sven E. 3,101,028.
- Gustafsson, Axel G. V., and P. O. L. 3,088,901.
- Gustafsson, Per O. L. 3,106,066.
- Kallin, Kurt G. L., and Olsson. 3,070,955.
- Olér, Ernst B. 3,087,668.
- Segerberg, Åke T. G. 3,091,994.
- Thorildsson, Karl-John T. 3,087,427.
- Thursson af Ekenstam, Bo, Henn, and Johannson. 3,106,562.
- Bogaerts, Leo C.: *See*—  
Kushmuk, Walter P., and Bogaerts. 3,089,295.
- Bogaerts, Leo C., to Amcco Tools, Inc. Brake lining groover. 3,110,990, 11-19-63, Cl. 51-181.
- Bogan, Robert W., and M. C. Goodwin, to Burroughs Corp. Tape feed mechanism for a recording device. 3,112,871, 12-3-63, Cl. 234-129.
- Bogar, Earl M., Jr. Folding cross rail and support leg structure for bedframes. 3,114,917, 12-24-63, Cl. 5-176.
- Bogar, Lawrence A. Liquid aerating and agitating device. 3,076,976, 2-12-63, Cl. 4-180.
- Bogardus, Kenneth W.: *See*—  
Gaither, Donald D., and Bogardus. 3,113,515.
- Bogart, George A., 49% to A. J. Klein. Adjustable chair. 3,091,426, 5-28-63, Cl. 248-393.
- Bogart, Marcel J. P., to The Lummus Co. Regenerative furnace. 3,087,797, 4-30-63, Cl. 23-277.
- Bogdanskii, John J., and J. V. Kubovy, to Pitney-Bowes, Inc. Carton handling apparatus. 3,084,490, 4-9-63, Cl. 53-67.
- Bogdonoff, Harold: *See*—  
Bickmore, John T., Bogdonoff, and Burris. 3,105,777.
- Bogdonoff, Harold, and F. W. Hudson. Method of developing an electrostatic latent image on a xerographic plate. 3,103,445, 9-10-63, Cl. 117-17.5.
- Boge G.m.b.H.: *See*—  
Hoffmann, Hans-Jürgen, and Frenzel. 3,105,574.
- Tuczek, Franz. 3,086,786.
- Bogel, Graham D., and W. B. Wilson. Supplemental signaling system for special railway track equipment. 3,079,496, 2-26-63, Cl. 246-167.
- Bogert, Ernest H.: *See*—  
Schneider, Harold H., and Bogert. 3,110,790.
- Bogert, John J., to National Laboratories and Mfg. Corp. Inspection equipment. 3,089,381, 5-14-63, Cl. 88-14.
- Bogert, Thure B.: *See*—  
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- Bogert, William M., and H. V. Johnson, to Westinghouse Electric Corp. Tap-changing equipment. 3,086,164, 4-16-63, Cl. 323-43.5.
- Boggis, Henry P., to Henry P. Boggis Co. Relieving fixture for grinding machines. 3,081,585, 3-19-63, Cl. 51-234.
- Boggis, Henry P., Co.: *See*—  
Boggis, Henry P. 3,081,585.
- Boggs, Alben C., to Edwin L. Wiegand Co. Electric heaters. 3,080,543, 3-5-63, Cl. 338-273.
- Boggs, Beryl A. Variable speed transmission. 3,114,273, 12-17-63, Cl. 74-679.
- Boggs, Fitzhugh W., to United States Rubber Co. Coated object having reduced frictional drag in liquids. 3,076,725, 2-5-63, Cl. 117-121.
- Boggs, H. D. Co., Ltd.: *See*—  
Boggs, Herbert D. 3,093,160.
- Boggs, Herbert D., and Magoon. 3,112,530.
- Boggs, Herbert D., and Magoon. 3,114,173.
- Boggs, Harry L.: *See*—  
Wood, James R., and Boggs. 3,090,220.
- Boggs, Herbert D., to H. D. Boggs Co. Ltd. Plastic articles and method of making same. 3,093,160, 6-11-63, Cl. 138-140.
- Boggs, Herbert D., and F. L. Magoon, Jr., to H. D. Boggs Co., Ltd. Pipe casting apparatus. 3,112,530, 12-3-63, Cl. 18-26.
- Boggs, Herbert D., and F. L. Magoon, Jr., to H. D. Boggs Co., Ltd. Apparatus for loading pipe casting molds. 3,114,173, 12-17-63, Cl. 18-26.



- Boggs, Samuel D., Jr.: *See*—  
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- Boggs, Samuel D., Sr., and S. D. Boggs, Jr.; said S. D. Boggs, Sr., assor. to said S. D. Boggs, Jr., d.b.a. Boggs Tool & Mfg. Co. Soldering iron. 3,111,101, 11-19-63, Cl. 113-105.
- Boggs Tool & Mfg. Co.: *See*—  
Boggs, Samuel D., Sr., and S. D. Boggs, Jr. 3,111,101.
- Boggs, William E., to United States Steel Corp. Method of making tin plate resistant to oxidation. 3,105,022, 9-24-63, Cl. 204-37.
- Boguss, James D., to Marble Products Co. of Georgia. Dyeing natural stones and shells with oil soluble dyes. 3,079,209, 2-26-63, Cl. 8-8.
- Boguss, James D., to Marble Products Co. of Georgia. Pythalocyanine coloring of stone and aquatic animal shells, the materials so colored and structures made therefrom. 3,092,836, 6-1-63, Cl. 8-8.
- Bogin, Herman: *See*—  
Gold, Abraham, Gold, and Bogin. 3,092,119.
- Bogle, Robert W., and J. W. Kiebler, to United States of America, Navy. Hot cathode video detector. 3,079,564, 2-26-63, Cl. 329-162.
- Bogle, Robert W., and W. S. Knowles, to United States of America, Navy. Echo altimeter for a low level guidance system. 3,088,112, 4-30-63, Cl. 343-13.
- Bognar, Etienne, and M. A. Maistre, to Compagnie de Saint-Gobain. Heat transfer apparatus. 3,085,626, 4-16-63, Cl. 165-11.
- Bogner, Richard D., to General Bronze Corp. Composite antenna of the retarded surface wave type. 3,087,157, 4-23-63, Cl. 343-729.
- Bogue Electric Mfg. Co.: *See*—  
Herbst, John A. 3,083,469.  
Sauer, Lawrence. 3,115,615.
- Boguslawski, Rudolf, to Bayerische Motoren Werke A.G. Shifting control arrangement for change-speed gears. 3,076,550, 2-5-63, Cl. 74-336.5.
- Bohannan, William R.: *See*—  
Koch, Donald T., and Bohannan. 3,096,926.
- Böhle, Ulrich: *See*—  
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- Böhler, Gebr., & Co.: *See*—  
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- Böhlin, Nils I., to Svenska Aeroplan Aktiebolaget. Device to protect an occupant against bodily injury during emergency escape from aircraft. 3,074,669, 1-22-63, Cl. 244-122.
- Bohlmann, Ferdinand, H. Dexheimer, O. Fuchs, and H. Kramer, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Method for making a polymer semiconductor and article. 3,083,125, 3-26-63, Cl. 117-201.
- Bohlsen, Albert J. Hammer holster. 3,100,590, 8-13-63, Cl. 224-5.
- Bohm, George. Slotted garment boning for end stitching. 3,113,322, 12-10-63, Cl. 2-257.
- Bohm, Helmut, to Miweg Mikrowellen A.G. Air cooler for power tubes. 3,095,037, 6-25-63, Cl. 165-47.
- Bohm, Otto: *See*—  
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- Bohm, Siegfried, W. Hahn, W. Hennig, K. Hintze, and J. Weise, to Kamera-und Kinowerke Dresden, VEB. Photographic camera. 3,072,031, 1-8-63, Cl. 95-10.
- Bohm, Siegfried, F. Winkler, and H. Fischer, to VEB Kamera- und Kinowerke Dresden. Photographic cameras fitted with focal plane shutter. 3,101,657, 8-27-63, Cl. 95-42.
- Bohm, Walter F., and C. D. Holton, to General Motors Corp. Method of making a composite article. 3,112,541, 12-3-63, Cl. 22-203.
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Wedell, Hans. 3,086,944.
- Böhme, Hermann. Flashbulb unit for photographic cameras. 3,109,595, 11-5-63, Cl. 240-1.3.
- Bohmert, William J., to Acme Manufacturing Co., Inc. Improvement in manifold assembly. 3,107,929, 10-22-63, Cl. 282-11.5.
- Bohn, Frank W. Glass washer. 3,086,241, 4-23-63, Cl. 15-511.
- Bohn, Karl A. Metal stock cutting and bending tool. 3,087,242, 4-30-63, Cl. 29-564.
- Bohne, Leo J. Plumber's brush. 3,106,738, 10-15-63, Cl. 15-184.
- Bohnenkamp, Paul F. Bicycle extension. 3,113,785, 12-10-63, Cl. 280-7.15.
- Bohner, Earl A., Jr.: *See*—  
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- Bohnet, Emil. Adjustable jaw wrench. 3,093,019, 6-11-63, Cl. 81-166.
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- Bohnsack, John A., to The E. F. Hauserman Co. Glazing assembly. 3,081,504, 3-19-63, Cl. 20-56.4.
- Bohon, Giles W., to R. J. Bailey. Detachable fence. 3,093,363, 6-11-63, Cl. 256-26.
- Bohor, Bruce F.: *See*—  
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- Bohr, Alexander H.: *See*—  
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- Bohr, George W. Record holding and storing rack. 3,090,491, 5-21-63, Cl. 211-40.
- Bohrer, John J., W. F. Ebling, Jr., and B. J. Patton, to International Resistance Co. Printed circuit unit. 3,077,511, 2-12-63, Cl. 174-68.5.
- Bohres, William C., R. T. Fields, and T. F. Jordan, to E. I. du Pont de Nemours and Co. Method for making thermoplastic pipes. 3,103,409, 9-10-63, Cl. 18-55.
- Bohus, Theodore. Shuttle-moving mechanism for Schiffli embroidery apparatus. 3,104,635, 9-24-63, Cl. 112-95.
- Bohus, Theodore, to E.M.I.C. Corp. Shuttle-moving mechanism for a Schiffli embroidering machine. 3,104,636, 9-24-63, Cl. 112-95.
- Boicey, James H., and F. E. Henning, to Libbey-Owens-Ford Glass Co. Apparatus for pressing glass-plastic sandwiches. 3,100,173, 8-6-63, Cl. 156-579.
- Boies, David B., J. Crowther, and W. J. Ryzner, to Nalco Chemical Co. Inhibiting corrosion with chromium-quaternary ammonium salt compositions. 3,079,220, 2-26-63, Cl. 21-2.7.
- Boies, David B., J. Crowther, and W. J. Ryzner, to Nalco Chemical Co. Inhibition of corrosion of metal surfaces in contact with corrosive aqueous media. 3,081,146, 3-12-63, Cl. 21-2.7.
- Boisjoly, Fernand: *See*—  
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- Boissevain, Matthijs G. J., to Astra Corp. Educational device. 3,100,352, 8-13-63, Cl. 35-9.
- Boissonnas, Roger, to Sandoz Ltd. (also known as Sandoz A.G.) Process for the preparation of L-(X)-glutamine. 3,105,852, 10-1-63, Cl. 260-534.
- Boitel, Arwed C., to Alton Box Board Co. End cushioned paperboard container. 3,094,267, 6-18-63, Cl. 229-40.
- Boiu, Rudolph R. Adjustable door hanger. 3,100,316, 8-13-63, Cl. 16-105.
- Bok, Antonio, to Tervalon (Maatschappij voor voedingsmid-delen op Wetenschappelijke basis) N.V. Method of drying a lactulose-containing aqueous liquid. 3,110,600, 11-12-63, Cl. 99-203.
- Bok, Cornelis: *See*—  
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- Bok, Edward. Flat bag with an adhesive seal. 3,085,738, 4-16-63, Cl. 229-62.
- Bokesch, Elmer R.: *See*—  
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- Bokum Tool Co., Inc.: *See*—  
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- Boland, Harry B. Industrial heat treating device. 3,114,822, 12-17-63, Cl. 219-35.
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- Bolding, Hubert V., to Packaging Developments, Inc. Tape package. 3,106,288, 10-8-63, Cl. 206-52.
- Boldizar, Leslie, to American Cyanamid Co. Electrical grade aminotriazine-aldehyde-amine resinous compositions. 3,082,190, 3-19-63, Cl. 260-67.6.
- Boldizar, Leslie, and L. C. Pounds, to American Cyanamid Co. Modified melamine-formaldehyde resin for decorative laminating and process for preparing same. 3,082,180, 3-19-63, Cl. 260-17.3.
- Boldridge, Austin G., Jr., to J. J. Mascuch. Electron ballistic accelerometer. 3,114,268, 12-17-63, Cl. 73-517.
- Boldrin, Luigi. Motor weeder, particularly for weeding road sides and the like. 3,094,831, 6-25-63, Cl. 56-25.4.
- Bolen, Edward P.: *See*—  
Hoagland, William W., and Bolen. 3,087,171.
- Bolen, Kenneth E., to Phillips Petroleum Co. Method for the dehydration of liquids. 3,096,380, 7-2-63, Cl. 260-666.
- Bolenbach, Adolf. Rubber tire tread grooves and patterns. 3,104,693, 9-24-63, Cl. 152-209.
- Boler, Leonard J., and H. L. McClelland, to The Bendix Corp. Vibration resistant acceleration activated valve. 3,100,495, 8-13-63, Cl. 137-38.
- Boles, Le Clare B., S. Dinerstein, and E. J. Niznik, to Amphinol-Borg Electronics Corp. Automatic clock regulator. 3,112,605, 12-3-63, Cl. 58-85.5.
- Boles, Richard J., to General Electric Co. High resistance rotor. 3,083,313, 3-26-63, Cl. 310-212.
- Boles, Sol, and C. R. Kenny, to General Precision, Inc. Micro-wave pulsing circuit. 3,090,921, 5-21-63, Cl. 328-65.
- Bolesky, Richard C., to United States Rubber Co. Seat constructions and processes of producing the same. 3,099,844, 8-6-63, Cl. 5-354.
- Bolifar, John L. Lock tumbler pin gauge device. 3,113,386, 12-10-63, Cl. 33-172.
- Bolgiano, Nicholas C., to Armstrong Cork Co. Polycarbonate resin plasticized with the reaction product of isatoic anhydride and a dihydric alcohol. 3,071,556, 1-1-63, Cl. 260-31.4.
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- Bolin, Edward L.: *See*—  
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- Bolinder, Ludwig W., T. B. Bogert, R. Sylvén, deceased (by M. Sylvén, administratrix), to Aktiebolaget Addo. Apparatus for winding a strip with sheets thereon around the platen of a listing machine. 3,075,680, 1-29-63, Cl. 226-157.
- Bolinger, George N. Flashlight. 3,079,492, 2-26-63, Cl. 240-10.66.
- Bolkcom, Wilbur T.: *See*—  
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- Bolkcom, Wilbur T., and W. E. Knapp, to American Metallurgical Products Co. Additives for molten metals. 3,078,531, 2-26-63, Cl. 22-215.
- Bolkcom, Wilbur T., and W. E. Knapp, Additives for molten metals. 3,079,250, 2-26-63, Cl. 75-53.
- Bolkow-Entwicklungen Kommanditgesellschaft: *See*—  
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- Derschmidt, Hans. 3,107,733.
- Draheim, Willi, and Möhl. 3,077,315.
- Haberkorn, Erich. 3,107,883.
- Kaufmann, Michael. 3,112,708.
- Kirsch, Wilhelm. 3,073,994.
- Schekulin, Hans. 3,109,497.
- Senger, Horst. 3,090,582.
- Zeyher, Fritz. 3,112,906.
- Bollar, Leo C., to The Warner & Swasey Co. High energy impact machine. 3,103,136, 9-10-63, Cl. 78-42.
- Bollard, Arthur W., to The Colonial Iron Works Co. Mixer. 3,080,151, 3-5-63, Cl. 259-99.
- Bollefer, Dwight L., to Kodiak Inc. Machine for making chipped ice. 3,112,622, 12-3-63, Cl. 62-320.
- Bollenbach, Willard M.: *See*—  
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- Boller, Arthur, H. Els, and A. Furst, to Hoffmann-La Roche Inc. Diallyl-nortoxiferine dihalides. 3,080,373, 3-5-63, Cl. 260-294.7.
- Boller, Arthur, A. Furst, and W. Meier, to Hoffmann-La Roche Inc. Preparation of nitrogen heterocyclic compounds. 3,116,283, 12-31-63, Cl. 260-239.
- Boller, Charles R., to Standard Conveyor Co. Carton unstacking machine. 3,074,595, 1-22-63, Cl. 221-221.
- Bolles, Elmer R.: *See*—  
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- Bolles, Elwood C., and J. Wind, Jr., to Chris-Craft Industries, Inc. Combination edge turning and welding die. 3,089,536, 5-14-63, Cl. 156-479.
- Bollesen, Vernon P. Automatic restarting arrangement for electrically driven irrigation pumps. 3,078,392, 2-19-63, Cl. 317-13.
- Bollier, Jacob C. Transmission. 3,089,348, 5-14-63, Cl. 74-688.
- Bollinger, Frederick W.: *See*—  
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- Bollmeier, Emil W., and L. F. Vokaty, to Minnesota Mining & Mfg. Co. Combination package. 3,074,544, 1-22-63, Cl. 206-47.
- Bollmeier, Emil W., and L. F. Vokaty, to Minnesota Mining & Mfg. Co. Package of inter-reactive materials. 3,087,606, 4-30-63, Cl. 206-47.
- Bollum, Carl W., Sr., to Carwil Enterprises, Inc. Earth-skimming air vehicle. 3,078,938, 2-26-63, Cl. 180-7.
- Bollum, Carl W., Sr., to Carwil Enterprises, Inc. Earth-skimming air vehicle. 3,078,939, 2-26-63, Cl. 180-7.
- Bollum, Carl W., Sr., to Carwil Enterprises, Inc. Earth-skimming air vehicle with pressure responsive valve means. 3,106,260, 10-8-63, Cl. 180-7.
- Bolmgren, Lester N., to Minneapolis-Honeywell Regulator Co. Temperature control apparatus with adjustable cycling. 3,075,130, 1-22-63, Cl. 317-153.
- Bolstad, Richard: *See*—  
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- Baruch, Jordan J., and Watters. 3,087,575.
- Fredkin, Edward. 3,105,593.
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- Kerwin, Edward M., Jr. 3,087,571.
- Kurtze, Guenther. 3,087,567.
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- Kurtze, Guenther. 3,087,569.
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- Bolt, Harry C., to Terrapin (Overseas) Ltd. Building structures. 3,103,709, 9-17-63, Cl. 20-2.
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- Denison, George H., Bolt, Kent, Christiansen, and Carroll. 3,115,467.
- Bolt, Robert O., and W. W. West, to United States of America, Atomic Energy Commission. Process for producing and recovering organic nuclear reactor coolant-moderators. 3,086,932, 4-23-63, Cl. 204-193.2.
- Boltinghouse, Joseph C.: *See*—  
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- Bolton, Andrew L.: *See*—  
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- Bolton, Benjamin A., to Standard Oil Co. Polyurethane compositions. 3,072,614, 1-8-63, Cl. 260-77.5.
- Bolton, Benjamin A., to Standard Oil Co. Surface coating composition of a resin-polyester mixture. 3,075,936, 1-29-63, Cl. 260-29.6.
- Bolton, Benjamin A., and R. L. Broadhead, to Standard Oil Co. Water soluble composition for baked surface coatings comprising a polyester resin and an amino resin. 3,102,868, 9-3-63, Cl. 260-45.3.
- Bolton, Charles B.: *See*—  
Parry, Robert D. 3,103,327.
- Bolton, Frank H.: *See*—  
Kent, Ray W., Jr., and Bolton. 3,097,186.
- Bolton, Harold B., to California Research Corp. Mooring buoy assembly. 3,103,020, 9-10-63, Cl. 9-8.
- Bolton, John W., & Sons, Inc.: *See*—  
Danforth, Donald W. 3,103,336.
- Danforth, Donald W., and de Reus. 3,085,756.
- Bolton, Kenyon C.: *See*—  
Parry, Robert D. 3,103,327.
- Bolton, Michael R. H.: *See*—  
Saxon, William R., Bolton, Rainville, and Petricola. 3,083,075.
- Bolton, Norman A.: *See*—  
Kendall, Hugh C., Auer, Bolton, and Frielinghaus. 3,110,008.
- Bolton, Norman A., to General Railway Signal Co. Multilane traffic counter. 3,079,077, 2-26-63, Cl. 235-99.
- Bolton, Norman A., to General Signal Corp. Ultrasonic vehicle detector. 3,102,252, 8-27-63, Cl. 340-38.
- Bolton, Norman A., to General Signal Corp. Directional traffic control system. 3,109,157, 10-29-63, Cl. 340-39.
- Bolton, Norman A., to General Signal Corp. Toll estimation system. 3,109,926, 11-5-63, Cl. 235-92.
- Bolton, Norman A., and G. Vande Sande, to General Signal Corp. Ultrasonic vehicle detector system. 3,110,009, 11-5-63, Cl. 340-38.
- Bolton, Paul D. Ramp for airport passengers and freight. 3,110,048, 11-12-63, Cl. 14-71.
- Bolton, Robert H.: *See*—  
Hecht, Herbert, and Bolton. 3,082,388.
- Bolton, Robert H., to Sperry Rand Corp. Electromagnetic transducer device. 3,089,044, 5-7-63, Cl. 310-36.
- Bolton, Wilbur M.: *See*—  
Breining, Elmer R., and Bolton. 3,111,731.
- Bolz, Karl: *See*—  
Dreher, Emil, Raack, and Bolz. 3,075,894.
- Bolz, Karl, and H. Hein, to Byk-Gulden Lomborg Chemische Fabrik G.m.b.H. Stable, bacteriostatic composition. 3,073,742, 1-15-63, Cl. 167-65.
- Boman, Carl-Johan. Horizontally nestable chairs. 3,087,755, 4-30-63, Cl. 297-239.
- Boman, Thomas G. Pie marker and crimper. 3,108,548, 10-29-63, Cl. 107-49.
- Bombardier, Joseph A. Motor vehicle for cutting, loading and transporting trees. 3,074,447, 1-22-63, Cl. 144-3.
- Bomberger, David C., to United States of America Navy. Collision course vectoring computer. 3,078,041, 2-19-63, Cl. 235-187.
- Bomberger, Howard B., and E. E. Knappek, to Crucible Steel Co. of America. Titanium alloy articles resistant to hydrogen absorption for dynamoelectric machines. 3,113,227, 12-3-63, Cl. 310-55.
- Bo-Mer Mfg. Corp.: *See*—  
Cowles, Edwin, and Bowen. 3,096,036.
- Bomm, Heinz, to Dorken & Mankel K. G. Automatic door closer, especially lift door closer. 3,108,315, 10-29-63, Cl. 16-55.
- Bomm, Heinz, and K. Berghaus, to Dorken & Mankel K. G. Automatic door closer. 3,098,259, 7-23-63, Cl. 16-59.
- Bonafide Mills, Inc.: *See*—  
Rowe, William. 3,078,510.
- Bonami, Ernest: *See*—  
Connick, Francis G., Brendle, Strandine, and Bonami. 3,112,531.
- Bonanni, Angelo P. Method of preparing a diisocyanate-based laminating resin. 3,088,934, 5-7-63, Cl. 260-77.5.
- Bonanno, Joseph L.: *See*—  
Cohn, Hugo, and Bonanno. 3,104,110.
- Bonanno, Joseph L., to The Lionel Corp. Toy truck structure. 3,074,647, 1-22-63, Cl. 238-10.
- Bonanno, Joseph L., to Walter E. Heller & Co. (Inc.). Telephone device. 3,113,186, 12-3-63, Cl. 179-101.
- Bonanno, Joseph L., to Walter E. Heller & Co. (Inc.). Power control device. 3,113,258, 12-3-63, Cl. 321-24.
- Bonanno, Joseph L., and F. Pettit, to Walter E. Heller Co. (Inc.). Track cleaning car. 3,103,897, 9-17-63, Cl. 104-279.
- Bonarrigo, Paul J., and M. J. Ginsburg, to Pennsylvania Sewing Research Corp. Dolly for enabling a single operator to move a work table. 3,105,698, 10-1-63, Cl. 280-47.13.
- Bonas Bros. Ltd.: *See*—  
Arnold, William C. 3,078,881.



- Bond, Donald C., and L. R. W. Holm, to The Pure Oil Co. Improved flooding method for the recovery of petroleum. 3,072,185, 1-8-63, Cl. 166-11.
- Bond, Donald C., and L. J. O'Brien, to The Pure Oil Co. Heat transfer petroleum recovery process. 3,072,191, 1-8-63, Cl. 166-39.
- Bond, Donald S., to Radio Corp. of America. Radar tracking and display system. 3,085,243, 4-9-63, Cl. 343-7.3.
- Bond, Elizabeth A., H. N. Gold, and J. S. Marran, to Chart-Pak Inc. Transparent sheet provided with characters and instrumentalities for using such characters. 3,099,089, 7-30-63, Cl. 33-1.
- Bond, Harry L. F., to Davy and United Engineering Co., Ltd. Apparatus for coiling and uncoiling strip material. 3,073,543, 1-15-63, Cl. 242-78.4.
- Bond, Harry L. F., to Davy and United Engineering Co. Ltd. Strip coiler. 3,100,605, 8-13-63, Cl. 242-80.
- Bond, Harry L. F., to Davy and United Engineering Co. Ltd. Expandable mandrel. 3,104,849, 9-24-63, Cl. 242-72.1.
- Bond, James H.: See—
- Harrington, Robert C., Jr., Smith, and Bond. 3,110,642.
- Bond, Robert W., to Corn Products Co. Interrupted starch hydrolysis. 3,100,740, 8-13-63, Cl. 195-81.
- Bond, Robert W., J. H. Ladd, R. L. Roberts, G. R. Keller, and H. G. Markey, to North American Aviation, Inc. Autopilot. 3,094,299, 6-18-63, Cl. 244-77.
- Bondley, Ralph J., to General Electric Co. Method of making composite bodies. 3,100,339, 8-13-63, Cl. 29-473.1.
- Bondonio, Ernesto. Means for heating by reflected infra-red rays. 3,075,064, 1-22-63, Cl. 219-34.
- Bonds, Albert, to Preformed Line Products Co. Wire cutting mechanism. 3,091,988, 6-4-63, Cl. 83-355.
- Bondy, Philip L., to General Cigar Co., Inc. Change dispensing device. 3,114,452, 12-17-63, Cl. 206-81.
- Bone, Arnold R., to Dennison Mfg. Co. Indicia-applying machine. 3,095,807, 7-2-63, Cl. 101-19.
- Bone, Arnold R., to Dennison Mfg. Co. Tag attaching apparatus. 3,103,666, 9-17-63, Cl. 1-301.
- Bone, Revella M. Illuminated water sprayer. 3,088,675, 5-7-63, Cl. 239-20.
- Boness, Martin: See—
- Kuhle, Engelbert, Grewe, Unterstenhofer, Boness, and Wegler. 3,096,237.
- Bonetti, Nathaniel W. R., and R. James, Jr., to Esso Research and Engineering Co. Fluid delivery device. 3,097,671, 7-16-63, Cl. 141-116.
- Bonewits, Robert P., to General Motors Corp. Self-centering work holder. 3,107,522, 10-22-63, Cl. 73-103.
- Bonewitz, Everett D. Exerciser. 3,100,639, 8-13-63, Cl. 273-57.
- Bongard, Wilhelm: See—
- Nischk, Gunther, Holtschmidt, Bongard, and Bayer. 3,096,296.
- Bongartz, Heins: See—
- Kabelitz, Hans, Lennartz, and Bongartz. 3,074,178.
- Bonham, Don L. Electrical music system. 3,083,606, 4-2-63, Cl. 84-1.25.
- Bonhomme, Francois R., to Curtiss-Wright Corp. Electrical connector socket. 3,107,966, 10-22-63, Cl. 339-241.
- Bonia, Walter J., to United States of America, Navy. Current regulator with reinforced feedback. 3,093,800, 6-11-63, Cl. 328-267.
- Bonic, Isaac. Device for clearing snow from the path of an automobile wheel. 3,088,230, 5-7-63, Cl. 37-53.
- Bonifas, James L., and E. W. Onulak, to The Locke Steel Chain Co. Power operated pin removing device having automatic means for retracting the tool thereof. 3,075,347, 1-29-63, Cl. 59-7.
- Bonin, George E., to Corning Glass Works. Flexible hone. 3,113,406, 12-10-63, Cl. 51-185.
- Bonmartini, Francesco: See—
- Panzer, Jerome, Beerbower, Bonmartini. 3,111,381.
- Bonn, Erich: See—
- Huboi, Karl A., Eickler, and Bonn. 3,081,643.
- Bonn, Theodore H.: See—
- Eckert, John P., Jr., and Bonn. 3,097,304.
- Bonn, Theodore H., to Sperry Rand Corp. Opposite conducting type transistor control circuits. 3,097,307, 7-9-63, Cl. 307-88.5.
- Bonn, Theodore H., and R. D. Torrey, to Sperry Rand Corp. Signal translating device. 3,071,694, 1-1-63, Cl. 307-88.
- Bonn, Theodore H., and J. P. Eckert, Jr., to Sperry Rand Corp. Signal translating device. 3,087,072, 4-23-63, Cl. 307-88.
- Bonnafe, Oliver W., to The Lapointe Machine Tool Co. Vertical broach. 3,087,389, 4-30-63, Cl. 90-91.
- Bonnafe, Oliver W., to The Lapointe Machine Tool Co. Broaching apparatus. 3,103,852, 9-17-63, Cl. 90-97.
- Bonnee, Arthur A., to Tee-Pak, Inc. Control for shirring machine. 3,112,516, 12-3-63, Cl. 17-42.
- Bonnefoi, Antoine, to Institut Pasteur. Method for producing biological pest-destroying reagents. 3,071,519, 1-1-63, Cl. 195-96.
- Bonner, John J., to Philco Corp. Washer-dryer with lint removing means. 3,111,018, 11-19-63, Cl. 68-20.
- Bonner, Tom W., to Socony Mobil Oil Co., Inc. Sensitive low voltage proportional counter for neutron detection containing He<sup>3</sup> at superatmospheric pressure. 3,102,198, 8-27-63, Cl. 250-83.1.
- Bonner, Willard H., Jr., to E. I. du Pont de Nemours and Co. Process for spinning and drawing polyalkylene isophthalamides. 3,088,794, 5-7-63, Cl. 18-54.
- Bonnet, Georges, and J. Petit, to Commissariat a l'Energie Atomique. Process of operation of and window for a high-activity cell. 3,114,945, 12-24-63, Cl. 20-40.
- Bonnet, Jacques: See—
- Neukomm, Serge, and Bonnet. 3,096,773.
- Bonnet, Yannik: See—
- Lafont, Pierre, and Bonnet. 3,085,107.
- Lafont, Pierre, and Bonnet. 3,085,109.
- Lafont, Pierre, and Bonnet. 3,101,347.
- Bonnett, George M., to Newport News Shipbuilding and Dry Dock Co. Moisture separator apparatus. 3,104,963, 9-24-63, Cl. 55-332.
- Bonney, David W. Combined planting machine. 3,110,275, 11-12-63, Cl. 111-70.
- Bonney, Roland W. Golf ball picker. 3,102,647, 9-3-63, Cl. 214-356.
- Bonnierforetagen, AB: See—
- Nilsson, Herman B. 3,088,604.
- Bonnin, Louis E. Head mounting for contact microphones. 3,087,028, 4-23-63, Cl. 179-156.
- Bono, Luigi, to Necchi Societa per Azioni. Control system for a sewing machine. 3,077,845, 2-19-63, Cl. 112-219.
- Bono, Luigi, to Necchi Societa per Azioni. Arrangement for engaging and disengaging the mechanism controlling the movement of the needle-carrying bars in sewing machines provided with two needles. 3,077,846, 2-19-63, Cl. 112-221.
- Bono, Luigi, to Necchi Societa per Azioni. Zig-zag sewing machine. 3,081,724, 3-19-63, Cl. 112-158.
- Bono Luigi, to Necchi Societa per Azioni. Work holding device for use with sewing machines. 3,082,721, 3-26-63, Cl. 112-102.
- Bono, Luigi, to Necchi Societa per Azioni. Rotary hook for sewing machines. 3,090,335, 5-21-63, Cl. 112-231.
- Bono, Luigi, to Necchi Societa per Azioni. Change speed arrangement for sewing machines. 3,095,752, 7-2-63, Cl. 74-217.
- Bono, Luigi, to Necchi Societa per Azioni. Fabric feeder mechanism for sewing machine. 3,096,737, 7-9-63, Cl. 112-204.
- Bono, Luigi, to Necchi Societa per Azioni. Carrying case for sewing machines. 3,098,315, 7-23-63, Cl. 45-68.2.
- Bono, Luigi, to Necchi Societa per Azioni. Attachment for the fastening of buttons which can be applied to zig-zag sewing machines. 3,098,459, 7-23-63, Cl. 112-114.
- Bono, Luigi, to Necchi Societa per Azioni. Guide device for the automatic production of sewing designs with a sewing machine. 3,111,919, 11-26-63, Cl. 112-103.
- Bono, Luigi, to Necchi Societa per Azioni. Work holding attachment for a sewing machine. 3,112,718, 12-3-63, Cl. 112-102.
- Bono, Luigi, to Necchi Societa per Azioni. Device for driving the hook shaft of a double-stitch sewing machine. 3,112,720, 12-3-63, Cl. 112-200.
- Bono, Luigi, to Necchi Societa per Azioni. Buttonhole foot with cutting blade for sewing machines. 3,113,535, 12-10-63, Cl. 112-68.
- Bono, Luigi, to Necchi Societa per Azioni. Machine for sewing on designs including buttonholes. 3,113,537, 12-10-63, Cl. 112-158.
- Bonora, Matthew J. Fingerprinting. 3,075,852, 1-29-63, Cl. 117-5.
- Bonotto, Michele, to Tea Corp. Method for producing a concentrated tea extract. 3,080,237, 3-5-63, Cl. 99-77.
- Bonsall, George, and A. Brody, to Bro-Dart Industries, Inc. Elastically expandable holder for cards. 3,112,859, 12-3-63, Cl. 229-71.
- Bonser, Stanley W. Lawn mower blade. 3,093,952, 6-18-63, Cl. 56-295.
- Bonsignore, Charles: See—
- Medoff, Irving, and Bonsignore. 3,107,767.
- Bonsor, David V., to Interstate Bag Co., Inc. Apparatus for making carrier bags. 3,101,033, 8-20-63, Cl. 93-8.
- Bonvicini, Alberto, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Method for purifying olefin polymers. 3,080,353, 3-5-63, Cl. 260-93.7.
- Bonvicini, Alberto, A. Monaci, and V. Cappuccio, to Montecatini societa generale per l'Industria Mineraria e Chimica. Shaped articles comprising isotactic polypropylene having a surface formed of a graft copolymer, and method of making the articles. 3,073,667, 1-15-63, Cl. 8-115.5.
- Bonvicini, Alberto, and R. Postal, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Method for improving the dye-receptivity of articles formed of linear isotactic polypropylene. 3,093,615, 6-11-63, Cl. 260-45.5.
- Bonvicino, Guido E.: See—
- Semb, Joseph, Bonvicino, and Hardy. 3,072,649.
- Bonvicino, Guido E., to American Cyanamid Co. N-[4-phenyl-5,6-dihydro-1(2H)-pyridylalkyl]-3,4,5-trimethoxy-benzamides and -cinnamamides. 3,072,648, 1-8-63, Cl. 260-240.
- Boode, Carl N.: See—
- Bourns, Marlan E., Boode, and O'Brian. 3,085,217.
- Bourns, Marlan E., Boode, and O'Brian. 3,092,801.
- Booher, Charles F., II, to The Birtcher Corp. Tube socket mounting device. 3,113,821, 12-10-63, Cl. 339-131.
- Book, Herbert W., to Westinghouse Electric Corp. Thermal indicator for electrical apparatus. 3,077,777, 2-19-63, Cl. 73-350.
- Book, Herbert W., to Westinghouse Electric Corp. Electrical apparatus. 3,078,411, 2-19-63, Cl. 323-43.5.



- Book, Herbert W., and R. E. Rood, to Westinghouse Electric Corp. Thermally responsive device for electrical apparatus. 3,106,842, 10-15-63, Cl. 73-343.
- Book, William R. Ladder hoist. 3,074,508, 1-22-63, Cl. 182-129.
- Booker, Clyde A., Jr., to Westinghouse Electric Corp. Totalizing system. 3,072,888, 1-8-63, Cl. 340-172.5.
- Booker, Jaenette: *See—*  
Peters, Ralph D. 3,113,461.
- Booker, Sam F.: *See—*  
Peters, Ralph D. 3,113,461.
- Booker, Robert J., and H. G. Mullett, to Bradley Washfountain Co. Modular shower unit. 3,098,241, 7-23-63, Cl. 4-192.
- Booker, William E., to Gustin-Bacon Mfg. Co. Journal box lubricator pad. 3,086,829, 4-23-63, Cl. 308-243.
- Bookout, Charles C., and P. E. Taylor, to Ford Motor Co. Power steering system. 3,085,645, 4-16-63, Cl. 180-79.2.
- Bookout, Floyd V.: *See—*  
Johnson, Elmer C., and Bookout. 3,102,762.
- Boomer, Merton E. Material reduction mill and classifier. 3,110,447, 11-12-63, Cl. 241-52.
- Boone Box Co.: *See—*  
Svendsen, James W. 3,072,313.
- Boone, Claude T., Sr. Butterfly valve structure. 3,111,300, 11-19-63, Cl. 251-306.
- Boone, Garret J. Game apparatus. 3,088,737, 5-7-63, Cl. 273-85.
- Boone, George L. Towel hanger. 3,102,636, 9-3-63, Cl. 211-45.
- Boone, James L., to American Potash & Chemical Corp. Production of tetraborane from pentaborane-11. 3,071,440, 1-1-63, Cl. 23-204.
- Boone, James L., to American Potash & Chemical Corp. Preparation of boron hydrides. 3,109,710, 11-5-63, Cl. 23-204.
- Boone, James L., to American Potash & Chemical Corp. Preparation of boron hydrides. 3,110,565, 11-12-63, Cl. 23-204.
- Boone, Joseph, to M. Berghgracht. Machine for the production of pocket shaped containers. 3,114,298, 12-17-63, Cl. 93-12.
- Boonstra, Bram B. S. T.: *See—*  
Williams, Frank R., Perdigao, and Boonstra. 3,104,985.
- Boonstra, Bram B. S. T., to Cabot Corp. Insulated conductors and method of making same. 3,096,210, 7-2-63, Cl. 117-216.
- Boonstra, Richard N. Horticultural carrying apparatus. 3,078,020, 2-19-63, Cl. 224-45.
- Boor, John, Jr.: *See—*  
Youngman, Edward A., Nozaki, and Boor. 3,084,148.
- Booth, Albert N.: *See—*  
Bickoff, Emanuel M., Livingston, and Booth. 3,077,404.
- Booth, Arthur, R. A. Pizzarello, and J. E. De Graff, to Interchemical Corp. Water-in-oil emulsion textile decorating compositions. 3,093,602, 6-11-63, Cl. 260-17.
- Booth, Arthur P. Foot flush assemblies for use with a water closet. 3,095,582, 7-2-63, Cl. 4-249.
- Booth, Clifford C., and R. B. Dean, to The Borden Co. Potentially reactive urea-formaldehyde adhesive system. 3,100,754, 8-13-63, Cl. 260-29.4.
- Booth, Edmund P. O., and E. W. Innes, to Edward L. Bateman Ltd. Conveyor belt feeding mechanisms. 3,077,995, 2-19-63, Cl. 214-17.
- Booth, Frank, and M. P. Latham, to Oldham & Son Ltd. Glass fiber reinforced battery separators. 3,092,509, 6-4-63, Cl. 117-76.
- Booth, Frederick E., Jr.: *See—*  
Irwin, Samuel N., and Booth. 3,087,421.
- Booth, George H., to Lionel-Pacific, Inc. Flange seal. 3,080,171, 3-5-63, Cl. 277-112.
- Booth, George M., to Wallace & Tiernan Inc. Adjustable eccentric. 3,106,105, 10-8-63, Cl. 74-571.
- Booth, Gerald, and F. Hall, to Imperial Chemical Industries Ltd. Process for the coloration of cellulose textile materials with reactive dyestuffs. 3,082,052, 3-19-63, Cl. 8-54.2.
- Booth, Gerald, and D. P. Hudson, to Imperial Chemical Industries Ltd. Sulfon-gamma-halo-beta-hydroxy-propylamide-containing dyestuffs. 3,084,166, 4-2-63, Cl. 260-314.5.
- Booth, Grant W.: *See—*  
Helbig, Walter A., and Booth. 3,075,085.
- Booth, Harvey J., R. P. Ernest, and J. W. Fostey, to Ford Motor Co. Lubricant sump. 3,100,028, 8-6-63, Cl. 184-106.
- Booth, Henry. Hair and wool depilation method and composition. 3,097,912, 7-16-63, Cl. 8-94.16.
- Booth, John M., to Moirs, Ltd. Device for positioning nested cups. 3,104,018, 9-17-63, Cl. 214-1.
- Booth, Joseph. Universal carriage. 3,084,947, 4-9-63, Cl. 280-11.
- Booth, Neil S. Duplicate bridge card tray. 3,102,728, 9-3-63, Cl. 273-151.
- Booth, Richard H.: *See—*  
Phillips, James H., and Booth. 3,111,614.
- Booth, Robert B., to American Cyanamid Co. Concentrated aqueous solutions of alkali and alkaline earth metal salts of phospho-organic compounds. 3,086,653, 4-23-63, Cl. 209-166.
- Booth, William M. Indicator for direction of movement of a boat. 3,072,091, 1-8-63, Cl. 116-31.
- Booth, William M., to John Wood Co. Magnetic ticket punching apparatus. 3,073,519, 1-15-63, Cl. 234-115.
- Booth, William M. Measuring dispenser for liquids. 3,076,581, 2-5-63, Cl. 222-453.
- Boothe, Merrill V. Elevating scraper. 3,076,275, 2-5-63, Cl. 37-118.
- Boothroyd, Howard W., and L. S. Bostwick, to Sanders Associates, Inc. Gyroscope. 3,102,430, 9-3-63, Cl. 74-5.7.
- Boothroyd, Wilson P., to Philco Corp. Indexing system for color television. 3,109,886, 11-5-63, Cl. 178-5.4.
- Boothroyd, Wilson P., to Philco Corp. Radio receiver means employing separable complementary units. 3,109,896, 11-5-63, Cl. 179-15.
- Boothroyd, Wilson P., and E. M. Creamer, Jr., to Philco Corp. Color television system. 3,087,011, 4-23-63, Cl. 178-5.2.
- Boots, David A., to F. L. Moseley Co. Position indication systems. 3,105,232, 9-24-63, Cl. 340-347.
- Booty, Raymond G., to Pacific Resins & Chemicals, Inc. Method of separating aqueous solution of phenol-formaldehyde resin from polymerization system. 3,083,170, 3-26-63, Cl. 260-29.3.
- Bopp, Edward C., to Deere & Co. Cotton receptacle. 3,074,552, 1-22-63, Cl. 209-250.
- Bopp, Edward C., to Deere & Co. Flat spring standard mounting. 3,097,705, 7-16-63, Cl. 172-710.
- Bopp, Edward C., and A. L. Hubbard, to Deere & Co. Cotton harvester. 3,108,416, 10-29-63, Cl. 56-14.
- Bopp, Cecil W., to Bopp Mfg. Inc. Material handling apparatus. 3,082,889, 3-26-63, Cl. 214-75.
- Bopp Mfg. Inc.: *See—*  
Bopp, Cecil W. 3,082,889.
- Boquist, Carl W., to Armour Research Foundation of Illinois Institute of Technology. Method of fabricating carbon and graphite structures. 3,107,153, 10-15-63, Cl. 23-209.4.
- Bora, Ion. Portable fume exhaust fan apparatus. 3,096,933, 7-9-63, Cl. 230-235.
- Bora, Nicola. Smoke and fume eliminator. 3,102,800, 9-3-63, Cl. 55-257.
- Borah, John E. Container spout. 3,075,676, 1-29-63, Cl. 222-527.
- Borah, John E. Retractable and extensible container spout. 3,093,273, 6-11-63, Cl. 222-527.
- Borah, John E. Mold. 3,095,611, 7-2-63, Cl. 18-36.
- Boraks, Paul: *See—*  
Skorupa, Paul. 3,109,685.
- Borchardt, Edward R., to The Anaconda Co. Haulage system for excavated material. 3,080,982, 3-12-63, Cl. 214-1.
- Borchardt, Walter O., to B. H. Hadley, Inc. Shearable storage valve means. 3,074,421, 1-22-63, Cl. 137-68.
- Borchert, Peter J., to Miles Laboratories, Inc. Prepolymers of acetyl triallyl citrate. 3,095,444, 6-25-63, Cl. 260-484.
- Borchert, Peter J., to Miles Laboratories, Inc. Composition comprising reaction product of hydrolyzed vinyl acetate polymer and periodate oxidized polysaccharide and process for preparing same. 3,098,049, 7-16-63, Cl. 260-17.4.
- Borchert, Peter J., to Miles Laboratories, Inc. Preparation of dialdehyde polysaccharide addition products. 3,098,869, 7-23-63, Cl. 260-233.3.
- Borchert, Peter J., to Miles Laboratories, Inc. Aqueous dispersion of periodate oxidized polysaccharide-amino triazine reaction product and process of preparing same. 3,099,573, 7-30-63, Cl. 117-62.2.
- Borchert, Peter J., to Miles Laboratories, Inc. Dialdehyde polysaccharide-acrylamide derivatives. 3,100,203, 8-6-63, Cl. 260-211.
- Bord, Max. Carton pouring spout. 3,085,732, 4-16-63, Cl. 229-17.
- Bordeau, Robert L.: *See—*  
Kruger, James B., and Bordeaux. 3,111,756.
- Bordelon, Sidney A., Jr., to Hughes Aircraft Co. Gating network. 3,106,650, 10-8-63, Cl. 307-88.5.
- Borden Co., The: *See—*  
Baker, Edgar B. 3,074,897.  
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Blanken, Robert M., Carey, and Mook. 3,114,645.  
Booth, Clifford C., and Dean. 3,100,754.  
Boschert, Ulrich, and Dean. 3,083,183.  
Dickstein, Jack. 3,083,185.  
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- Borden, John V. Control unit for dental handpieces. 3,106,021, 10-8-63, Cl. 32-28.
- Borden, Joseph L.: *See—*  
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- Borden, Leland A. Fluid means. 3,072,065, 1-8-63, Cl. 103-128.
- Bordenave, Joseph: *See—*  
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- Borders, Alvin M., to Minnesota Mining and Mfg. Co. Polyamine cross-linked copolymer of a fluorine-substituted nitroalkane and an ethylenically unsaturated halogenated olefin and process therefor. 3,072,625, 1-8-63, Cl. 260-92.1.
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- Boren, William M.: *See—*  
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- Boretti, Napoleon P., to General Motors Corp. Welding control circuit. 3,076,087, 1-29-63, Cl. 219-89.



- Borette, Napoleon P., to General Motors Corp. Hand welding gun. 3,092,713, 6-4-63, Cl. 219-89.
- Borey, Daniel S., to Esso Research and Engineering Co. Mixing finely divided contact particles in a dense fluid bed. 3,091,594, 5-28-63, Cl. 252-417.
- Borg, Arthur C., to Standard Oil Co. Lubricant grease. 3,102,097, 8-27-63, Cl. 252-49.9.
- Borg, Arthur C., to Standard Oil Co. High temperature lubricants. 3,110,669, 11-12-63, Cl. 252-28.
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- Borg, Erik B., to Svenska Aktiebolaget Gasaccumulator. Method and arrangement for fastening the wires of the shield of a coaxial cable to a contact cone. 3,111,746, 11-26-63, Cl. 29-155.55.
- Borg, S. Edward, to Northrop Corp. Automatic welding apparatus. 3,100,256, 6-6-63, Cl. 219-124.
- Borg-Warner Corp.: See—
- Barbee, Marion A. 3,085,349.
- Behrens, Curtis E. 3,106,831.
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- Bowers, Roy C. 3,080,027.
- Calvert, William C. 3,074,906.
- Cannfield, Carl R., Jr. 3,107,631.
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- Edwards, James D., Harrington, and Shapter. 3,114,252.
- Farrell, Eugene F. 3,079,756.
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- Gatewood, Sidney U., and Koontz. 3,090,475.
- Gile, William B. 3,100,594.
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- Hendry, James W. 3,115,681.
- Hoar, Brooks. 3,079,800.
- Kelbel, Donald W., and Armantrout. 3,097,546.
- Knerr, Carl J., and Waldrop. 3,086,403.
- Kurtz, Curtis E. 3,090,248.
- Kruzan, Albert W. 3,114,653.
- Latham, Allen, Jr. 3,095,907.
- Lebourg, Maurice P. Re. 25,407.
- McWaid, John A. 3,071,725.
- Mamo, Anthony C. 3,090,252.
- Marrujo, Fernando G. 3,100,523.
- Newton, Alvin B. 3,094,850.
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- Reed, Harold V. 3,086,634.
- Schmidt, Edward M. 3,091,729.
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- Stromberg, Clinton V. 3,101,600.
- Tammy, Simon. 3,082,733.
- Taylor, Raymond G., Jr. 3,099,877.
- Thoren, Theodore R., and Marsh. 3,107,626.
- Tracy, Herbert E. 3,101,200.
- Wade, Daniel M. 3,104,744.
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- Berger, Arthur, and Borgaese. 3,090,810.
- Borgard, Glenn E., to Wagner Electric Corp. Automatic brake adjuster. 3,103,261, 9-10-63, Cl. 188-79.5.
- Borgard, Glenn E., to Wagner Electric Corp. Self-centering brake device. 3,115,954, 12-31-63, Cl. 188-78.
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- Borghesani, Robert S., to Polaroid Corp. Camera mechanism. 3,103,151, 9-10-63, Cl. 95-40.
- Borghetti, Joseph C., to Microwave Development Laboratories, Inc. Waveguide to coaxial "L" transition. 3,087,127, 4-23-63, Cl. 333-34.
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- Boris, John A., to U.S. Industries, Inc. Vibratory parts feeding device. 3,114,448, 12-17-63, Cl. 198-33.
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- Born, Klaus: See—
- Sennewald, Kurt, Born, Erpenbach, and Döbek. 3,079,420.
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- Born, Lester R., Jr., and W. D. Weikart, to Rockwell Mfg. Co. Workpiece gauging stop for metal cut-off machine. 3,095,673, 7-2-63, Cl. 51-98.
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- Born, Robert E., to The American Well Works. Diffuser swing mechanism. 3,116,021, 12-31-63, Cl. 239-588.
- Bornarth, Dennis M., to Charles Bruning Co., Inc. Processes of producing lithographic electrostatic printing plates. 3,107,169, 10-15-63, Cl. 96-1.
- Borne, Jean P. G., and A. J. P. Charles-Georges, to North American Phillips Co., Inc. Automatic decimal-point indicator for computers. 3,074,635, 1-22-63, Cl. 235-156.
- Borneman, Paul R., to Allegheny Ludlum Steel Corp. Low alloy-air hardening die steel. 3,077,397, 2-12-63, Cl. 75-126.
- Bornemann, William, R. H. Bechtold, H. D. Phillips, P. D. J. Freeman, N. E. Loretz, and G. O. Neuman, to Eastman Kodak Co. Apparatus for reproducing and recording information. 3,099,199, 7-30-63, Cl. 95-73.
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- Oppenheim, Richard D., and Borner. 3,114,650.
- Borner, Manfred, to Telefunken G.m.b.H. Mechanical frequency filters. 3,086,182, 4-16-63, Cl. 333-71.
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- Borowiec, Richard A., E. V. Ruda, and E. S. Rusiniak, to Sylvania Electric Products, Inc. Electronic assembly packaging. 3,091,722, 5-28-63, Cl. 317-100.
- Borowka, Georg E. F., to Guldner-Motoren-Werke Asschaffenburg, branch of Gesellschaft für Linde's Eismaschinen Aktiengesellschaft. Piston for a piston pump. 3,113,491, 12-10-63, Cl. 92-158.
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- Borrell, Joaquin C. Circular loom for weaving a number of separate fabrics simultaneously. 3,105,523, 10-1-63, Cl. 139-13.
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- Borrows, Edward T., and D. Y. Waddan, to Shell Oil Co. Separation of catalysts from alkylene resins. 3,112,299, 11-26-63, Cl. 260-93.7.
- Borsa, Clelio C. Control and alarm system for brake shoe linings of motor cars and the like. 3,088,549, 5-7-63, Cl. 188-1.
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- Lück, Friedrich W. 3,115,871.
- Hägglund, Sven E. 3,098,429.
- Borst, Henry V., to Curtiss-Wright Corp. Aircraft and method of operating same. 3,106,369, 10-8-63, Cl. 244-7.
- Borst, Lyle B., to North American Phillips Co., Inc. Temperature measuring method and apparatus. 3,099,745, 7-30-63, Cl. 250-83.1.
- Borsuk, Alvin: See—
- Vedvik, Andrew H., and Borsuk. 3,091,798.



- Borsuk, Harold. Dental cavity filling device. 3,088,207, 5-7-63, Cl. 32-60.
- Borsy, Joseph, B. Dumbovich, L. Vargha, L. Farkas, J. Kuszmann, and E. Kastreiner, to Egyesult Gyogyszer-es Tapszergyar. Benzoic acid derivatives and process for producing same. 3,086,976, 4-23-63, Cl. 260-247.7.
- Bortnick, Newman M., to Rohm & Haas Co. Lactams and methods of preparation. 3,077,477, 2-12-63, Cl. 260-325.
- Bortnick, Newman M., to Rohm & Haas Co. Process of making esters of acrylic and methacrylic acids. 3,087,962, 4-30-63, Cl. 260-486.
- Bortnick, Newman M., and M. F. Fegley, to Rohm & Haas Co. Process for preparing the cyano and carboxy substituted derivatives of 2-piperidinone and 2-pyrrolidinone. 3,073,834, 1-15-63, Cl. 260-294.
- Bortnick, Newman M., and M. F. Fegley, to Rohm & Haas Co. 5-hydrocarbon-amino-2-pyrrolidinones and piperidones. 3,077,478, 2-12-63, Cl. 260-326.5.
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- Bortnick, Newman M., and M. F. Fegley, to Rohm & Haas Co. Hexahaloacetylbutylcarbonylbicycloheptenes. 3,113,960, 12-10-63, Cl. 260-468.
- Bortoletto, Bruno: See—  
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- Bortolini, Paolo, and G. Guerrieri, to Sicedison S.p.A. Distillation process for mixtures of pyridines. 3,087,867, 4-30-63, Cl. 202-48.
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- Borup, Herbert H., to Kaiser Aluminum & Chemical Corp. Panel assembly. 3,111,206, 11-19-63, Cl. 189-36.
- Borutzke, Irvin W.: See—  
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- Borutzke, Irvin W., to Burroughs Corp. Item counter. 3,092,316, 6-4-63, Cl. 235-91.
- Borutzke, Irvin W., and J. H. Eisenmann, to Burroughs Corp. Printing apparatus control system. 3,092,020, 6-4-63, Cl. 101-93.
- Borvali, Mehmed Y., P. Grolla, P. Hubscher, and F. Reynaud, two-thirds to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine and 1/3 to Societe de Produits Chimiques Bozel-Maetra. Process of sulphonic attack of arseniureted and/or sulpharseniureted ores or materials, particularly of cobalt and/or of nickel. 3,107,977, 10-22-63, Cl. 23-144.
- Boryszewski, Ralph. Beach toga. 3,079,611, 3-5-63, Cl. 2-89.
- Borzoni, John M., to Littelfuse Inc. Miniature electrical fuse. 3,110,787, 11-12-63, Cl. 200-113.
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- Bosc, Paul F., to Etablissements Youpa-La. Pneumatic mattress. 3,089,153, 5-14-63, Cl. 5-348.
- Bosch, Carl, and I. Fredricks, to Sperry Rand Corp. Ford Instrument Co. Division. Two-stage frequency detecting device employing a radiation sensitive input means. 3,081,433, 3-12-63, Cl. 325-364.
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- Boschi, Antonio, to Societa Applicazioni Gomma Antivibranti "SAGA" S.p.A. Flexible transmission coupling. 3,094,853, 6-25-63, Cl. 64-14.
- Boschi, Antonio, and G. Pennati, to Societa Applicazioni Gomma Antivibranti "SAGA" S.p.A. Sound-absorbing wall covering. 3,103,255, 9-10-63, Cl. 181-33.
- Bosco, Charles G.: See—  
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- Bosher, Benjamin A. Automobile utility trunk. 3,082,033, 3-19-63, Cl. 296-26.
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- Bosland, James M., to Ketcham & McDougall, Inc. Marine speedometer. 3,082,623, 3-26-63, Cl. 73-182.
- Bosley, Thomas W. Crankcase evacuation system. 3,092,091, 6-4-63, Cl. 123-119.
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- Bosmajian, George, to Cities Service Research and Development Co. Polymerization and coating processes and products. 3,081,283, 3-12-63, Cl. 260-78.5.
- Bosmajian, George, to Cities Service Research and Development Co. Preparation of an alkyl lithium-catalyzed liquid polymer having predominately trans-1,4-unsaturation and containing 1,3-butadiene, and coating metals with such polymers. 3,097,108, 7-9-63, Cl. 117-132.
- Bosmajian, George, to Cities Service Research and Development Co. Polymerization and coating processes and products. 3,108,709, 10-29-63, Cl. 220-64.
- Bosmajian, George, to Cities Service Research & Development Co. Liquid or solid terpolymers of butadiene, vinyltoluene, and isobutylene, preparation thereof and metals coated therewith. 3,113,695, 12-10-63, Cl. 220-64.
- Bosoni, Achille, to Montecatini Società Generale per l'Industria Mineraria e Chimica. Dispersion consisting of polypropylene containing isotactic macromolecules and water. 3,073,790, 1-15-63, Cl. 260-29.6.
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- Boss, Harold O., to Borg-Warner Corp. Temperature sensing apparatus. 3,107,530, 10-22-63, Cl. 73-355.
- Bossard, Bernard B., to United States of America, Army. Variable frequency oscillator. 3,102,978, 9-3-63, Cl. 321-69.
- Bossard, Werner, J. Voltz, and F. Favre, to J. R. Geigy, A.G. Process for the dyeing of polymeric synthetic material and material dyed therewith. 3,101,988, 8-27-63, Cl. 8-41.
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- Bossetti, Adriano. Passage continuous kiln for firing ceramic material. 3,110,075, 11-12-63, Cl. 25-142.
- Bosshard, Ernst, to Sulzer Freres, S.A. Double seal including means for indicating leaks. 3,101,953, 8-27-63, Cl. 277-2.
- Bosshard, Hans: See—  
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- Bosshart, Marvin L. V. Adjustable mounting supports for television sets and the like. 3,096,062, 7-2-63, Cl. 248-289.
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- Bostitch, Inc.: See—  
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- Boston, William T., and K. K. Johnson, to Bartelt Engineering Co., Inc. Food package. 3,114,643, 12-17-63, Cl. 99—171.
- Bostrom, Allan G., S. Y. Ek, and L. A. M. Lindner. Process for the preparation of lead azide. 3,095,268, 6-25-63, Cl. 23—101.
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- Bostrom, John D., to Poster Packaging, Inc. Plastic container. 3,104,776, 9-24-63, Cl. 220—72.
- Bostrom, John D., to Poster Packaging, Inc. Reclosable container. 3,111,220, 11-19-63, Cl. 206—47.
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- Boswell, Clay C., Jr.: *See*—  
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- Boswell, George A., to Shell Oil Co. Production of alkenylamines. 3,110,731, 11-12-63, Cl. 260—583.
- Boswell, George T., to United States of America, Navy. Rod producing warhead. 3,081,704, 3-19-63, Cl. 102—67.
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- Boteler, Henry W., to Grinnell Corp. Diaphragm valve. 3,103,342, 9-10-63, Cl. 251—331.
- Botes, Sven R., to John Robertson Co., Inc. Method for continuous extrusion of metals. 3,088,589, 5-7-63, Cl. 207—10.
- Bothe, Henry B., and E. L. Wurdeman. Grain aerator and dryer. 3,106,148, 10-8-63, Cl. 98—57.
- Bothwell, James W., to Johnson & Johnson. Process for preparing tanned collagenous material with dialdehyde starch. 3,093,439, 6-11-63, Cl. 8—94.11.
- Bothwell, James W., to Johnson & Johnson. Process for preparing collagenous material tanned with polyacrolein. 3,093,440, 6-11-63, Cl. 8—94.11.
- Bothwell, Raymond P. Fluid pressure actuated motor. 3,078,829, 2-26-63, Cl. 121—50.
- Botkin, Lawrence A., to Buckeye Iron & Brass Works. Automatic chemical handling nozzle. 3,075,563, 1-29-63, Cl. 141—209.
- Botkin, Lawrence A., to Buckeye Iron & Brass Works. Axial flow booster pump. 3,083,644, 4-2-63, Cl. 103—89.
- Botkin, Lawrence A., to Buckeye Iron & Brass Works. Floating restrictor for dispensing nozzle. 3,102,555, 9-3-63, Cl. 137—630.15.
- Bott, Adolf H., to Radio Corp. of America. Multiplex control system. 3,106,711, 10-8-63, Cl. 343—228.
- Bott, Delmar H., and M. O. Movable animal restraining platform for milking station. 3,095,854, 7-2-63, Cl. 119—14.04.
- Bott, Marvin O.: *See*—  
Bott, Delmar H. and M. O. 3,095,854.
- Bottasso, Carlo, to Pirelli S.p.A. Pneumatic tire having a separate and removable tread and a complementary carrying carcass. 3,091,273, 5-28-63, Cl. 152—187.
- Bottecher, Herman F.: *See*—  
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Gerow, Clarence C., Bottecher, Molzen, and Landell. 3,095,579.
- Bottenbruch, Ludwig, and H. Schnell, to Farbenfabriken Bayer Aktiengesellschaft. Production of linear crystallized polycarbonates. 3,112,292 11-26-63, Cl. 260—47.
- Botter, Fernande: *See*—  
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- Botterill, John R., to Girling Ltd. Actuator for a spot type disc brake acting over a partial area of a disc brake friction pad, said area spaced circumferentially from the axis of the actuator. 3,113,643, 12-10-63, Cl. 188—73.
- Botlandre, Wilfried. Ventilating arrangement for buildings, more especially greenhouses. 3,078,780, 2-26-63, Cl. 98—37.
- Botner, Joseph A., to Phillips Cooling Tower Co., Inc. Cooling towers. 3,115,534, 12-24-63, Cl. 261—24.
- Bottoms, Robert R., to Chemetron Corp. Production of menthol. 3,078,316, 2-19-63, Cl. 260—631.
- Bottone, Arthur A., to Westinghouse Electric Corp. Electric lamp. 3,082,345, 3-19-63, Cl. 313—113.
- Bottorf, Donald T., J. L. Hecht, and V. E. James, to E. I. du Pont de Nemours and Co. Hazy polyvinyl fluoride film and process. 3,081,208, 3-12-63, Cl. 154—46.
- Bottum, Edward W., and F. H. Rockwell, to Refrigeration Research, Inc. Refrigeration component. 3,084,523, 4-9-63, Cl. 62—296.
- Boubel, Richard W.: *See*—  
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- Bouchard, George H., to Sylvania Electric Products Inc. Encapsulated electroluminescent device. 3,114,853, 12-17-63, Cl. 313—108.
- Bouchard, Irvine H. Pivoted snap lock to space antenna from reflector. 3,102,267, 8-27-63, Cl. 343—881.
- Bouchard, John R., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,104,552, 9-24-63, Cl. 73—497.
- Boucher, Claude, to J. T. Cloutier, Inc. Horizontally slidable sashless window. 3,077,011, 2-12-63, Cl. 20—52.
- Boucher, Donald F., to E. I. du Pont de Nemours and Co. Pumping process. 3,087,435, 4-30-63, Cl. 103—89.
- Boucher, Frank G., to Jersey Production Research Co. Color recording for seismogram frequency analysis. 3,072,907, 1-8-63, Cl. 346—1.
- Boucher, Henry G.: *See*—  
Kotarski, Lester R., and Boucher. 3,093,449.
- Boucher, John B., and V. K. McHugh, to Rinsheed-Mason Co. Method for cleaning surfaces. 3,079,284, 2-26-63, Cl. 134—4.
- Boucher, Reginald C., to E.P.S. (Research & Development) Ltd. Protective containers. 3,088,619, 5-7-63, Cl. 220—1.5.
- Boucher, Richard C. Machine and method for filling containers. 3,105,525, 10-1-63, Cl. 141—61.
- Boucher, William A.: *See*—  
Sullivan, Edward M., and Boucher. 3,105,137.
- Boudouris, Angelo. Signaling system employing a remotely controlled switch. 3,087,146, 4-23-63, Cl. 340—332.
- Boudreau, John L. Pistol with slidable and fixed breech block. 3,088,378, 5-7-63, Cl. 89—161.
- Bougard, Arthur. Pneumatic device constituting suspension and damping means. 3,100,635, 8-13-63, Cl. 267—65.
- Boughey, George E.: *See*—  
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- Boughton, Roger C., to Joslyn Mfg. & Supply Co. Coupling nut assembly. 3,074,747, 1-22-63, Cl. 285—342.
- Boulanger, Francis: *See*—  
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- Boulay, Edward A. Vent control. 3,101,838, 8-27-63, Cl. 199—32.
- Boulet, Francis, P. Plurien, M. Quenault, and R. Rigot, to Commissariat a l'Energie Atomique. Methods of making thin reinforced diaphragms and in diaphragms made according to these methods. 3,089,235, 5-14-63, Cl. 29—527.
- Boulet, Francis, and R. Petit, to Compagnie Generale de Telegraphie Sans Fil. Storage tube targets. 3,102,847, 9-3-63, Cl. 204—15.
- Bouligny, R. H., Inc.: *See*—  
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- Boulsover, Geoffrey, to The Amalgamated Dental Co. Ltd. Hoist. 3,112,676, 12-3-63, Cl. 91—4.
- Boulsover, Geoffrey, and E. O. Muller, to The Amalgamated Dental Co. Ltd. Dental handpiece. 3,094,779, 6-25-63, Cl. 32—27.
- Boulton, William, Ltd.: *See*—  
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- Boulware, Oliver L.: *See*—  
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- Bounin, Claude, to Deka S.A. Process and apparatus for evacuating heavy solids from a decanter. 3,084,801, 4-9-63, Cl. 210—528.
- Bounin, Claude, to Deka S.A. Method and apparatus for the pressure filtration of suspensions of solids in liquids. 3,084,987, 4-9-63, Cl. 210—73.
- Bounsall, Norman F., to Ampex Corp. Editing systems for television recordings. 3,084,215, 4-2-63, Cl. 178—6.6.
- Bouracier, Cyril E. Automatic vending machine. 3,071,231, 1-1-63, Cl. 194—10.
- Bouracier, Cyril E. Automatic vending machine. 3,096,907, 7-9-63, Cl. 221—113.
- Bourcier de Carbon, Christian M. L. L.: *See*—  
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- Bourcier de Carbon, Christian M. L. L.: *See*—  
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- Bourcier de Carbon, Christian M. L. L., and J. E. Heckethorn; said Heckethorn assor. to said Bourcier de Carbon. Shock absorbers. 3,078,965, 2-26-63, Cl. 188—88.
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- Bourdeau, Romeo G., to Alloy Research Corp. Bonding process and product thereof. 3,078,564, 2-26-63, Cl. 29—498.
- Bourdelaïs, Chesman H.: *See*—  
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- Bourdon, Simon. Post pointing machine. 3,073,362, 1-15-63, Cl. 144—30.
- Bourdon, Thomas E. Marine dock. 3,100,968, 8-20-63, Cl. 61—48.
- Bourgeas, Pierre. Spindle-holder. 3,100,375, 8-13-63, Cl. 57—134.
- Bourgeaux, Maurice, and F. Naudin, to Compagnie de Saint-Gobain. Sheet, bricks, blocks or similar articles made of transparent material, especially glass. 3,085,473, 4-16-63, Cl. 88—57.5.



- Bourgeaux, Maurice, and F. Naudin, to Compagnie de Saint-Gobain. Articles made of a transparent material such as glass sheets, bricks or blocks, and having variable transparency or coloration. 3,085,474, 4-16-63, Cl. 88-60.
- Bourgerie, Richard D., to P. R. Mallory & Co., Inc. Capacitor protection. 3,087,093, 4-23-63, Cl. 317-12.
- Bourgraf, George, to G. J. Bourgraf. Paperboard body form. 3,097,361, 7-16-63, Cl. 2-64.
- Bourgraf, George J.: *See*—  
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- Bourke, John D., to Robbins & Myers, Inc. Helical gear pump with stator compression. 3,084,631, 4-9-63, Cl. 103-117.
- Bourne, Alan A.: *See*—  
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- Bourne, Douglas J., and W. H. Park, to Duval Sulphur and Potash Co. Sampling device. 3,098,390, 7-23-63, Cl. 73-424.
- Bourne, Henry A., Jr., to Continental Oil Co. Subsurface well tubing safety valve. 3,094,170, 6-18-63, Cl. 166-224.
- Bourne, Henry A., Jr., and P. L. Gant, to Continental Oil Co. Fluid analyzing tool. 3,103,812, 9-17-63, Cl. 73-155.
- Bourne, Henry A., Jr., E. W. Sutton, and J. C. Albright, to Continental Oil Co. Method and apparatus for sampling production of subterranean reservoirs. 3,103,813, 9-17-63, Cl. 73-155.
- Bourne, Kenneth H., and P. T. White, to The British Petroleum Co. Ltd. Catalytic reforming of hydrocarbons. 3,114,697, 12-17-63, Cl. 208-136.
- Bourns, Inc.: *See*—  
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Bourns, Marlan E., Boode, and O'Brian. 3,092,801.  
Bourns, Marlan E., and Caddock. 3,089,110.  
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Ferrell, Robert L., and Hardison. 3,105,217.  
Mathison, Victor G., and Kruse. 3,099,809.
- Bourns, Marlan E. Electrical resistor. Re. 25,412, 7-9-63, Cl. 338-150.
- Bourns, Marlan E., C. N. Boode, and E. D. O'Brian; said Boode and O'Brian assors. to Bourns, Inc. Adjustable electrical instruments. 3,085,217, 4-9-63, Cl. 338-41.
- Bourns, Marlan E., and R. E. Caddock; said R. E. Caddock assor. to Bourns, Inc. Variable resistors. 3,089,110, 5-7-63, Cl. 338-133.
- Bourns, Marlan E., C. N. Boode, and E. D. O'Brian, said Boode and said O'Brian assors. to Bourns, Inc. Adjustable electrical instruments. 3,092,801, 6-4-63, Cl. 338-180.
- Bourque, Theodore E.: *See*—  
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- Bourquin, Jean-Pierre: *See*—  
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- Bourquin, Jean-Pierre, A. Brack, E. Schenker, R. Griot, and W. Steffen, to Sandoz Ltd. Antiseptic composition. 3,100,175, 8-6-63, Cl. 167-33.
- Boutquin, Pierre-Eugene, and C.-E. Schlatter, to Seitz & Co. Shock-absorbing pivot bearing. 3,099,502, 7-30-63, Cl. 308-159.
- Bourseaux, Friedrich: *See*—  
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- Boussu, Gabriel X. R., L. P. F. A. Neuville, and L. H. N. Saint-Frison, to Michelin & Cie. Elastic wire cables. 3,090,189, 5-21-63, Cl. 57-139.
- Boussu, Gabriel X. R., L. P. F. A. Neuville, and L. H. N. Saint-Frison, to Michelin & Cie. Elastic cables. 3,090,190, 5-21-63, Cl. 57-139.
- Boussu, Gabriel X. R., L. P. F. A. Neuville, and J.-M. C. Masoubre, to Michelin & Cie. Methods of preparing elastomers of the polyurethane type. 3,100,759, 8-13-63, Cl. 260-77.5.
- Boutefoy, Jean R. H., to Societe Generale de Constructions Electriques et Mecaniques (Alsthom). Telescopic shock absorbers. 3,091,449, 5-28-63, Cl. 267-67.
- Boutelle, Allen O., to Thomas Industries Inc. Lighting fixture. 3,093,322, 6-11-63, Cl. 240-78.
- Boutet, Camille L. J. Apparatus for the production of moulds, in particular for aluminothermal welding. 3,082,493, 3-26-63, Cl. 22-9.
- Boutin, Auguste M.: *See*—  
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- Bouton, George M., and J. H. Heiss, Jr., to Bell Telephone Laboratories, Inc. Press for tubular extrusion. 3,095,089, 6-25-63, Cl. 207-4.
- Boutros, Richard D., and M. Dykman, to Mixing Equipment Co., Inc. Chuck for drive shafts. 3,091,474, 5-28-63, Cl. 279-97.
- Boutwell, Charley H. Knot tying devices. 3,073,636, 1-15-63, Cl. 289-17.
- Boutwell, Daniel W.: *See*—  
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- Boutwell, J. H.: *See*—  
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- Boutwell, Lloyd M.: *See*—  
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- Boutwell, Louis J. Hitch. 3,093,395, 6-11-63, Cl. 280-478.
- Bouvy, Christiaan H., and J. Dolza; said Bouvy assor. to said Dolza. Overhead camshaft engine valve mechanism. 3,096,750, 7-9-63, Cl. 123-90.
- Bouwers, Albert: *See*—  
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- Bouyoucos, John V. Hydroacoustic oscillator-amplifier. 3,105,460, 10-1-63, Cl. 116-137.
- Bovard, Charles M., to The Cooper-Bessemer Corp. Cylinder construction for internal combustion engines. 3,086,505, 4-23-63, Cl. 123-41.8.
- Bovard, Robert M., to MSA Research Corp. Oxygen liberating composition. 3,089,855, 5-14-63, Cl. 252-186.
- Bovenkerk, Harold P., to General Electric Co. Method for production of etched diamond. 3,083,080, 3-26-63, Cl. 23-209.1.
- Boving and Co. Ltd.: *See*—  
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- Bovitz, Richard S.: *See*—  
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- Bowan, Walter J., J. J. Smith, W. R. Leopold, Jr., and F. H. Mueller, to Mueller Co. Insulated pipe coupling. 3,115,354, 12-24-63, Cl. 285-52.
- Bowater Board Co.: *See*—  
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Meiler, John G. 3,098,785.
- Bowater Research and Development Co., Ltd.: *See*—  
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- Bowden, Bertram V., F. Koenigsberger, and J. K. Royle, to National Research Development Corp. Plural motor apparatus for controlling the movement of an object. 3,090,896, 5-21-63, Cl. 318-19.
- Bowden, Eldred R., to Stant Mfg. Co., Inc. Valved gasoline cap. 3,083,862, 4-2-63, Cl. 220-44.
- Bowden, Eldred R., to Stant Mfg. Co., Inc. Safety radiator cap with shiftable latch. 3,102,659, 9-3-63, Cl. 220-40.
- Bowden, Eldred R., to Stant Mfg. Co., Inc. Safety radiator cap with lift-type latch. 3,102,660, 9-3-63, Cl. 220-40.
- Bowden, George F., and B. E. Ruth, to Symons Mfg. Co. Tie rod for concrete wall form panels. 3,074,141, 1-22-63, Cl. 25-131.
- Bowden, Howard J., and H. G. Schwartzberg, to General Foods Corp. Coffee extraction process. 3,089,772, 5-14-63, Cl. 99-71.
- Bowden, J. E. Well-logging control system for regulating the tension in a drill line. 3,076,635, 2-5-63, Cl. 254-173.
- Bowden, Roy N. Device for indicating short circuits. 3,074,013, 1-15-63, Cl. 324-51.
- Bowdish, Meredith E. Rotary compressor or engine. 3,101,700, 8-27-63, Cl. 123-12.
- Bowditch, Harold G.: *See*—  
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- Bowditch, Hoel L., to The Foxboro Co. Pneumatic servo control. 3,084,550, 4-9-63, Cl. 73-407.
- Bowditch, Hoel L., to The Foxboro Co. Pneumatic force balance computing apparatus. 3,086,702, 4-23-63, Cl. 235-61.
- Bowditch, Hoel L., and A. Allen, to The Foxboro Co. Strip chart recording apparatus. 3,080,561, 3-5-63, Cl. 346-116.
- Bowditch, Hoel L., and A. Allen, to The Foxboro Co. Pneumatic relay. 3,105,508, 10-1-63, Cl. 137-82.
- Bowdoin, Loder L. Carrier carton made of waterproof material for cans and bottles. 3,105,627, 10-1-63, Cl. 229-52.
- Bowe, John. Spinner head for candy cotton machine. 3,073,262, 1-15-63, Cl. 107-8.
- Bowen, Delbert G.: *See*—  
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- Bowen, Edward H., Jr., to Baxter Laboratories, Inc. Method of treating dermatological conditions. 3,090,724, 5-21-63, Cl. 167-55.
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- Bowen, Kenneth H.: *See*—  
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- Bowen, Kermit A. Instrument for inscribing an ellipse. 3,084,441, 4-9-63, Cl. 33-30.
- Bowen, Lloyd R.: *See*—  
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- Bowen, Richard L., Jr. Viscometer spindle. 3,115,769, 12-31-63, Cl. 73-59.
- Bowen, Stuart W., and M. L. Marks, to Consolidated Electro dynamics Corp. Chromatography. 3,097,517, 7-16-63, Cl. 73-23.
- Bowen, Tom, to S. Smith & Sons (England) Ltd. Time control switch mechanism. 3,081,638, 3-19-63, Cl. 74-3.5.
- Bowen, Tom, to S. Smith & Sons (England) Ltd. Adjustable clockwork driven mechanism for moving an actuating member at pre-selected times from one limit of movement to another. 3,091,126, 5-28-63, Cl. 74-3.54.
- Bowen, William M., III, to Certain-Teed Products Corp. Means for applying slate granules to shingles. 3,101,281, 8-20-63, Cl. 118-7.
- Bower, Alvin L. Movable-wall coke oven. 3,073,756, 1-15-63, Cl. 202-105.
- Bower, Clark D., to Layne & Bower Pump Co. Pump shaft bearing means. 3,098,450, 7-23-63, Cl. 103-108.
- Bower, Harmon J., and D. F. Freeman, to Commercial Automotive Corp. Rack structure for freight vehicles. 3,111,234, 11-19-63, Cl. 214-10.5.
- Bower, Howard W. Banner support construction. 3,082,989, 3-26-63, Cl. 248-286.
- Bower, Inc.: *See*—  
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- Bower, John L.: *See*—  
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- Bower, John L., to North American Aviation, Inc. Cutter size correction for machine tool control. 3,073,998, 1-15-63, Cl. 318-162.



- Bower, Richard R., to Raytheon Co. Article handling. 3,084,422, 4-9-63, Cl. 29-203.
- Bower, Richard R., to Raytheon Co. Vibratory orienting. 3,084,782, 4-9-63, Cl. 198-33.
- Bower, Richard R., to Raytheon Co. Article handling. 3,084,811, 4-9-63, Cl. 214-1.
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- Bowerman, Edwin R., Jr., to Sylvania Electric Products Inc. Electroluminescent device. 3,087,068, 4-23-63, Cl. 250-209.
- Bowerman, Edwin R., Jr., to General Telephone and Electronics Laboratories, Inc. Electroluminescent switching circuit. 3,108,189, 10-22-63, Cl. 250-209.
- Bowerman, Edwin R., Jr., to General Telephone and Electronics Laboratories, Inc. Electroluminescent circuit element. 3,112,405, 11-26-63, Cl. 250-213.
- Bowerman, Hulie E. Closed end split clutch tube. 3,110,230, 11-12-63, Cl. 92-92.
- Bowers, Albert: See—
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- Ringold, Howard J., Bowers, Mancera, and Rosenkranz. 3,084,157.
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- Ringold, Howard J., Mancera, and Bowers. 3,080,391.
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- Zderic, John A., Bowers, Halpern, and Berkov. 3,080,383.
- Zderic, John A., Bowers, Halpern, and Berkov. 3,080,390.
- Bowers, Albert, to Syntex Corp. 5 $\alpha$ -Fluoro androstanes. 3,071,602, 1-1-63, Cl. 260-297.3.
- Bowers, Albert, to Syntex Corp. 6, 19-amino androstanes. 3,079,381, 2-26-63, Cl. 260-239.5.
- Bowers, Albert, to Syntex Corp. Process for the preparation of 5 $\alpha$ ,6 $\alpha$ -difluoro steroids. 3,097,199, 7-9-63, Cl. 260-239.55.
- Bowers, Albert, to Syntex Corp. 19-halo androstanes. 3,101,356, 8-20-63, Cl. 260-397.4.
- Bowers, Albert, to Syntex Corp. 19-halo androstanes. 3,101,357, 8-20-63, Cl. 260-397.4.
- Bowers, Albert, to Syntex Corp. 19-halo androstanes. 3,101,358, 8-20-63, Cl. 260-397.4.
- Bowers, Albert, to Syntex Corp. 19-methylene-androstane derivatives. 3,102,127, 8-27-63, Cl. 260-397.4.
- Bowers, Albert, and J. Edwards, to Syntex Corp. Thiazolo-androstanes. 3,076,801, 2-5-63, Cl. 260-239.5.
- Bowers, Albert, and P. G. Holten, to Syntex Corp. 17 $\alpha$ -(1'-fluoroethyl) and 17 $\alpha$ -(1'-1'-difluoroethyl) androstane derivatives and process therefor. 3,076,825, 2-5-63, Cl. 260-397.4.
- Bowers, Albert, J. Edwards, and J. A. Zderic, to Syntex Corp. 3-halo-19-nor- $\Delta^2$ -androstene-17 $\beta$ -ol-derivatives. 3,076,827, 2-5-63, Cl. 260-397.5.
- Bowers, Albert, J. Edwards, and J. C. Orr, to Syntex Corp. 2-formyl androstanes and process therefor. 3,077,484, 2-12-63, Cl. 260-397.4.
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- Bowers, Albert, and P. G. Holten, to Syntex Corp. 16-formyl-16-androstanes. 3,080,389, 3-5-63, Cl. 260-397.3.
- Bowers, Albert, J. Edwards, and J. C. Orr, to Syntex Corp. 2-formyl-4-halo- $\Delta^2$ -androstanes. 3,080,394, 3-5-63, Cl. 260-397.4.
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- Bowers, Albert, J. Edwards, and J. C. Orr, to Syntex Corp. 2-hydroxymethyl androstanes. 3,080,400, 3-5-63, Cl. 260-397.5.
- Bowers, Albert, J. Edwards, and J. C. Orr, to Syntex Corp. 2-cyano-3-desoxy androstane derivatives and process therefor. 3,080,401, 3-5-63, Cl. 260-397.5.
- Bowers, Albert, and B. Berkov, to Syntex Corp.  $\Delta^2$ , $\Delta^3$ -steroids of the androstane and pregnane series and process therefor. 3,082,220, 3-19-63, Cl. 260-397.3.
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- Bowers, George H., III, to E. I. du Pont de Nemours and Co. Irradiation of fluorocarbon copolymers. 3,116,226, 12-31-63, Cl. 204-154.
- Bowers, Herbert L., to Pfaunder Permutit, Inc. Vacuum deaerator. 3,091,098, 5-28-63, Cl. 62-180.
- Bowers, John O., Jr., to Vitro Corp. of America. Pulse transmission system. 3,072,744, 1-8-63, Cl. 178-71.
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- Bowers, Melville D., to McGraw-Edison Co. Control circuits. 3,087,109, 4-23-63, Cl. 323-69.
- Bowers, Nathan A. Boring tool. 3,081,635, 3-19-63, Cl. 73-425.
- Bowers, Paul E., to United States Rubber Co. Shoe upper construction having a false seam. 3,114,213, 12-17-63, Cl. 36-48.
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- Bowers, William E. Mortar spreading apparatus and method of conveying. 3,093,419, 6-11-63, Cl. 302-50.
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- Bowersox, Joseph W.,  $\frac{1}{2}$  to W. C. Bradshaw. Vertical lift aircraft. 3,073,551, 1-15-63, Cl. 244-23.
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- Hoffman, Joseph A., and Bowkley. 3,097,120.
- Bowkley, Herbert L., and J. P. Merryweather, to American Cyanamid Co. Powdered ammonium nitrate explosive containing polyacrylamide and an inorganic cross-linking agent. 3,097,121, 7-9-63, Cl. 149-60.
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- Bowman, Alfred, to Egen Electric Ltd. Aerial coupler for coaxial lead-in. 3,106,687, 10-8-63, Cl. 333-24.
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- Bowman, Darl F., and S. A. Hays, to North American Aviation, Inc. Etching process. 3,108,919, 10-29-63, Cl. 156-18.
- Bowman, David F., to I-T-E Circuit Breaker Co. Wave signal rotary joint. 3,108,235, 10-22-63, Cl. 333-1.
- Bowman, Horace A., to United States of America, Commerce. Substitution balance. 3,092,193, 6-4-63, Cl. 177-151.
- Bowman, Horace A., and L. B. Macurdy, to United States of America, Commerce. Device for minimizing the effects of malcentered balance pan loading. 3,074,498, 1-22-63, Cl. 177-255.
- Bowman, J. Warren, Inc.: See—
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- Bowman, Joe, to Kingston Products Corp. Cycle timer. 3,091,673, 5-28-63, Cl. 200-38.
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- Bowman, Mark M., Jr., and R. W. Matthews, to Phillips Petroleum Co. Removal of internal flash from welded sections of conduit. 3,108,374, 10-29-63, Cl. 30-130.
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- Bowman, Walter A., E. W. Hunter, and P. Palumbo, to United States Steel Corp. Apparatus for removing and replacing charging hole covers of coke ovens. 3,079,007, 2-26-63, Cl. 212-4.
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- Bowman, William G., and R. O. Kerr, to Petro-Tex Chemical Corp. Preparation of aliphatic dicarboxylic acid anhydrides. 3,094,539, 6-18-63, Cl. 260-346.8.
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- Bown, Delos E., T. P. Gorman, and A. T. Watson, to Esso Research and Engineering Co. Catalyst preparation. 3,073,766, 1-15-63, Cl. 204-154.
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- Bowness, Colin, to Raytheon Co. Reciprocal microwave switching device using non-reciprocal components. 3,094,676, 6-18-63, Cl. 333-7.
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- Branco, Flavio S. C., to Minnesota Mining and Mfg. Co. Motor control circuit. 3,086,157, 4-16-63, Cl. 318-314.
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- Brand, Ronald S. Positive displacement pump. 3,095,823, 7-2-63, Cl. 103-117.
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- Brandenberg, Karl A., to Modernair Corp. Multi-way pneumatic valve. 3,076,477, 2-5-63, Cl. 137-622.
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- Brandes, Ernest E. Heat dispersing structure. 3,083,632, 4-2-63, Cl. 98-40.
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- Brandl, Ernst: *See*—  
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- Brandl, Joseph W. Domestic hot beverage making appliance. 3,075,452, 1-29-63, Cl. 99-281.
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- Brandt, Bernardus J., to The International Nickel Co., Inc. Electrorefining nickel. 3,114,687, 12-17-63, Cl. 204-112.
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- Brashears, Richard S., to United States of America, Navy. Clamping ring release mechanism. 3,115,836, 12-31-63, Cl. 102-49.
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- Brauer, Frederick N., to Philco Corp. Binary counter producing output signals by transmission of alternate input signals through a preconditioned gate, and multivibrator system for said counter. 3,093,750, 6-11-63, Cl. 307-58.5.
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- Braun, Harry L. and A. R., to E. J. McKernan, and N. W. Sequist. Aerosol dispenser. 3,085,753, 4-16-63, Cl. 239-337.
- Braun, Helmut: *See*—  
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- Braun, Herbert D., to Toledo Scale Corp. Unit weight mechanism for weighing scales. 3,081,834, 3-19-63, Cl. 177-176.
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- Braun, Martin: *See*—  
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- Braun, Oskar, and K. Winz, to G. M. Pfaff, AG. Electronic control system for sewing machines and the like. 3,074,632, 1-22-63, Cl. 235-132.
- Braun, Philip N., and J. F. Filsinger, to Tag-O-Matic Machine Co., Inc. Error-proof garment marking machine. 3,086,429, 4-23-63, Cl. 93-88.
- Braun, Philip N., and J. F. Filsinger, to Tag-O-Matic Machine Co., Inc. Garment marking machine. 3,114,667, 12-17-63, Cl. 156-384.
- Braun, Paul B., and W. Kwestroo, to North American Philips Co., Inc. Ferromagnetic material. 3,114,714, 12-17-63, Cl. 252-62.5.
- Braun, Robert A., to E. I. du Pont de Nemours and Co. 2,4,5,7,8-pentavinyl-1,3,6-trioxacyclooctane and process for its production. 3,090,790, 5-21-63, Cl. 260-338.
- Braun, Theodor H., to The Superior Oil Co. Method and apparatus for determining information relative to oil and gas formations. 3,106,638, 10-8-63, Cl. 235-179.
- Braun, William H.: *See*—  
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- Braun, Willy, and E. Hartwig, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Dyestuffs of the anthraquinone series and their production. 3,078,281, 2-19-63, Cl. 260-372.
- Braun, Willy, M. Ruske, and K. Maier, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of anthraquinone dyes. 3,086,024, 4-16-63, Cl. 260-326.
- Braunbeck, Josef, to Bodenseewerk Perkin-Elmer & Co. Radio-activity detection training. 3,096,387, 7-2-63, Cl. 35-10.4.
- Braunholtz, John T., and F. C. Peacock, to Imperial Chemical Industries Ltd. Nematocides. 3,085,930, 4-16-63, Cl. 167-30.
- Braunlich, Richard H., and T. S. Matter, to FMC Corp. Method of producing shaped bodies of regenerated cellulose from viscose and spinning solution and bath therefor. 3,112,158, 11-26-63, Cl. 18-54.
- Brauns, Otto L. J., and L. B. Jordansson, to Stiftelsen Pappersbrukens Forskningsinstitut. Method of dewatering pulp webs. 3,093,535, 6-11-63, Cl. 162-199.
- Braunschweigische Maschinenbauanstalt A.G.: *See*—  
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- Braunstein, Rubin, and E. E. Loebner, to Radio Corp. of America. Semiconductor device for generating modulated infrared radiation. 3,102,201, 8-27-63, Cl. 250-199.
- Braunwarth, John B., and G. W. Crosby, to The Pure Oil Co. Process for preparing dicycloalkylidene diperoxides. 3,116,300, 12-31-63, Cl. 260-340.
- Braus, Harry, and O. A. Homberg, to National Distillers and Chemical Corp. Ring chlorinated 2,5-diphenyl-adipic acid. 3,088,973, 5-7-63, Cl. 260-515.
- Braus, Harry, and O. A. Homberg, to National Distillers and Chemical Corp. Diarylthiophene sulfonic acids. 3,098,848, 7-23-63, Cl. 260-329.
- Braus, Harry, and H. J. Cohen, to National Distillers and Chemical Corp. Preparation of metal oxychlorides. 3,111,380, 11-19-63, Cl. 23-85.
- Brause, Jacob L., and W. W. Burns. Package of outer unsterile and inner sterile covers for enclosing a substantial portion of an object having an unsterile surface. 3,092,252, 6-4-63, Cl. 206-63.2.
- Bravenc, Frank R.: *See*—  
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- Bravenc, Frank R., to Halliburton Co. Means and techniques for producing a reciprocal of an electrical quantity. 3,092,719, 6-4-63, Cl. 235-193.
- Bravenc, Frank R., and R. H. Huddleston, Jr., to Halliburton Co. Logging system using electrostatically shielded coil. 3,094,658, 6-18-63, Cl. 324-6.
- Braverman, Murray, to Bulova Research and Development Laboratories, Inc. Adjustable pulse generator. 3,082,357, 3-19-63, Cl. 317-141.
- Braverman, Robert. Containers. 3,077,281, 2-12-63, Cl. 220-4.
- Bravos, George T., and J. W. Evans, to American Maize Products Co. Dry gelatinized starch product adapted for use in an oil well drilling fluid. 3,078,187, 2-19-63, Cl. 127-33.
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- Bray Oil Co.: *See*—  
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- Bray, Walter J., Jr., to Shawinigan Resins Corp. Spray drying of resin emulsions and products obtained thereby. 3,104,234, 9-17-63, Cl. 260-41.
- Bray, William W., Jr., and F. J. Ponzek, to Esso Research and Engineering Co. Process for the dehydrogenation of olefins. 3,092,674, 6-4-63, Cl. 260-680.
- Braye, Emile H.: *See*—  
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- Brayman, Jacob: *See*—  
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- Braymer, Noel B., to Beckman Instruments, Inc. Multiple switching circuit. 3,105,223, 9-24-63, Cl. 340-147.
- Brazeale, John A., to The Whitney Blake Co. Multiple-pair electric cable construction. 3,105,108, 9-24-63, Cl. 174-112.
- Brazier, Horace J., to The Sandall Precision Co. Ltd. Interface detector. 3,082,620, 3-26-63, Cl. 73-54.
- Braznell, George S., and R. E. McIlvaney, to Braco Engraving Co. Printing plates. 3,103,168, 9-10-63, Cl. 101-401.1.
- Breadner, Robert L., to The General Electric Co. Ltd. Glass-to-metal seals. 3,107,757, 10-22-63, Cl. 189-36.5.
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- Breau, Wilfred. Gasket cutting device. 3,101,637, 8-27-63, Cl. 82-24.
- Breault, Homer H., to General Electric Co. Gas production. 3,116,116, 12-31-63, Cl. 23-212.
- Breazeale, Hershel T., and F. and G. May, to FMC Corp. Tire changing apparatus. 3,086,578, 4-23-63, Cl. 157-1.24.
- Breazeale, Hershel T., and F. and G. May, to FMC Corp. Pneumatic wheel lock for tire changing apparatus. 3,094,156, 6-18-63, Cl. 144-288.
- Breazeale, Hershel T., and F. and G. May, to FMC Corp. Wheel lock for tire changing apparatus. 3,099,300, 7-30-63, Cl. 144-288.
- Brech, Frederick: *See*—  
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- Brecht, George, to Johnson & Johnson. Tampon applicator. 3,090,985, 5-21-63, Cl. 128-263.
- Brecht, George, to Johnson & Johnson. Catamenial device. 3,103,929, 9-17-63, Cl. 128-263.
- Brecht, George, and G. C. Graham, Jr., to Johnson & Johnson. Absorbent product. 3,079,921, 3-5-63, Cl. 128-285.
- Breckenridge, Robert A. Blast actuated ventilator valve. 3,111,078, 11-19-63, Cl. 98-119.
- Brecknell, Dolman & Rogers Ltd.: *See*—  
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- Breckon, Haldred C.: *See*—  
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- Bredchorne, George J. Word game. 3,096,092, 7-2-63, Cl. 273-135.
- Bredt, Lynn, and J. G. Dorrance, to S.I. Handling Systems, Inc. Tow truck systems with automatic switching means. 3,103,183, 9-10-63, Cl. 104-88.
- Bredtschneider, Kurt B., to Crane Co. High pressure valve. 3,073,566, 1-15-63, Cl. 251-362.
- Bredtschneider, Kurt B., E. P. De Craene, G. E. Hansen, and F. D. Cotterman, to Crane Co. Lubricated pool valve. 3,094,136, 6-18-63, Cl. 137-246.11.
- Bredtschneider, Kurt B., J. A. Englert, and J. P. Doelger, to Crane Co. Motor or gear unit adapter. 3,115,786, 12-31-63, Cl. 74-432.
- Bredtschneider, Kurt B., and J. A. Englert, to Crane Co. Motor or gear unit adapter. 3,115,787, 12-31-63, Cl. 74-432.
- Bredz, Nikolaus T., to Armour Research Foundation of Illinois Institute of Technology. Aluminum base brazing alloy. 3,081,534, 3-19-63, Cl. 29-494.
- Breeback, Rudolph H.: *See*—  
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- Breederveld, Heyme, to Shell Oil Co. Preparation of tertiary dihalophosphoric acid amides. 3,102,910, 9-3-63, Cl. 260-543.
- Breederveld, Heyme, and H. I. Waterman, to Shell Oil Co. Cyclopentadienyl and di-ethyl malonyl titanium compounds. 3,089,886, 5-14-63, Cl. 260-429.5.
- Breedlove, James G., to American Lava Corp. High hardness porcelain enamel composition, method of coating therewith and article produced thereby. 3,095,321, 6-25-63, Cl. 117-129.
- Breedon, David B., J. T. Carleton, and R. W. Ferguson, to Westinghouse Electric Corp. Control apparatus. 3,086,162, 4-16-63, Cl. 322-25.
- Breen, Alvin L., and M. V. Sussman, to E. I. du Pont de Nemours and Co. Fluid twister apparatus for twisting yarn. 3,079,745, 3-5-63, Cl. 57-34.
- Breen, Henry D., to Unarco Industries, Inc. Railway refrigerator car. 3,108,452, 10-29-63, Cl. 62-187.



- Breen, Maurice M. Automatic livestock barn evacuation device. 3,113,557, 12-10-63, Cl. 119-112.
- Breen, Stanley, and S. J. Mason, to Forte-Fairbairn Inc. Method and apparatus for measuring capacity of materials. 3,090,004, 5-14-63, Cl. 324-61.
- Breer, Carl. Body liquid collector appliance. 3,112,061, 11-26-63, Cl. 230-79.
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- Breer, Karl, to Farbenfabriken Bayer Aktiengesellschaft. Apparatus for the manufacture of plastics. 3,100,506, 8-13-63, Cl. 137-567.
- Breese Industries, Inc.: *See*—  
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- Breese, Lemuel R.: *See*—  
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- Breese, Lemuel R., to North Electric Co. Toll collecting device. 3,090,941, 5-21-63, Cl. 340-31.
- Breese, Lemuel R., to North Electric Co. Supervisory control and communications system. 3,110,013, 11-5-63, Cl. 340-163.
- Breese, Robert F., and A. C. Zagotta, to Chicago, Rock Island and Pacific Railroad Co. Flashing light systems. 3,113,293, 12-3-63, Cl. 340-50.
- Breeze Corps., Inc.: *See*—  
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- Breeze, Marvin M., Jr., and J. O. Etchison, Jr., to Western Electric Co., Inc. Drill plate and methods of making a drill plate. 3,098,401, 7-23-63, Cl. 77-62.
- Brefle, Helen H. Multi-strand cable fabricating apparatus and method. 3,094,833, 6-25-63, Cl. 57-1.
- Bregenzner, Robert N., to Soboroff Sons Co. Cap design. 3,077,607, 2-19-63, Cl. 2-172.
- Bregman, Frank, to North American Philips Co., Inc. Transistor means for obtaining the product of two inputs. 3,075,090, 1-22-63, Cl. 307-88.5.
- Bregman, Frank, to North American Philips Co., Inc. Pulse amplitude discriminator. 3,098,938, 7-23-63, Cl. 307-88.5.
- Bregman, Petty: *See*—  
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- Brehm, Lyle W., to International Business Machines Corp. Ultra speed printer. 3,087,420, 4-30-63, Cl. 101-93.
- Brehm, Richard J.: *See*—  
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- Brehmer, Eugene. Transmission line wrench. 3,111,049, 11-19-63, Cl. 81-57.
- Breidert, G. C., Co., The: *See*—  
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- Breidert, George M., to The G. C. Breidert Co. Marine ventilator. 3,072,039, 1-8-63, Cl. 98-82.
- Breig, Kurt, and H. Gutjahr, to Farbenfabriken Bayer Aktiengesellschaft. Diazoamino compounds and process for the production of ice colors in textile printing. 3,088,789, 5-7-63, Cl. 8-45.
- Breil, Heinz: *See*—  
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- Breining, Elmer R., and W. M. Bolton, to Union Carbide Corp. Die construction. 3,111,731, 11-26-63, Cl. 22-193.
- Breitenstein, Charles T.: *See*—  
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- Breitenstein, Charles T., to The Seeburg Corp. Piston structure. 3,102,455, 9-3-63, Cl. 92-155.
- Breitenstein, Charles T., to The Seeburg Corp. Beverage brewer. 3,103,159, 9-10-63, Cl. 99-289.
- Breitenstein, Charles T., to The Seeburg Corp. High-speed beverage brewer. 3,103,873, 9-17-63, Cl. 99-289.
- Breiter, Samuel, and H. Heinemann, to The M. W. Kellogg Co. Separation of acetylenic impurities from olefins by selective polymerization. 3,086,066, 4-16-63, Cl. 260-677.
- Breithaupt, Joe J., to Collins Radio Co. Picture communication system. 3,080,556, 3-5-63, Cl. 343-6.
- Breitinger, August F., to Jared Knitting Mills, Inc. Pleated knit fabric. 3,093,989, 6-18-63, Cl. 66-200.
- Breitinger, Erwin: *See*—  
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- Breivik, Orville N., and W. R. Johnston, to Standard Brands Inc. Instant coffee and tea. 3,100,151, 8-6-63, Cl. 99-71.
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- Brembeck, Howard S. Bulk feed bin bottom. 3,100,052, 8-6-63, Cl. 214-17.
- Bremer, John W.: *See*—  
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- Bremer, Robert D., and H. E. Van Scoyk, to General Motors Corp. Cooking unit. 3,110,796, 11-12-63, Cl. 219-37.
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- Breneman, James C. Portable backstop for arrows. 3,100,115, 8-6-63, Cl. 273-102.4.
- Breneman, Joseph C., to Rubbermaid Inc. Container assembly. 3,096,900, 7-9-63, Cl. 220-4.
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- Brenne, Walter. Container devices for cosmetics. 3,103,032, 9-10-63, Cl. 15-523.
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Rively, Clair M., and Brenneck. 3,088,602.
- Brenneman, Clifford D. Animated figure toy. 3,100,949, 8-20-63, Cl. 46-241.
- Brenneman, John H. Electrical outlet and switch. 3,092,698, 6-4-63, Cl. 200-67.
- Brenneman, Theron F.: *See*—  
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- Brennemann, Andrew E., to International Business Machines Corp. Cryogenic ring circuit. 3,098,159, 7-16-63, Cl. 307-88.5.
- Brennemann, Andrew E., and R. T. Tsui, to International Business Machines Corp. Superconductor circuit. 3,090,023, 5-14-63, Cl. 338-32.
- Brenner, Abner, and W. E. Reid, Jr., to United States of America, Navy. Vapor deposition of tungsten. 3,072,983, 1-15-63, Cl. 22-200.
- Brenner, Al. Awning window. 3,070,853, 1-1-63, Cl. 20-42.
- Brenner, Al. Extensible vent link for awning windows. 3,110,486, 11-12-63, Cl. 267-71.
- Brenner, Bernard M., to Ampex Corp. Tape tension system. 3,109,604, 11-5-63, Cl. 242-55.14.
- Brenner, Carl M., and M. A. Stevens, to J. R. Geigy A-G. New process for the preparation of  $\alpha$ -amino- $\epsilon$  caprolactam and novel intermediates formed thereby. 3,107,239, 10-15-63, Cl. 260-239.3.
- Brenner, John B., J. B. Force, E. C. McMurray, J. A. McDougal, and H. H. Harada, to General Motors Corp. Vehicle speed warning and cruise control system. 3,088,538, 5-7-63, Cl. 180-82.1.
- Brenner, Max, to Ciba Corp. Process for manufacture of acylamino-carboxylic acid amides. 3,072,723, 1-8-63, Cl. 260-561.
- Brenner, Paul, to Vereinigte Leichtmetall-Werke, Gesellschaft mit Beschränkter Haftung. Process and means relating to manufacture of hollow cast bodies. 3,079,654, 3-5-63, Cl. 22-57.2.
- Brenner, Robert A., and C. A. Cobb, to Whirlpool Corp. Wringer assembly. 3,105,377, 10-1-63, Cl. 68-253.
- Brenner, Ronald J., to McNeil Laboratories, Inc. Pharmaceutical tablet containing wheat gluten. 3,089,825, 5-14-63, Cl. 167-82.
- Brenner, William, and S. Koslow. Magnetic envelope means. 3,083,904, 4-2-63, Cl. 235-61.12.
- Brent, Barry. Bouncing hobby horse with leg action. 3,090,618, 5-21-63, Cl. 272-53.2.
- Brentlinger, Cecil R., to Armco Steel Corp. Dry wall nail with a frusto-conical walled head and a serrated shank. 3,112,667, 12-3-63, Cl. 85-28.
- Brenton, William P., Jr., 33 $\frac{1}{3}$ % to R. L. Griffiths, 33 $\frac{1}{3}$ % to E. E. Larson, and 33 $\frac{1}{3}$ % to D. P. McIntosh. Convertible bed and couch. 3,114,155, 12-17-63, Cl. 5-17.
- Bresenoff, Stanley W., to North American Aviation, Inc. Precision pressure generator system. 3,092,305, 6-4-63, Cl. 230-2.
- Bresette, George E.,  $\frac{1}{2}$  to P. L. Parrish. Process for purifying salt and product thereof. 3,097,952, 7-16-63, Cl. 99-143.
- Bresler, Sidney A., and A. W. Francis, to Chemical Construction Corp. Process for removal of acid gas from gas streams. 3,101,996, 8-27-63, Cl. 23-2.



- Breslow, David S., to Hercules Powder Co. Stabilization of polyolefins. 3,072,601, 1-8-63, Cl. 260—45.75.
- Breslow, David S., and A. S. Matlack, to Hercules Powder Co. Hydrogenation of unsaturated hydrocarbons. 3,113,986, 12-10-63, Cl. 260—683.9.
- Bresser, Robert E.: *See*—  
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- Bressler, Robert E., to M. J. McGinn. Pressure compensated ionization chamber fire detector system. 3,078,450, 2-19-63, Cl. 340—237.
- Bressler, Wilbur L.: *See*—  
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- Bretschneider, Hermann, and W. Klötzer, to Hoffmann-La Roche Inc. Sulfur compounds and processes. 3,091,610, 5-28-63, Cl. 260—239.75.
- Brett, John J. Time punch recorder apparatus. 3,084,013, 4-2-63, Cl. 346—89.
- Brette, Alfred, to Compagnie pour la Fabrication des Compresseurs et Matériel d'Usines à Gaz. Vertical turbine fluid meter. 3,071,003, 1-1-63, Cl. 73—229.
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- Bretznor, Hans S., to General Motors Corp. Door hinging arrangement for vehicle bodies. 3,095,600, 7-2-63, Cl. 16—163.
- Breuer, Erich, and W. Kielhorn, to Brown, Boveri & Cie Aktiengesellschaft. Apparatus for heating metallic billets, bars or the like by direct passage of current. 3,114,034, 12-10-63, Cl. 219—152.
- Breuer, Hermann: *See*—  
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- Breuer, Hermann, and H. Höhn, to Olin Mathieson Chemical Corp. Sulfonyleurea compounds. 3,102,115, 8-27-63, Cl. 260—239.
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- Breuer, Peter, to The Rauland Corp. Semi-conductor mounting apparatus. 3,080,510, 3-5-63, Cl. 317—234.
- Breuers, Theo P. C., and M. D. P. Syvener, to Chemische Fabrik L. van der Grinten N. V. Device for separating by means of friction two superimposed sheets of laminar material. 3,083,959, 4-2-63, Cl. 271—18.
- Breung, Wilhelm, E. P. Franke, and R. Spolders, to W. C. Heraeus G.m.b.H. and Ruhrstahl A.G. Apparatus for degassing molten steel. 3,099,699, 7-30-63, Cl. 266—34.
- Breunich, Theodore R., to Controlex Corp. of America. Steering apparatus for outboard motors. 3,095,849, 7-2-63, Cl. 115—18.
- Breunich, Theodore R., to Controlex Corp. of America. Clevis for push-pull control devices. 3,106,415, 10-8-63, Cl. 287—91.
- Breuning, Erich E., to On Mark Couplings, Inc. Quick disconnect coupling for high pressure fluids. 3,074,670, 1-22-63, Cl. 244—130.
- Brevard, Procter, to Freeman Burdett Gas Burner Co. Radiant atmospheric gas burner. 3,101,774, 8-27-63, Cl. 158—113.
- Breves, Wilhelm: *See*—  
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- Brevets Aero-Mecaniques S.A.: *See*—  
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Meisser, Marc A. 3,076,305.  
Paschoud, Louis-David. 3,090,308.  
Ramseyer, Robert. 3,082,667.
- Brevik, Elmer L., to Purex Corp. Process for removal of radioactive contaminants. 3,108,080, 10-22-63, Cl. 252—137.
- Brewer, Alice K. Self-heating composite container. 3,094,981, 6-25-63, Cl. 126—263.
- Brewer, Carl T. Drive-tensioning apparatus. 3,071,980, 1-8-63, Cl. 74—242.1.
- Brewer, Claire N., to International Typographical Union of North America. Apparatus for operating a tape perforating machine particularly for setting type for telephone directory listings. 3,112,665, 11-26-63, Cl. 234—4.
- Brewer, Claire N., to International Typographical Union of North America. Apparatus for effecting sequential operation of the keys of a tape perforating machine. 3,113,718, 12-10-63, Cl. 234—13.
- Brewer, Claire N., and C. C. Smith, Jr., to International Typographical Union of North America. Machine for cleaning the matrices of a photographic line composing machine. 3,090,069, 5-21-63, Cl. 15—308.
- Brewer, Clifford E. Rivet feeding apparatus. 3,101,858, 8-27-63, Cl. 218—1.
- Brewer, Delbert W., and A. E. Laughlin. Motion translating device. 3,106,848, 10-15-63, Cl. 74—110.
- Brewer, Jade D. X-ray collimator with shutter track and actuation means on each side of guide means. 3,115,580, 12-24-63, Cl. 250—105.
- Brewer, John H., to Hynson, Westcott & Dunning Inc. Serological test card with color solid as visualizing agent. 3,074,853, 1-22-63, Cl. 167—84.5.
- Brewer, John H. Apparatus and method for culturing microorganisms. 3,102,082, 8-27-63, Cl. 195—139.
- Brewer, Leonard, to Olin Mathieson Chemical Corp. Rocket propellant. 3,090,196, 5-21-63, Cl. 60—35.6.
- Brewer, Margaret W.: *See*—  
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- Brewer, Nathaniel, to Wilson Products, Inc. Control means for solid dispensing apparatus. 3,110,420, 11-12-63, Cl. 222—56.
- Brewer, Nathaniel, to Fischer & Porter Co. Flow controller. 3,115,892, 12-31-63, Cl. 137—501.
- Brewer, Nathaniel, E. D. Haigier, and E. D. Woodring, to Fischer & Porter Co. Pneumatic controllers. 3,098,498, 7-23-63, Cl. 137—86.
- Brewer, Nicholas L., deceased, by M. W. Brewer, executrix, to Savage Arms Corp. Bolt action rifle with ejector housing on magazine box. 3,103,757, 9-17-63, Cl. 42—25.
- Brewer, Nicholas L., deceased, by M. W. Brewer, executrix, to Savage Arms Corp. Firing mechanism with sear safety indicator. 3,106,033, 10-8-63, Cl. 42—69.
- Brewer, Ralph L., Jr., to Armo Steel Corp. Automatic chain removing device. 3,079,193, 2-26-63, Cl. 294—75.
- Brewer, William L., Jr., to Dealer Associates, Inc. Pivotal connecting means for rotary disk cutter. 3,112,599, 12-3-63, Cl. 56—295.
- Brewin, Grant H., to Proctor Hydro-Set Co. Form movement control system. 3,091,377, 5-28-63, Cl. 223—76.
- Brewing Patents Ltd.: *See*—  
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- Brewster, Arthur E., to International Standard Electric Corp. Electric pulse frequency dividers. 3,087,073, 4-23-63, Cl. 307—88.
- Brewster, Arthur E., to International Standard Electric Corp. Pulse coding and decoding arrangements. 3,094,626, 6-18-63, Cl. 307—88.
- Brewster, Arthur E., to International Standard Electric Corp. Coders for electric pulse code modulation systems. 3,110,895, 11-12-63, Cl. 340—347.
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- Brewster, Spencer. Gear shift attachment for outboard motors. 3,073,278, 1-15-63, Cl. 115—18.
- Brey, Wilhelm, to The Firestone Tire & Rubber Co. Method and apparatus for joining sheet material. 3,100,731, 8-13-63, Cl. 156—157.
- Breza, Cyril J., to E. I. du Pont de Nemours and Co. Explosive composition. 3,093,521, 6-11-63, Cl. 149—19.
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- Brian, Percy W., and M. E. Radley, to Imperial Chemical Industries Ltd. Malting of barley. 3,104,207, 9-17-63, Cl. 195—70.
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- Brichard, Edgard, E. Plumet, G. Meunier, and E. Deliere, to Union des Verrieres Mecaniques Belges, Societe Anonyme. Process and apparatus for obtaining electrically conductive coatings on the surface of objects consisting of glass or ceramic materials. 3,088,850, 5-7-63, Cl. 117—211.
- Brick, Robert M., C. E. Maier, and E. J. Ripling, to Continental Can Co., Inc. Art of producing expandable laminate strips with use of flattened tubes for cores. 3,105,296, 10-1-63, Cl. 29—528.
- Brick, Robert M., and C. E. Maier, to Continental Can Co., Inc. Production of laminate composite material by roll bonding procedures. 3,106,014, 10-8-63, Cl. 29—470.9.



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- Bricker, Lester J. Human body heater. 3,110,301, 11-12-63, Cl. 126—208.
- Bricker, Samuel R., and A. D. Smith, to Westinghouse Electric Corp. Steam iron. 3,103,079, 9-10-63, Cl. 38—77.
- Brickman, Alan E. Apparatus for making post-stressed reinforced cement-concrete structures. 3,072,994, 1-15-63, Cl. 25—118.
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- Brideau, James. Tool guide. 3,097,891, 7-16-63, Cl. 308—4.
- Bridgeford, Douglas J., to Tee-Pak, Inc. Method of depositing a polymer of olefinically unsaturated monomer within a polymeric material and the resulting product. 3,083,118, 3-26-63, Cl. 117—47.
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- Bridges, Elmer H. Visual instructing device. 3,091,152, 5-28-63, Cl. 84—478.
- Bridges, George A. Shower utility bag. 3,074,452, 1-22-63, Cl. 150—1.
- Bridges, Ronald P., to A. B. Chance Co. Electrical protective devices. 3,076,076, 1-29-63, Cl. 200—114.
- Bridges, Ronald P., to Hubbard and Co. Bypass switch for automatic circuit reclosure. 3,103,560, 9-10-63, Cl. 200—2.
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- Bridgewater, Thomas E. Breaker plate structure for impact crusher and retaining means therefor. 3,088,655, 5-7-63, Cl. 241—300.
- Bridgewater, Thomas E. Breaker plate structure. 3,093,329, 6-11-63, Cl. 241—275.
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- Bridforth, Robert M., Jr., to Rocket Research Corp. Triplex propulsion system and method. 3,112,608, 12-3-63, Cl. 60—35.4.
- Bridforth, Robert M., Jr., to Rocket Research Corp. Triplex propulsion system and method having thermal radiation suppression aspects. 3,112,609, 12-3-63, Cl. 60—35.4.
- Bridle, Edgar A., B. W. Firth, and J. S. Mitchell, to The Parsons and Marine Engineering Turbine Research and Development Association. Turbine and like rotor blades. 3,076,633, 2-5-63, Cl. 253—77.
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- Brieger, Emmet F., to Schlumberger Well Surveying Corp. Core taker devices. 3,101,797, 8-27-63, Cl. 175—4.
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- Briggs, Walton E., and A. C. Jones, to General Electric Co. Combination leak detector and vacuum gauge. 3,085,198, 4-9-63, Cl. 324—33.
- Briggs, William L., to Window Products, Inc. Heat-insulated metal-framed closure. 3,114,179, 12-17-63, Cl. 20—56.5.
- Brigham, Leonard R., and P. L. Warddell. Cash register-information storage assembly. 3,088,661, 5-7-63, Cl. 235—2.
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- Britten, George C. Blow-pipe for fabricating plastic resin articles, 3,101,901, 8-27-63, Cl. 239-132.
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- Broberg, Elmer E., to Elco Tool and Screw Corp. Combination piercing, reaming and tapping screw, 3,094,895, 6-25-63, Cl. 85-47.
- Broberg, Leonard E., to The T. L. Smith Co. Mixer drum support structure for truck concrete mixer, 3,081,982, 3-19-63, Cl. 259-176.
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- Brock, George D., and E. W. Topping, to General Electric Co. Sequence controller mechanism, 3,096,408, 7-2-63, Cl. 200-38.
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- Brockbank, Robert A., to Her Majesty's Postmaster General. Grapnels for submarine cables, 3,097,874, 7-16-63, Cl. 294-66.
- Brockbank, Robert A., J. Piggott, E. F. S. Clarke, R. J. Jury, and E. W. E. Taylor, to Her Majesty's Postmaster General. Submarine cable laying apparatus, 3,105,676, 10-1-63, Cl. 254-190.
- Brockel, Ernst, to Maschinenfabrik Augsburg-Nürnberg A.G. Casting stereotype plates, 3,074,128, 1-22-63, Cl. 22-2.
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- Brockman, Lyle, to General Signal Corp. Control system for railway car classification yard, 3,110,461, 11-12-63, Cl. 246-182.
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- Brockway, Charles E., R. R. Estes, and D. R. Smith, to A. E. Staley Mfg. Co. Amylaceous graft copolymers and process for preparing same, 3,095,391, 6-25-63, Cl. 260-17.4.
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- Brockwell, Richard E., to United States of America, Atomic Energy Commission. Novel flow device. 3,111,963, 11-26-63, Cl. 138-39.
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- Broder, Alan, and H. H. Wakeland, to Sperry Rand Corp. Vibration analyzing system. 3,070,995, 1-1-63, Cl. 73-67.
- Broderick, Alan T. Magnetic concentration of low grade ores containing magnetic ore minerals. 3,083,830, 4-2-63, Cl. 209-222.
- Broderick, Frank W. Rotary register embossing press. 3,088,399, 5-7-63, Cl. 101-23.
- Broderick, John E., and O. M. Behr, to Martin-Marietta Corp. Tool for contouring honeycomb core. 3,104,694, 9-24-63, Cl. 153-70.
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- Broders, Claude O., and T. H. Holmes, to United Aircraft Corp. Afterburner shutoff valve. 3,073,335, 1-15-63, Cl. 137-340.
- Brodeur, Edouard A., to United States Rubber Co. Wick-proofing of synthetic fabric. 3,073,713, 1-15-63, Cl. 117-7.
- Brodie, George H., to The Cleveland Trust Co. (trustee). Automatic pinfall detecting apparatus for bowling game. 3,091,456, 5-28-63, Cl. 273-54.
- Brodie, Mike. Combination reversible puller. 3,089,229, 5-14-63, Cl. 29-261.
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- Brodowski, Frank S.,  $\frac{1}{2}$  to J. A. Di Lorenzo. Releasable lace fastener device. 3,074,135, 1-22-63, Cl. 24-117.
- Brodsky, Michael M., to Panel-Lift Door Corp. Panel door with screw drive means. 3,103,246, 9-10-63, Cl. 160-188.
- Brodtmann, Edgar, to Vereinigte Glanzstoff-Fabriken Aktiengesellschaft. Supporting means for a thread turning tube. 3,115,743, 12-31-63, Cl. 57-77.45.
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- Brody, Julius. Method of preparing a liquid meat product. 3,113,030, 12-3-63, Cl. 99-108.
- Broecker, Ernst R. A. F., to Bahco, Aktiebolaget. Heating devices, especially for motor vehicles. 3,078,838, 2-26-63, Cl. 126-110.
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- Broerman, Arthur B., to Phillips Petroleum Co. Pneumatic amplifier sampling valve for chromatographic analyzers. 3,111,849, 11-26-63, Cl. 73-422.
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- Bröge, Kurt, to Rud. A. Hartmann, Gross-Apparate und Spezialmaschinen & Co., G.m.b.H. Apparatus for the cleaning and sterilization of instruments, in particular medical instruments. 3,101,728, 8-27-63, Cl. 134-99.
- Brohaugh, Paul D., to Allis-Chalmers Mfg. Co. Voltage regulator for generators. 3,093,789, 6-11-63, Cl. 322-20.
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- Brolin, Wade E. Moldboard mounted disk paving cutter. 3,083,954, 4-2-63, Cl. 262-20.
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- Broman, Cyrus R., to Baxter Laboratories, Inc. Blood handling equipment. 3,074,402, 1-22-63, Cl. 128-214.
- Broman, Cyrus R., to Baxter Laboratories, Inc. Oxygenator. 3,087,490, 4-30-63, Cl. 128-214.
- Broman, Cyrus R., to Baxter Laboratories, Inc. Roller clamp for parenteral solution equipment. 3,099,429, 7-30-63, Cl. 251-6.
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- Bromberg, Menashe, to Western Electric Co., Inc. Cable guiding apparatus. 3,098,639, 7-23-63, Cl. 254-190.
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- Bromley, Walter T.,  $\frac{1}{2}$  to D. A. Fagan. Gas cutting machine. 3,081,990, 3-19-63, Cl. 266-23.
- Bromstead, Edward J., and Y. Hincelbloom, to Midland Industrial Finisher Co. Meat release compositions and the use of same. 3,084,051, 4-2-63, Cl. 99-187.
- Brownell, Fred K., 90% to T. G. Hendershot. Bow-and-arrow fishing tackle. 3,084,467, 4-9-63, Cl. 43-19.
- Bronaugh, Hugh J., and P. R. Kruesi, to Vitro Corp. of America. Concentration of rare earths. 3,089,759, 5-14-63, Cl. 23-296.
- Bronikowski, Raymond J., to McGraw-Edison Co. Fuse tube construction. 3,102,178, 8-27-63, Cl. 200-120.
- Bronleewe, Robert H. Spring tooth harrows. 3,103,980, 9-17-63, Cl. 172-390.
- Bronson, Gail M., Sr. Fishing pole handle assembly with enclosed signal light means. 3,074,196, 1-22-63, Cl. 43-17.
- Bronstein, Harry. Swaging tool. 3,078,744, 2-26-63, Cl. 80-11.
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- Brook, Arthur F. Universal gage. 3,075,290, 1-29-63, Cl. 33-169.
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- Brooks, Bernard, and A. A. Sylvane. Dental drilling and apparatus therefor. 3,083,463, 4-2-63, Cl. 32-48.
- Brooks, Bruce E., to Olin Mathieson Chemical Corp. Paper having a high coefficient of friction. 3,080,260, 3-5-63, Cl. 117-152.
- Brooks, Charles, and T. A. Sutton, to Cee-Bee Mfg. Co., Inc. Reinforced protected decorative strip materials. 3,086,216, 4-23-63, Cl. 2-278.



- Brooks, Charles E., H. J. O'Neill, and W. M. Stover, to Bell Telephone Laboratories, Inc. Circuit for detecting and restoring off-normal selectors. 3,086,084, 4-16-63, Cl. 179-18.
- Brooks, Charles P., and H. F. Livers; said Livers assor, to said Brooks. Apparatus for forming holes in sewer mains. 3,090,260, 5-21-63, Cl. 77-14.
- Brooks, Chester E., G. B. Crofutt, Jr., and W. C. Sand, to Bell Telephone Laboratories, Inc. Distributed line concentrator system. 3,115,550, 12-24-63, Cl. 179-18.
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- Brooks, Eric. Rotors for mixing, pulverising and like machines. 3,074,658, 1-22-63, Cl. 241-291.
- Brooks, Eugene H., to Continental Gin Co. Method of tramping and bat feeding mechanism. 3,075,455, 1-29-63, Cl. 100-39.
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- Brooks, Frank W., and J. O. Helvern, to General Motors Corp. Brake booster control valve mechanism. 3,081,744, 3-19-63, Cl. 121-41.
- Brooks, Frank W., and J. O. Helvern, to General Motors Corp. Brake booster reaction mechanism. 3,102,453, 9-3-63, Cl. 91-369.
- Brooks, Fred A., Jr., to Jersey Production Research Co. Cementing composition. 3,079,268, 2-26-63, Cl. 106-90.
- Brooks, Hallie V. and V. A., and J. M. and M. N. Fushie, to Mity-Didy Corp. Diaper. 3,081,772, 3-19-63, Cl. 128-287.
- Brooks, Harold E. Bumper for furniture or the like. 3,089,276, 5-14-63, Cl. 45-137.
- Brooks, Harold, J. I. M. Forsyth, and G. I. Lewis, to National Research Development Corp. Rolling of titanium base alloys. 3,070,881, 1-1-63, Cl. 29-528.
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- Brooks, Herbert B., and K. E. Walker; said Walker assor, to H. B. Brooks. Average-responding meter. 3,093,794, 6-11-63, Cl. 324-111.
- Brooks, Hugh, Jr. Boat storage hangar. 3,082,887, 3-26-63, Cl. 214-16.4.
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- Brooks, Lionel H., to United Kingdom Atomic Energy Authority. Recovery of hydrogen fluoride from its azeotrope with water. 3,107,148, 10-15-63, Cl. 23-153.
- Brooks, Norman C., to Miehle-Goss-Dexter, Inc. Folding machine roller adjusting mechanism. 3,089,695, 5-14-63, Cl. 270-68.
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- Brousseau, Don A., to Vapor Corp. Switching device. 3,085,137, 4-9-63, Cl. 200-112.
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- Brossi, Arnold, and O. Schneider, to Hoffmann-La Roche, Inc. Novel 2-oxo-benzozquinoline derivatives. 3,079,395, 2-26-63, Cl. 260-287.
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- Brower, Paul V., to Beaunit Corp. Viscose spinning. 3,116-352, 12-31-63, Cl. 264-189.
- Brower, Paul V., to Beaunit Corp. Spinning viscose. 3,116-353, 12-31-63, Cl. 264-189.
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- Brown, Arthur E., E. G. Gaeke, J. D. Hiller, and H. C. Zeisloft, to General Motors Corp. Afterburner fuel control. 3,095,702, 7-2-63, Cl. 60-39.28.
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- Brown, Boniard I., to General Dynamics Corp. High rate actuators. 3,093,118, 6-11-63, Cl. 121-38.
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- Brown, Francis W., to United States of America, Navy. Process of making pentaerythritol tetranitrate. 3,116,320, 12-31-63, Cl. 260-467.
- Brown, Frank, and J. H. Prichard, to American Cyanamid Co. Rock treatment. 3,091,935, 6-4-63, Cl. 61-36.
- Brown, Frank E. Container-dispenser construction for suppositories and the like. 3,113,672, 12-10-63, Cl. 206-63.2.
- Brown, Frank, Jr.: See—  
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- Brown, Frank M.: See—  
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- Brown, Gavin O.: See—  
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- Brown, Gaylord B.: See—  
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- Brown, Gaylord W., to Brown Machine Co. Sheet conveying mechanism. 3,100,637, 8-13-63, Cl. 271-79.
- Brown, George A., to The Okonite Co. Apparatus with conductive gas electrodes for detecting non-uniformity in electrically insulating and electrically semi-conducting materials. 3,096,478, 7-2-63, Cl. 324-54.
- Brown, George J. Selection playing device. 3,096,406, 7-2-63, Cl. 200-38.
- Brown, George L.: See—  
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- Brown, George M., to The Goodyear Tire & Rubber Co. Method of producing a sleeve. 3,088,256, 5-7-63, Cl. 53-28.
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- Brown, Gordon, to United Kingdom Atomic Energy Authority. Valved ducting. 3,082,821, 3-26-63, Cl. 165-66.
- Brown, Gordon E., to Monsanto Chemical Co. Method for end-gluing wood members. 3,074,448, 1-22-63, Cl. 144-316.
- Brown, Gordon H., to Whirlpool Corp. Fluid metering device for a water softening apparatus. 3,113,101, 12-3-63, Cl. 210-98.
- Brown, Graydon L., to Continental Oil Co. Hydraulic motor port design. 3,073,659, 1-15-63, Cl. 309-2.
- Brown & Grist, Inc.: See—  
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- Brown, Harold, H. S. Tuft, and M. Kaplan. Swimming shoes. 3,107,372, 10-22-63, Cl. 9-309.
- Brown, Harold, Co.: See—  
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- Brown, Harold P., M. R. Walters, and J. F. Anderson, to The B. F. Goodrich Co. Polymeric adhesives and method of preparation. 3,100,760, 8-13-63, Cl. 260-86.1.
- Brown, Harry W., T. A. Jacoby, and C. F. Kruger, to Texas Instruments Inc. Thermal motor protective means. 3,083,309, 3-26-63, Cl. 310-68.
- Brown, Henry, to The Udylite Research Corp. Composite nickel electroplate. 3,090,733, 5-21-63, Cl. 204-40.
- Brown, Henry, and D. H. Becking, to The Udylite Research Corp. Electrodeposition of nickel. 3,075,898, 1-29-63, Cl. 204-49.
- Brown, Henry C., to Research Corp. Fluoroamidines and condensation products thereof. 3,086,946, 4-23-63, Cl. 260-2.
- Brown, Herbert C. Process for the production of organoborn compounds. 3,078,308, 2-19-63, Cl. 260-606.5.
- Brown, Herbert C. Preparation of organoboron compounds. 3,078,309, 2-19-63, Cl. 260-606.5.
- Brown, Herbert C. Isomerization of primary, secondary or tertiary organoboron compounds into isomers thereof. 3,078,310, 2-19-63, Cl. 260-606.5.
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- Brown, Hilda J.: See—  
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- Brown, Horace D. Vehicle speed control device. 3,088,005, 4-30-63, Cl. 200-56.
- Brown, Horace D., to Merck & Co., Inc. Anthelmintic compositions and method of employing same. 3,102,074, 8-27-63, Cl. 167-53.
- Brown, Horace D., and L. H. Sarett, to Merck & Co., Inc. 21-carbamate derivatives of 21-hydroxy steroids. 3,083,197, 3-26-63, Cl. 260-239.5.
- Brown, Horace D., A. R. Matzuk, and L. H. Sarett, to Merck & Co., Inc. Certain N-(2-thiazolyl)-carbamate aryl esters. 3,107,251, 10-15-63, Cl. 260-306.8.
- Brown, Howard C., to The Hayes Corp. Towed target launching and retrieval apparatus. 3,088,693, 5-7-63, Cl. 244-3.
- Brown, Howard D. High speed hydraulically actuated device. 3,112,678, 12-3-63, Cl. 91-342.
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- Brown, Howard M., to Union Carbide Canada Ltd. Flat dry cell and battery. 3,080,445, 3-5-63, Cl. 136-111.
- Brown, Howard R.: See—  
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- Brown, Hugh S., and I. H. Svendsen, to Briggs & Stratton Corp. Power lawn mower with built-in engine starter. 3,084,679, 4-9-63, Cl. 123-179.
- Brown, Jack C., to General Motors Corp. Universal drilling machine. 3,077,128, 2-12-63, Cl. 77-5.
- Brown, Jack D.: See—  
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- Brown, James A.: See—  
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- Brown, James D., to Toledo Scale Corp. Feed pan arrangement for meat choppers. 3,115,173, 12-24-63, Cl. 146-182.
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- Brown, James H., to Ling-Temco-Vought, Inc. Radar system. 3,090,954, 5-21-63, Cl. 343-17.1.
- Brown, James K.: See—  
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- Browne, Lindsay H., to Scott & Williams, Inc. Pumps. 3,080,821, 3-12-63, Cl. 103-44.
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- Browning, Harold, to United States of America, Navy. Flexible pipe line fitting. 3,096,104, 7-2-63, Cl. 285-226.
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- Brown-Line Corp.: See—
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- Brownlow, James M., to International Business Machines Corp. Method of forming memory arrays. 3,077,021, 2-12-63, Cl. 25-156.
- Brownlow, James M., to International Business Machines Corp. Technique for processing ferrite cores. 3,108,074, 10-22-63, Cl. 252-62.5.
- Brownold, Charles R., to American Can Co. Method and apparatus for extruding plastic film. 3,107,191, 10-15-63, Cl. 156-244.
- Brownrigg, Thomas J. Cooking utensil. 3,110,303, 11-12-63, Cl. 126-386.
- Browns Hosiery Mills, Inc.: See—
- Holder, Otis W. 3,107,508.
- Brownscombe, Philip J., to Eugene Dietzgen Co. Optical projector system. 3,076,377, 2-5-63, Cl. 88-24.
- Brownscombe, Philip J., to Eugene Dietzgen Co. Optical projection system. 3,078,760, 2-26-63, Cl. 88-24.
- Brownsfield, Martin. Device for indicating wheel positions at the dashboard of an automobile. 3,088,431, 5-7-63, Cl. 116-31.
- Brownson, Ivan F. Hand grip. 3,092,068, 6-4-63, Cl. 115-6.1.
- Brownson, John C., Jr. Rate-of-blood flow measuring device. 3,078,841, 2-26-63, Cl. 128-2.05.
- Brownstein, Raymond G., to C. J. Rubrecht. Rotary air connection. 3,071,397, 1-1-63, Cl. 285-190.
- Brownstein, Raymond G. Fish lure. 3,091,884, 6-4-63, Cl. 43-42.09.
- Broyeurs Gondard: See—
- Gondard, Jean C. P. 3,082,963.
- Broyhill, Roy F. Adjustable spray boom. 3,073,530, 1-15-63, Cl. 239-168.
- Broyles, Neva I. Hair dryer. 3,109,437, 11-5-63, Cl. 132-9.
- Broziat, Horst. Motor-driven cable winding device. 3,077,320, 2-12-63, Cl. 242-86.5.
- Brozo, Donald E., to Burroughs Corp. Stack conditioning apparatus. 3,089,697, 5-14-63, Cl. 271-34.
- Brozowski, Vincent: See—
- Klass, Donald L., and Brozowski. 3,091,587.
- Klass, Donald L., and Brozowski. 3,109,846.
- Brubaker, Chadwick D., to Western Electric Co., Inc. Wire-wrapping apparatus. 3,087,684, 4-30-63, Cl. 242-7.
- Brubaker, Robert F.: See—
- Bullock, Norman J., Brubaker, and Billings. 3,091,954.
- Martin, John C., Brubaker, Bullock, and Strudud. 3,091,108.
- Brubaker, Wilson M., and F. P. Pickett, to Consolidated Vacuum Corp. Cold-cathode discharge ion pump. 3,107,044, 10-15-63, Cl. 230-69.
- Brubaker, Wilson M., and C. E. Berry, to Consolidated Vacuum Corp. Ion pump. 3,112,863, 12-3-63, Cl. 230-69.
- Bruce, Carl L.,  $\frac{1}{2}$  to A. E. Slocum. Muffler. 3,105,752, 10-1-63, Cl. 55-302.
- Bruce, Donald M., W. T. Cowhig, and K. J. Butler, to Cotton Silk and Man-Made Fibres Research Assn. Automatic machinery. 3,089,322, 5-14-63, Cl. 66-154.
- Bruce, Donald S., J. B. Dickson, and V. Koljonen, to Signal-Stat Corp. Cab lamp for automotive vehicles. 3,096,026, 7-2-63, Cl. 240-7.1.
- Bruce, Everett A., to Pennsalt Chemicals Corp. Control of hydrogen ion concentration in crystallization of calcium hypochlorite. 3,094,380, 6-18-63, Cl. 23-86.
- Bruce, George D., and R. A. Henle, to International Business Machines Corp. Inverter with output clamp and R-C circuit. 3,089,964, 5-14-63, Cl. 307-88.5.



- Bruce, Ian B.: *See*—  
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- Bruce, James S.: *See*—  
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- Bruce, John A., to Forspads Inc. Protective cushion for packaging cans. 3,101,847, 8-27-63, Cl. 206-65.
- Bruce, John K., to Albert Van Luit & Co. Device for applying liquid coating to a moving web. 3,076,430, 2-5-63, Cl. 118-413.
- Bruce, John K. Apparatus for short term accumulation of conveyed articles. 3,114,449, 12-17-63, Cl. 198-40.
- Bruce, John K., to Albert Van Luit & Co. Means for uni-directional photo enlarging and reducing. 3,115,081, 12-24-63, Cl. 95-75.
- Bruce, John N., to United States of America, Army. Pyrophoric slug flame thrower. 3,106,238, 10-8-63, Cl. 158-28.
- Bruce Molded Plastic Products, Inc.: *See*—  
Louik, Leonard, and Frank. 3,115,228.
- Bruce, Robert A. Milk bottle carrier and enclosure. 3,071,279, 1-1-63, Cl. 220-1.
- Bruce, William F., F. L. Muehlmann, and J. M. Glassman, to American Home Products Corp. Phenothiazines with antihistaminic and antipsychotic activity. 3,081,229, 3-12-63, Cl. 167-65.
- Bruchas, Edward R.: *See*—  
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- Bruchas, George R., to G. R. and E. R. Bruchas. Football glove. 3,096,523, 7-9-63, Cl. 2-159.
- Bruck, George, to Avco Corp. Noise factor measurement system. 3,72,845, 1-8-63, Cl. 324-57.
- Brucken, Byron L. to General Motors Corp. Dishwasher. 3,080,874, 3-12-63, Cl. 134-115.
- Brucken, Byron L., to General Motors Corp. Agitating and spinning mechanism. 3,087,321, 4-30-63, Cl. 68-23.
- Brucken, Byron L., T. H. Fogt, and J. W. Light, to General Motors Corp. Clothes washing machine having a dry-type agitate and spinning mechanism. 3,091,956, 6-4-63, Cl. 68-23.
- Brucken, Byron L., and T. H. Fogt, to General Motors Corp. Multi-speed motor for domestic appliance. 3,110,852, 11-12-63, Cl. 318-221.
- Bruckmann, Maurice E. Reed cases. 3,092,243, 6-4-63, Cl. 206-13.
- Bruckner, Klaus: *See*—  
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- Irmscher, Klaus, and Bruckner. 3,086,033.
- Irmscher, Klaus, Mannhardt, Brückner, and Gillissen. 3,103,505.
- Mannhardt, Heinz-Jürgen, Bork, Bruckner, and Metz. 3,074,977.
- Bruckner, Klaus, K. Irmscher, and J. Gillissen, to E. Merck Aktiengesellschaft. Preparation of anabolic agents. 3,087,942, 4-30-63, Cl. 260-397.4.
- Bruckner, Klaus, K. Irmscher, and J. Gillissen, to E. Merck Aktiengesellschaft. Anabolic alkylthio-steroids. 3,098,084, 7-16-63, Cl. 260-397.4.
- Brucksch, William F., Jr., to United States Rubber Co. Vinylpyridine copolymer rubber composition containing metallic halide. 3,087,907, 4-30-63, Cl. 260-41.5.
- Bruder, Werner A., to Daimler-Benz Aktiengesellschaft. Support arrangement. 3,105,355, 10-1-63, Cl. 60-39.31.
- Bruderlin, Henry H. Wire forming machine. 3,076,491, 2-5-63, Cl. 153-2.
- Brudney, Harry, to Dollac Corp. Doll eye having movable lid. 3,086,318, 4-23-63, Cl. 46-166.
- Brudney, Harry, to Dollac Corp. Tearing eye. 3,091,891, 6-4-63, Cl. 46-135.
- Brudney, Harry, to Dollac Corp. Dolls' eyes. 3,105,326, 10-1-63, Cl. 46-169.
- Brudney, Harry, and R. S. Turshen, to Dollac Corp. Rolling and sleeping eye for dolls. 3,091,893, 6-4-63, Cl. 46-168.
- Bruecker, George B. Wall drive silo unloader. 3,071,283, 1-1-63, Cl. 214-17.
- Bruecker, John. Movable cutter for a dry shaver having saw tooth design cutting edge. 3,092,904, 6-11-63, Cl. 30-43.
- Brueckman, Arthur O.: *See*—  
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- Brueckmann, Helmut, to United States of America, Army. Broad band vertical antenna with adjustable impedance matching network. 3,100,893, 8-13-63, Cl. 343-713.
- Brueckner, Alexander W., and J. G. Lewis, Jr., to Cox Instrument Corp. Hydraulic switching system. 3,088,481, 5-7-63, Cl. 137-117.
- Brueckner, Hubert U., E. E. Fluskey, and W. Werbyckvj, to Minnesota Mining and Mfg. Co. Slide transfer mechanism. 3,114,286, 12-17-63, Cl. 88-28.
- Brueder, Antoine, to Andre Citroen, Societe Anonyme. Seat structure. 3,081,131, 3-12-63, Cl. 297-455.
- Brueder, Antoine, to Andre Citroen Societe Anonyme. Longitudinal-elasticity suspension system. 3,089,558, 5-14-63, Cl. 180-64.
- Brueder, Antoine, to Societe Anonyme Andre Citroen. Switching devices for hydraulic pumps and motors. 3,094,078, 6-18-63, Cl. 103-162.
- Brueggjenjohann, Georgia: *See*—  
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- Taylor, Thomas D. 3,100,468.
- Taylor, Thomas D. 3,105,450.
- Bruemmer, Herman L. Dovetailing machine and method. 3,078,888, 2-26-63, Cl. 144-326.
- Bruengger, Heinrich: *See*—  
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- Weber, Kurt, Ulrich, Hugelschofer, Bruengger, and Staebule. 3,083,068.
- Bruenig, Matthias. Pendulum centrifuge. 3,078,035, 2-19-63, Cl. 233-24.
- Brueschweiler, Hans: *See*—  
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- Zuppinger, Paul, and Brueschweiler. 3,072,606.
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- Brugge, Walter J., C. J. Hueber, and W. J. Hampton, to Addressograph-Multigraph Corp. Address printing machine with roller inker. 3,077,828, 2-19-63, Cl. 101-56.
- Brugger, Franz. Multiple compartment refrigeration installation. 3,075,670, 1-29-63, Cl. 221-76.
- Brugger, Otto, and W. Posch, to Semperit Österreichisch-Amerikanische Gummiwerke Aktiengesellschaft. Process and apparatus for manufacturing seamless endless rubber tubes. 3,087,847, 4-30-63, Cl. 156-122.
- Brugger, Wilhelm, to Th. Goldschmidt, A.-G. Manufacture of crystalline zirconium tetraacetate. 3,076,831, 2-5-63, Cl. 260-429.3.
- Bruin, Pieter: *See*—  
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- Brukner, Clayton J. Log splitter. 3,077,214, 2-12-63, Cl. 144-193.
- Brukner, John S., to Texaco Inc. Drilling fluid. 3,091,589, 5-28-63, Cl. 252-8.5.
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- Brumbaugh, Robert T., to Goodman Mfg. Co. Conveyor weighing apparatus. 3,115,201, 12-24-63, Cl. 177-16.
- Brumbaugh, Webster, to Weyerhaeuser Co. Packaging apparatus and method. 3,077,062, 2-12-63, Cl. 53-37.
- Brumby, Jack B. Automatic pressing machine. 3,112,847, 12-3-63, Cl. 223-2.
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- Brumley, Corwin H., to Bausch & Lomb Inc. Ratio measuring spectrophotometer. 3,071,037, 1-1-63, Cl. 88-14.
- Brumlik, George C. Molecular model set. 3,080,662, 3-12-63, Cl. 35-18.
- Brunner, Richard S.: *See*—  
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- Bruner, Stephen. High explosive mixtures. 3,111,439, 11-19-63, Cl. 149-92.
- Brunberg, Karl G., R. A. Dahlblom, and B. Lillsunde, to Telefonaktiebolaget LM Ericsson. Circuit arrangement for controlling cross-bar selectors in a telephone system. 3,088,999, 5-7-63, Cl. 179-22.
- Brunberg, Karl G., B. Lillsunde, and J. S. Lindenhall, to Telefonaktiebolaget L M Ericsson. Telephone system. 3,101,392, 8-20-63, Cl. 179-22.
- Brun-Buisson, Robert, to Inventions Finance Corp. Combined coffee-pot and coffee-mill. 3,107,600, 10-22-63, Cl. 99-286.
- Brundage, Clinton F., to Minnesota Mining and Mfg. Co. Apparatus for mounting inserts. 3,085,618, 4-16-63, Cl. 156-530.
- Brune, William L., A. F. Perkins, and J. C. Perkins, Jr., to General Dynamics Corp. Carrier transmission system for reducing impulse noise. 3,105,937, 10-1-63, Cl. 325-50.
- Bruneau, Louis O.: *See*—  
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- Bruner Corp.: *See*—  
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- Bruner, Leonard B., to Dow Corning Corp. Diorganopolysiloxane polymerization. 3,105,061, 9-24-63, Cl. 260-46.5.
- Brunette, Fredrick F., to Brilliant Products Inc. Display rack. 3,104,626, 9-24-63, Cl. 108-106.
- Brunette, Kenneth W., and W. L. Wuster, to United States of America, Navy. Voltage regulator. 3,076,130, 1-29-63, Cl. 321-18.
- Brunig, William D., to Bennett-Ireland, Inc. Fireplace screen mounting bar. 3,103,280, 9-10-63, Cl. 211-105.3.
- Bruning, Charles, Co., Inc.: *See*—  
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- Kucera, Thomas J. Re. 25,444.
- Wells, Edward C., and Robertson. 3,077,316.
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- Brünné, Kurt, to Atlas-Werke Aktiengesellschaft. Ion source for mass spectrometer. 3,115,591, 12-24-63, Cl. 313-23.1.
- Brunner, Alfred, to Societe Anonyme Sulzer Freres. Steam power plant. 3,100,967, 8-20-63, Cl. 60-73.
- Brunner, Alfred, to Sulzer Freres, S.A. Heat exchange control apparatus. 3,111,936, 11-26-63, Cl. 122-479.



- Brunner, Alfred, to Sulzer Freres, Societe Anonyme. Remote data transmission and position control apparatus. 3,116,444, 12-31-63, Cl. 318-28.
- Brunner, Carl F., to Murray Mfg. Corp. Arc attenuator. 3,102,937, 9-3-63, Cl. 200-147.
- Brunner, Cedric D.: See—
- Bissell, Don W., and Brunner. 3,103,443.
- Brunner, George M., W. V. Hauck, and A. Adams, to International Minerals & Chemical Corp. Method for the purification of potassium carbonate. 3,079,227, 2-26-63, Cl. 23-63.
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- Margreiter, Hans, Brunner, and Brandl. 3,093,547.
- Brunner, Robert. Apparatus for providing a finished knitted fabric with predetermined dimensions. 3,098,279, 7-23-63, Cl. 26-18.5.
- Brunner, Walter H., and A. Halasz. Method of dyeing keratinaceous materials with p-phenylene diamine compositions. 3,088,877, 5-7-63, Cl. 167-88.
- Brunner, Walter H., and A. Halasz. Method of dyeing keratinaceous materials with nitro-substituted para-phenylene diamine compositions. 3,088,878, 5-7-63, Cl. 167-88.
- Brunner, Walter H., and A. Halasz. Catalytic hydrogenation of 2,4-dinitrophenyl-amines. 3,088,978, 5-7-63, Cl. 260-580.
- Brunner, Wilber C.: See—
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- Bruno, Angel. Fast current breaker switch. 3,106,621, 10-8-63, Cl. 200-67.
- Bruno, Enrico, to Maidenform, Inc. Brassieres. 3,082,771, 3-26-63, Cl. 128-494.
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- Koster, Roland, Bruno, and Lehmkuhl. 3,097,066.
- Bruno, John. Means to preclude wind flexing of a storm sash. 3,095,617, 7-2-63, Cl. 20-55.
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- Wiatt, James G., Bruns, and Travis. 3,109,265.
- Bruns, William H., to Otis Elevator Co. Extended roller guide for elevators. 3,087,583, 4-30-63, Cl. 187-95.
- Brunschweiler, Alfred, to International Business Machines Corp. Limiting amplifier employing non-saturating transistors for providing in-phase square wave output from distorted wave input. 3,078,377, 2-19-63, Cl. 307-88.5.
- Brunson, Bruce W., to Werner Machinery Co. Milk handling apparatus. 3,088,483, 5-7-63, Cl. 137-355.12.
- Brunson, Marion O., and J. E. Huffaker, to Eastman Kodak Co. Process for utilizing steam as a release agent in embossing. 3,110,608, 11-12-63, Cl. 117-10.
- Brunson, Thomas H.,  $\frac{1}{2}$  each to J. M. Dubiel and J. Giesler. Safety screen for swimming pools. 3,092,844, 6-11-63, Cl. 4-172.
- Brunson, Ward L. Bag clip. 3,112,542, 12-3-63, Cl. 24-30.5.
- Brunswick Corp.: See—
- Albrecht, Alexander J. 3,096,090.
- Albrecht, Alexander J. 3,108,806.
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- Anderson, Robert I., and Sewell. 3,109,649.
- Bernd, Jules P. 3,084,887.
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- Stevens, Peter A. 3,073,307.
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- Untiedt, Miles E. 3,083,966.
- Varney, Philip L. 3,085,705.
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- Brunswick, Lawrence F. Long-lived photographic film with conditioning and cleaning means therefor. 3,078,759, 2-26-63, Cl. 88-19.5.
- Brunswick-MacGregor Inc.: See—
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- Brunt, John B., to Fairchild Camera and Instrument Corp. Automatic plate changing mechanism for printing press. 3,112,696, 12-3-63, Cl. 101-217.
- Brunton, Arthur F. Formation testing device. 3,087,549, 4-30-63, Cl. 166-142.
- Brunton, Donald C., to Curtiss-Wright Corp. Holder for movable radioactive source material. 3,088,032, 4-30-63, Cl. 250-106.2.
- Brunton, Phillip E., and I. Morrison. Container for beverages. 3,092,275, 6-4-63, Cl. 215-1.
- Brusa, Joseph L., to Colgate Bearings, Inc. Shaft bearing. 3,113,810, 12-10-63, Cl. 308-36.1.
- Bruscaglioni, Raffaello, to Filotecnica Salmoiraghi S.p.A. Portable free arm type sewing machine. 3,077,169, 2-12-63, Cl. 112-220.
- Bruscaglioni, Raffaello, to Filotecnica Salmoiraghi S.p.A. Stitch regulating device. 3,088,427, 5-7-63, Cl. 112-210.
- Bruschini, Albert, and W. A. Sheninger, to American Can Co. Container and closure therefor. 3,104,045, 9-17-63, Cl. 229-43.
- Brush Beryllium Co., The: See—
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- Bruson, Herman A., and W. I. Denton, to Olin Mathieson Chemical Corp. Isomerization of alkylene oxide. 3,092,668, 6-4-63, Cl. 260-632.
- Brussard, Jan M., and J. W. Hekkert, to North American Philips Co., Inc. Method of longitudinally prepolarizing bodies consisting of at least one layer of piezoelectric material. 3,071,841, 1-8-63, Cl. 29-25.35.
- Brust, Harry F., to The Dow Chemical Co. N-(trisamino-phosphoranyliden)-haloacylamides. 3,071,574, 1-1-63, Cl. 260-239.
- Brust, Harry F., to The Dow Chemical Co. O-haloalkyl O-alkyl phosphoramidothioates. 3,087,955, 4-30-63, Cl. 260-461.
- Brust, Harry F., to The Dow Chemical Co. Substituted urea-acid complexes. 3,095,407, 6-25-63, Cl. 260-96.5.
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- Bruun, Otto J., to Andersen & Bruun's Fabrikker A/S. Apparatus for the removal one by one of bottle-caps from a stack and positioning them. 3,099,120, 7-30-63, Cl. 53-313.
- Bruyning, Eugene L.: See—
- Kornbluh, Abraham J., and Bruyning. 3,114,874.
- Bry, Thomas S.: See—
- Fried, John, and Bry. 3,072,646.
- Fried, John, and Bry. 3,096,353.
- Bryan, George J., to United States of America, Navy. Method of thrust vector control. 3,099,960, 8-6-63, Cl. 102-50.
- Bryan, Harvard J., to Harvest Queen Mill & Elevator Co. Pipeline vehicle governing device. 3,099,227, 7-30-63, Cl. 104-139.
- Bryan, Joan D.: See—
- Agius, Peter J. V. J., Bryan, and Garbett. 3,087,893.
- Bryan, John A.: See—
- Parr, Bernard A., Lowe, and Bryan. 3,115,918.
- Bryan, John L., Jr.: See—
- Parker, Paul T., Bryan, Small, Pugh, and Buckmann. 3,099,644.
- Bryan, Lloyd. Portable and collapsible cooking device. 3,105,483, 10-1-63, Cl. 126-9.
- Bryan, Paul A., to United States of America, Air Force. System for locating modulator malfunction. 3,095,557, 6-25-63, Cl. 340-248.
- Bryand, Edward T., to Metal-Tech, Inc. Honeycomb open-work. 3,100,928, 8-20-63, Cl. 29-121.
- Bryant, Austin W., to Grove Valve and Regulator Co. Valve construction having resilient sealing means. 3,109,623, 11-5-63, Cl. 251-172.
- Bryant, Burl E., to The Dow Chemical Co. Clathrate compound of methyl bromide. 3,076,742, 2-5-63, Cl. 167-39.
- Bryant Chucking Grinder Co.: See—
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- Lovely, John W. 3,075,293.
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- Hamilton, R. E. Harris, and Bryant. 3,112,717.
- Payne, Otis C., and Bryant. 3,108,554.
- Bryant, Edward T.: See—
- Watts, Richard M., and Bryant. 3,082,930.
- Bryant, Edward T., to Reynolds Metals Co. Cutter carton. 3,093,279, 6-11-63, Cl. 225-43.
- Bryant, Edward T., and J. T. McNeally, to Reynolds Metals Co. Carton. 3,096,012, 7-2-63, Cl. 229-52.
- Bryant, Edwin E., to Nelson Muffler Corp. Exhaust muffler. Re. 25,384, 5-14-63, Cl. 181-57.
- Bryant Electric Co., The: See—
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- Wiley, Roy O. 3,114,016.
- Bryant, Ernest, Jr. Gear shift lever cover and attaching bracket therefor. 3,086,609, 4-23-63, Cl. 180-90.6.
- Bryant, Frederick. Bulk fluid transport. 3,112,845, 12-3-63, Cl. 222-129.
- Bryant, Glenn B., Jr., to Hosiery Research Corp. Adjustable hosiery form. 3,072,305, 1-8-63, Cl. 223-77.
- Bryant, Glenn D., and A. W. Stewart, to M. W. Raspet. Variable-camber airfoil. 3,109,613, 11-5-63, Cl. 244-44.



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- Bryant, Irvin E., to The Lufkin Rule Co. Thread diameter measuring device. 3,111,766, 11-26-63, Cl. 33-167.
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- Budzich, Tadeusz, to The Weatherhead Co. Pump cylinder block dampening means. 3,082,692, 3-26-63, Cl. 103-37.
- Budzich, Tadeusz, to The Weatherhead Co. Starting valve for variable displacement hydraulic pump. 3,082,693, 3-26-63, Cl. 103-39.
- Budzich, Tadeusz, to The Weatherhead Co. Pump cooling apparatus. 3,085,514, 4-16-63, Cl. 103-173.
- Budzich, Tadeusz, to The Weatherhead Co. Pump. 3,087,432, 4-30-63, Cl. 103-37.
- Budzich, Tadeusz, to The New York Air Brake Co. Engine. 3,089,426, 5-14-63, Cl. 103-162.
- Budzich, Tadeusz, to The Weatherhead Co. Pump. 3,090,312, 5-21-63, Cl. 103-37.
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- Budzich, Tadeusz, to The New York Air Brake Co. Pumping device. 3,093,081, 6-11-63, Cl. 103-11.
- Budzich, Tadeusz, to The Weatherhead Co. Constant horsepower pump. 3,099,218, 7-30-63, Cl. 103-37.
- Budzich, Tadeusz. Variable discharge pump. 3,107,623, 10-22-63, Cl. 103-37.
- Bue, Richard C., to Sico Mfg. Co., Inc. Folding table and seat structure. 3,099,481, 7-30-63, Cl. 297-159.
- Buechele, Calvin F., and A. U. Hurst, to Reynolds Metals Co. Method of making pressure welded passageway panel containing accumulator chamber. 3,073,012, 1-15-63, Cl. 29-157.3.
- Buechler, Peter R.: *See*—  
Lowell, John A., Hatton, Glavis, and Buechler. 3,103,447.
- Buechler, William R., to Thompson Industries, Inc. Fastening means. 3,074,134, 1-22-63, Cl. 24-73.
- Buechler, William R., to Thompson Industries, Inc. Wheel cover construction. 3,083,061, 3-26-63, Cl. 301-37.
- Buechler, William R., to Thompson Industries, Inc. Rack. 3,100,574, 8-13-63, Cl. 211-177.
- Buedingen, Wilmer E. Mailbox signal. 3,095,140, 6-25-63, Cl. 232-35.
- Buege, Francis J.: *See*—  
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- Buegeleisen, Joseph, Co.: *See*—  
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- Buehl, Arnold L., to Mor-Flo Industries, Inc. Water heaters. 3,110,302, 11-12-63, Cl. 126-363.
- Buehler, Albert C. Horse and pony harness. 3,077,710, 2-19-63, Cl. 54-78.
- Buehler, Arthur, and R. Casty, to Ciba Ltd. Process for dyeing nitrogenous fibers and preparations for carrying out the process. 3,071,427, 1-1-63, Cl. 8-22.
- Buehler, Arthur, and R. Casty, to Ciba Ltd. Process for dyeing nitrogenous fibers. 3,097,039, 7-9-63, Cl. 8-43.
- Buehler Corp.: *See*—  
Basso, John E. 3,070,954.  
Basso, John E. 3,071,101.  
Buehler, John L. 3,071,102.  
Christensen, Warren C. 3,070,956.  
Cochran, Richard L., and Engel. 3,093,965.  
Englehart, Theodore M., and Cochran. 3,093,966.  
Lerwick, Howard P. 3,093,967.  
Nickerson, George R., Shull, and Dininger. 3,080,774.
- Buehler, Fritz A., and H. J. Andress, Jr., to Socony Mobil Oil Co., Inc. Grease. 3,108,962, 10-29-63, Cl. 252-33.6.
- Buehler, Gebrueder: *See*—  
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Danioetti, Mario. 3,075,628.  
Eppenberger, Paul. 3,083,805.  
Fehlmann, Werner. 3,108,949.  
Thaler, Anton, and Siebert. 3,097,390.
- Buehler, John L., to The Buehler Corp. Tiller for jet boat. 3,071,102, 1-1-63, Cl. 115-12.
- Buehler, Karl, and M. L. Rollins, to General Foods Corp. Apparatus for forming food portions of uniform weight by volumetric measurement. 3,101,761, 8-27-63, Cl. 146-158.
- Buell, Alvin E., to A-C Tee Co., Inc. Golf ball teeing device. 3,075,774, 1-29-63, Cl. 273-201.
- Buell Engineering Co., Inc.: *See*—  
Nagel, Lester L. 3,086,099.  
Vandenhoek, Jean-Paul. 3,097,075.
- Buerger, Martin J. Precession instrument for use in the photography of the reciprocal lattice of a crystal. 3,108,185, 10-22-63, Cl. 250-51.5.
- Buesing, Arthur C., and F. T. Kaiser, to Brown Fintube Co. Furnace charging apparatus. 3,087,633, 4-30-63, Cl. 214-2.
- Buesink, Hendrik: *See*—  
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- Buessem, Wilhelm R., K. S. Forland, and P. A. Marshall, Jr., to United States of America, Army. Method of treating a titanate dielectric body. 3,111,414, 11-19-63, Cl. 106-39.
- Buetow, Ralph W., and R. P. Cox, to United States of America, Army. Marking method. 3,096,197, 7-2-63, Cl. 117-33.5.
- Bufoini, Charles J. Heat exchanging attachment for receptacles. 3,089,317, 5-14-63, Cl. 62-457.
- Buffalo Machinery Co., Inc.: *See*—  
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- Buffalo Meter Co., Inc.: *See*—  
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- Buffelen Sales Co. Inc.: *See*—  
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- Bufferd, Allan S.: *See*—  
Grant, Nicholas J., Zwilsky, and Bufferd. 3,105,760.
- Buffington, Herman L. Leg and caster construction for portable cooler cabinets. 3,106,434, 10-8-63, Cl. 312-255.
- Buffington, John R., and R. G. Hawkins, to United States of America, Navy. Gate circuit. 3,072,853, 1-8-63, Cl. 328-99.
- Bugge, Erling P. Micrometer screw measuring instrument. 3,092,913, 6-11-63, Cl. 33-166.
- Bugge, Erling P. Snap action latch. 3,115,358, 12-24-63, Cl. 292-78.
- Bugge, Harry, to Loewe Opta Aktiengesellschaft. Driving device for sound recording and reproducing apparatus using sound carrier tapes or wires. 3,107,872, 10-22-63, Cl. 242-55.12.
- Buggiani, Pietro: *See*—  
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Novelli, Alberto, and Buggiani. 3,085,571.
- Bugosh, John, to E. I. du Pont de Nemours and Co. Colloidal, anisodiametric transition aluminas and processes for making them. 3,108,888, 10-29-63, Cl. 106-62.



- Bugosh, John, and E. F. Izard, to E. I. du Pont de Nemours and Co. Elastomeric foam having its pore walls coated with fibrous boehmite. 3,094,433, 6-18-63, Cl. 117-98.
- Buhle, Emmett L., to E. I. du Pont de Nemours and Co. Polymer emulsion containing sulfonium emulsifier. 3,102,867, 9-3-63, Cl. 260-29.6.
- Buhler, Gebrüder: *See*—  
Marchetti, Augusto. 3,103,421.
- Buhler, Karl J., to Brown, Boveri & Cie., Aktiengesellschaft. Arrangement for shifting over step switches on transformers under load. 3,112,438, 11-26-63, Cl. 323-43.5.
- Buhler, Peter M. System for testing telephone lines. 3,084,230, 4-2-63, Cl. 179-175.
- Buhler, Peter M. Testing and half-tapping means for telephone lines. 3,084,232, 4-2-63, Cl. 179-175.
- Buhler, Rolf D.: *See*—  
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- Buhrendorf, Frederick G., to Bell Telephone Laboratories, Inc. Magnetic recording and reproducing system. 3,108,260, 10-22-63, Cl. 340-174.1.
- Building Products Ltd.: *See*—  
Newton, Leslie J., and De Jong. 3,113,065.  
Newton, Leslie J., and Oldfield. 3,079,729.
- Buitkus, Thomas J. Photoelectric tone generator. 3,098,889, 7-23-63, Cl. 84-1.18.
- Buivid, George M., to United States of America, Army. Transistor clamp. 3,109,620, 11-5-63, Cl. 248-361.
- Buivid, Michel D., to United Aircraft Corp. Blade folding mechanism. 3,097,701, 7-16-63, Cl. 170-160.12.
- Bujan, Albert F., to Abbott Laboratories. Spring scale. 3,107,745, 10-22-63, Cl. 177-233.
- Bukata, Stephen. Furnace. 3,093,104, 6-11-63, Cl. 113-99.
- Bukata, Stephen. Vacuum pump. 3,096,928, 7-9-63, Cl. 230-101.
- Buker, Harvey A., to The Jones Metal Products Co. Safety device. 3,108,491, 10-29-63, Cl. 74-615.
- Bukoff, Peter, to The Bendix Corp. Process for installing liners in fluid actuators. 3,094,773, 6-25-63, Cl. 29-156.4.
- Bulat, Thomas J., to The Bendix Corp. Accelerating micro-organism physiological activity and reproduction. 3,080,299, 3-5-63, Cl. 195-113.
- Bulat, Thomas J., to The Bendix Corp. Sonic cleaning method. 3,105,779, 10-1-63, Cl. 134-1.
- Bulger, John T. Safety guard for vehicles having automatic transmissions. 3,110,354, 11-12-63, Cl. 180-82.
- Bulk, Robert A., to Harris-Intertype Corp. Selectively releasable overcenter means for slitter mechanism. 3,091,146, 5-28-63, Cl. 83-433.
- Bulkley, William L., and S. F. Kapff, to Standard Oil Co. Liquid phase oxidation process. 3,086,993, 4-23-63, Cl. 260-524.
- Bull, Arthur W.: *See*—  
Dunnabeck, Donald F., and Bull. 3,074,009.
- Bull, Glen C. Methods and apparatus for conditioning hollow articles against corrosion and storing fluent materials. 3,111,371, 11-19-63, Cl. 21-2.5.
- Bullard, Brad. Method and apparatus for temperature modifying pressure dispensed materials. 3,111,967, 11-26-63, Cl. 141-11.
- Bullard Co., The: *See*—  
Bullard, Edward P., III. 3,074,295.  
Bullard, Edward P., III. 3,086,493.  
Bullard, Edward P., III. 3,088,335.  
Bullard, Edward P., III, and E. P. Bullard IV. 3,115,796.
- Wilterdink, Meredith W., and Hursen. 3,081,728.
- Bullard, E. D., Co.: *See*—  
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- Bullard, Edward P., IV: *See*—  
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- Bullard, Edward P., III, to The Bullard Co. Transmission. 3,074,295, 1-22-63, Cl. 74-687.
- Bullard, Edward P., III, to The Bullard Co. Indicating device. 3,086,493, 4-23-63, Cl. 116-124.
- Bullard, Edward P., III, to The Bullard Co. Machine tool positioning control. 3,088,335, 5-7-63, Cl. 74-675.
- Bullard, Edward P., III, and E. P. Bullard, IV, to The Bullard Co. Bearing. 3,115,796, 12-31-63, Cl. 77-3.
- Bullard, George H., Co., Inc.: *See*—  
Bullard, Robert A. 3,081,584.
- Bullard, Harold P., to Continental Motors Corp. Vapor phase cooling system for internal combustion engine. 3,082,753, 3-26-63, Cl. 123-41.08.
- Bullard, Robert A., to George H. Bullard Co., Inc. Abrasive wheel. 3,081,584, 3-19-63, Cl. 51-209.
- Bullard, Robinson D. Electro-magnetically actuated pilot and main valve. 3,100,103, 8-6-63, Cl. 251-30.
- Bullen, Clark V., to Barber-Coleman Co. Mechanically re-balanced condition control servosystem. 3,102,217, 8-27-63, Cl. 318-28.
- Bullinger, Hans B.: *See*—  
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- Bulloch, Charles E.: *See*—  
Stewart, Joe W., and Bulloch. 3,111,567.
- Bulloch, David K., and D. S. Thomas, to Eastman Kodak Co. Silver recovery from photographic fixing solutions. 3,082,079, 3-19-63, Cl. 75-108.
- Bullock, Byrell W.: *See*—  
Kuck, John H., and Bullock. 3,090,917.
- Bullock, Howard W. Clothes hangers. 3,091,344, 5-28-63, Cl. 211-113.
- Bullock, John W., and P. D. Rowan, to Briles Products, Inc. Circuit breaker with temperature compensating bimetal element. 3,108,164, 10-22-63, Cl. 200-116.
- Bullock, Kenneth R.: *See*—  
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- Bullock, Luther B.: *See*—  
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- Bullock, Norman J.: *See*—  
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- Bullock, Norman J., to General Motors Corp. Domestic appliance. 3,088,596, 5-7-63, Cl. 210-382.
- Bullock, Norman J., R. F. Brubaker, and C. K. Billings, to General Motors Corp. Free-piston pump for washing apparatus. 3,091,954, 6-4-63, Cl. 68-18.
- Bulloff, Jack J.: *See*—  
Whitacre, John R., and Bulloff. 3,097,962.
- Bulls, James W.: *See*—  
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- Bulman, E. O., Mfg. Co., Inc.: *See*—  
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- Bulova Research and Development Laboratories, Inc.: *See*—  
Bibbero, Robert J. 3,076,961.  
Braverman, Murray. 3,082,357.  
Fisch, Jerome. 3,087,158.  
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- Bulova Watch Co., Inc.: *See*—  
Edelstein, Arthur. 3,086,434.  
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- Bulovic, Bozdar, to Wm. Wrigley, Jr. Co. Laminated package wrapper with tear strip. 3,106,333, 10-8-63, Cl. 229-87.
- Bulow, Richard L., to The Interstate Sanitation Co. Dryer. 3,076,887, 2-5-63, Cl. 219-39.
- Bulson, Walter T., to Armstrong Cork Co. Sag-resistant fiberboard and method of making same. 3,090,699, 5-21-63, Cl. 117-62.2.
- Bultfabriks Aktiebolaget: *See*—  
Lejdegard, Sixten H. 3,103,833.
- Bumiller, Jacques, to Sami, S. A. Societa d'Applications de Recherches Minieres et Industrielles. Fixing guns adapted to drive nails and the like, such as for example studs and plugs in hard compact materials. 3,072,911, 1-15-63, Cl. 1-44.5.
- Bumiller, Jacques, to Societe de Prospection et d'Inventions Techniques Spit. Munitions. 3,078,800, 2-26-63, Cl. 102-38.
- Bumm, Leonard M.: *See*—  
Halls, Lawrence M., and Bumm. 3,100,367.
- Bumm, Leonard M., and H. G. McCarty, to Sperry Rand Corp. Hay conditioner. 3,082,589, 3-26-63, Cl. 56-1.
- Bunch, Harry J. Hitch and trailer having improved wheel suspension of the tandem type. 3,071,267, 1-1-63, Cl. 214-505.
- Bunch, Tillman T., to Western Electric Co., Inc. Feed for centripetal extruders. 3,082,476, 3-26-63, Cl. 18-12.
- Bunch, Tillman T., to Western Electric Co., Inc. Methods of and apparatus for multicycle twisting a wire-like member. 3,096,610, 7-9-63, Cl. 57-34.
- Bunch, Warren E., to Harnischfeger Corp. Fluid power assist device for brake apparatus. 3,110,522, 11-12-63, Cl. 303-9.
- Bundrick, Daniel A. Payment remainder device for self-service racks. 3,077,689, 2-19-63, Cl. 40-308.
- Bundus, Robert H.: *See*—  
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- Bundy, Francis P., to General Electric Co. Plural cavity press for high pressure. 3,075,245, 1-29-63, Cl. 18-16.5.
- Bundy, Francis P., to General Electric Co. High pressure high temperature apparatus. 3,107,395, 10-22-63, Cl. 18-16.
- Bundy Marine S.p.A.: *See*—  
Torre, Pier L. 3,096,058.
- Bundy, Maurice G., to The Industrial Fumigant Co. Liquid measuring and dispensing device. 3,095,125, 6-25-63, Cl. 222-309.
- Bundy, Robert W., to E. I. du Pont de Nemours and Co. Polymeric sheet material and method of making same. 3,100,733, 8-13-63, Cl. 162-108.
- Bundy Tubing Co.: *See*—  
Gondek, Stanley. 3,094,107.  
Gondek, Stanley. 3,101,402.
- Bundy, Wayne M., to Georgia Kaolin Co. Coated mineral filler for organic polymers, and method of forming the coated filler. 3,080,256, 3-5-63, Cl. 117-72.
- Bunge, Wilhelm: *See*—  
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- Bunger, Dennen J., F. V. Emery, A. A. Cavalier, J. R. Ferguson, Jr., H. R. Schmider, and H. A. Alexanderson, to The Bendix Corp. Turbine, wheel containment. 3,097,824, 7-16-63, Cl. 253-77.
- Bunger, Fritz, and H. Schucke, to Dr. A. Sommer. Apparatus for smoothing and compacting plastic layers. 3,091,158, 5-28-63, Cl. 94-45.
- Bungeroth, Adolf, and H. Schrewe, to Mannesmann Aktiengesellschaft. Continuous casting ingot mold. 3,082,496, 3-26-63, Cl. 22-57.2.



- Bunin, Morey, to Aniforms, Inc. Puppet like figure and animation apparatus. 3,070,920, 1-1-63, Cl. 46—126.
- Bunk, Hugo, to National Lead Co. Method and apparatus for forming generally cylindrical parts from thick metal stock. 3,098,292, 7-23-63, Cl. 29—412.
- Bunke, Frederick H., and J. C. Blakley. Can crusher. 3,077,827, 2-19-63, Cl. 100—215.
- Bunke, Horst, to A. Eckefeld. Electrical snap-action switch. 3,111,565, 11-19-63, Cl. 200—67.
- Bunke, Karl A. A., to United Shoe Machinery Corp. Applicator tubes. 3,072,953, 1-15-63, Cl. 15—592.
- Bunker, Henry L., Jr., E. F. Lewis, and W. J. Powers, Jr., to E. I. du Pont de Nemours and Co. Elastomeric anti-skid traction device. 3,092,163, 6-4-63, Cl. 152—221.
- Bunker, Robert C.: *See*—  
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- Bunn, B. H., Co.: *See*—  
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- Bunn, Benjamin H., and C. E. Nyberg, to B. H. Bunn Co. Hold-down and forming mechanism for tying machine. 3,107,603, 10-22-63, Cl. 100—14.
- Bunn, George P., and W. Hartmann, to Phillips Petroleum Co. Marine vessels for volatile liquids. 3,083,669, 4-2-63, Cl. 114—74.
- Bunn, George R. Coffee making machine. 3,100,434, 8-13-63, Cl. 99—282.
- Bunnell, Edward D.: *See*—  
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- Bunnelle, Philip R.: *See*—  
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- Bunny Bear Inc.: *See*—  
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- Bunodiere, Andre, and L. Peras, to Compagnie Generale de Telegraphie Sans Fils and Regie Nationale des Usines Renault. Internal combustion engines ignition systems. 3,078,391, 2-19-63, Cl. 315—205.
- Bunt, John P., to Elliott Brothers (London) Ltd. Magnetic core delay circuit for use in digital computers. 3,074,052, 1-15-63, Cl. 340—174.
- Bunting Co., Inc.: *See*—  
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Pearlstone, Morton. 3,099,478.
- Bunting, Ernest V., to Massey-Ferguson Inc. Hydraulic control system. 3,095,933, 7-2-63, Cl. 172—491.
- Bunting, William W., Jr.: *See*—  
Ashby, William C., Bunting, Meagher, Nelson, and Swayne. 3,094,262.
- Bunting, William W., Jr., and T. L. Nelson, to E. I. du Pont de Nemours and Co. Process for producing compact interlace yarn. 3,110,151, 11-12-63, Cl. 57—157.
- Bunting, William W., Jr., and T. L. Nelson, to E. I. du Pont de Nemours and Co. Apparatus for interlacing multi-filament yarn. 3,115,691, 12-31-63, Cl. 28—1.
- Bunyan, Thomas W. Reciprocating engines. 3,101,621, 8-27-63, Cl. 74—60.
- Bunzl, Rudolph H., and R. M. Berger, to U.S. Filter Corp. Marking device. 3,094,736, 6-25-63, Cl. 15—563.
- Bunzl, Thomas F., to Rotax Ltd. Apparatus for dispensing packaged goods. 3,103,989, 9-17-63, Cl. 186—1.
- Buonauro, Frank A. Convertible container construction. 3,089,605, 5-14-63, Cl. 215—99.5.
- Buono, Frank S., to Becton, Dickinson and Co. Disposable urinary drainage bag assembly. 3,090,968, 5-28-63, Cl. 4—110.
- Buono, Frank S., to United States Rubber Co. Telescoping expansion joint. 3,114,568, 12-17-63, Cl. 285—235.
- Buras, Edmund M., Jr.: *See*—  
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- Burbach, Henry E., and O. T. Hipp, to Combustion Engineering, Inc. Gas recirculation duct. 3,090,332, 5-21-63, Cl. 110—49.
- Burbach, John C., to Union Carbide Corp. Refractory ramming mix. 3,116,157, 12-31-63, Cl. 106—69.
- Burbine, William G.: *See*—  
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- Burch, Alvan V., to Burch Plow Works, Inc. Disc ridger. 3,088,527, 5-7-63, Cl. 172—579.
- Burch, Archie E. Tape measure. 3,100,937, 8-20-63, Cl. 33—137.
- Burch, Byron F., Jr., to General Electric Co. Document sorting system. 3,098,566, 7-23-63, Cl. 209—111.5.
- Burch, Charles J., to United States Steel Corp. Hinged heat shield for metal teeming ladle bottoms. 3,087,212, 4-30-63, Cl. 22—84.
- Burch, Hadley K., and M. K. Parkhurst. Snap-acting mechanisms. 3,105,886, 10-1-63, Cl. 200—67.
- Burch, Henry E.: *See*—  
Burch, Loren P. 3,114,535.
- Burch, John S., to Union Carbide Corp. Recovery of olefins from C<sub>7</sub> to C<sub>6</sub> corresponding olefin-paraffin mixtures. 3,087,866, 4-30-63, Cl. 202—42.
- Burch, Loren P., deceased, by H. E. Burch, executor, to Burchcraft Boat Co., Inc. Boat lifts. 3,114,535, 12-17-63, Cl. 254—127.
- Burch, Oren P. Portable, power hand-guided saw mounting device. 3,078,885, 2-26-63, Cl. 143—43.
- Burch Plow Works, Inc.: *See*—  
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- Burch, Roy F., Jr., to United States of America, Atomic Energy Commission. Apparatus for grinding spherical bodies. 3,104,502, 9-24-63, Cl. 51—135.
- Burch, William E., to International Telephone and Telegraph Corp. Encapsulated diode assembly. 3,081,374, 3-12-63, Cl. 174—52.
- Burchard, Clarence M. Convertible nether outer garment. 3,110,903, 11-19-63, Cl. 2—221.
- Burchard, Friedrich: *See*—  
Raab, Karl, and Burchard. 3,101,680.
- Burchcraft Boat Co., Inc.: *See*—  
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- Burckhalter, A. Rey. Portable desk. 3,074,745, 1-22-63, Cl. 281—44.
- Burckhalter, Joseph H., to University of Kansas Research Foundation. 3-[4-hydroxy - 3 - (aminomethyl)-phenyl]-4-(oxyphenyl)-alkanes and alkenes. 3,077,470, 2-12-63, Cl. 260—239.
- Burckhalter, Joseph H., to University of Kansas Research Foundation. 3-[4-aminoalkoxy]-phenyl]-4-(4-oxyphenyl)-alkanes and alkenes. 3,077,472, 2-12-63, Cl. 260—247.7.
- Burckhalter, Robert N., to Commercial Filter Corp. Shunt type filter. 3,080,973, 3-12-63, Cl. 210—90.
- Burd, Samuel I., and J. G. Lord, to Prestige, Inc. Looping machine. 3,094,954, 6-25-63, Cl. 112—27.
- Burd, Wayne D.: *See*—  
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- Burda, Josef. Draft excluding strip for door. 3,072,977, 1-15-63, Cl. 20—68.
- Burden, Edward R. Machine for folding paper boxes. 3,101,653, 8-27-63, Cl. 93—49.
- Burden, Norman E. Boat anchor. 3,111,106, 11-19-63, Cl. 114—208.
- Burdg, Charles E., to Combustion Engineering, Inc. Vacuum lock. 3,073,951, 1-15-63, Cl. 250—41.9.
- Burdg, Charles E., to Combustion Engineering, Inc. Ion generating and focusing mechanism. 3,096,435, 7-2-63, Cl. 250—41.9.
- Burdg, Charles E., to Combustion Engineering, Inc. Ion lens system. 3,096,436, 7-2-63, Cl. 250—41.9.
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Rasmussen, Sherrill K. 3,082,970.
- Burdick, Dean L., Associates, Inc.: *See*—  
Hall, Robert E. 3,088,470.
- Burdick, Duane F., and K. E. Polmanteer, to Dow Corning Corp. Silicone rubber compositions. 3,094,446, 6-18-63, Cl. 154—27.
- Burdick, George E.: *See*—  
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- Burdick, Ralph V., and R. V. Burdick, Jr. Box. 3,089,608, 5-14-63, Cl. 220—43.
- Burdick, Ralph V., Jr.: *See*—  
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- Burdue, Roy R., to Stant Mfg. Co., Inc. Safety radiator pressure caps. 3,074,588, 1-22-63, Cl. 220—44.
- Bureau d'Etudes Armand Malchair Societe Anonyme: *See*—  
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- Burelbach, Marlin L., and C. C. McFadden. Plywood edge filler. 3,071,106, 1-1-63, Cl. 118—2.
- Buren Watch Co. S.A.: *See*—  
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- Burg, Anton B., to American Potash & Chemical Corp. Phosphorus and boron-containing polymers. 3,071,552, 1-1-63, Cl. 260—2.
- Burg, Anton B., and R. I. Wagner, to American Potash-Chemical Corp. Phosphinoborine compounds and their preparation. 3,071,553, 1-1-63, Cl. 260—2.
- Burg, Fred J.: *See*—  
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- Burg, Joseph L., to Burgmaster Corp. Spring-pressed turret head. 3,115,051, 12-24-63, Cl. 77—25.
- Burg, Martin S.: *See*—  
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- Burg, Roland L. Connector having twin camming surfaces. 3,107,571, 10-22-63, Cl. 85—7.
- Burgarella, John P., and D. S. Oliver, to Minneapolis-Honeywell Regulator Co. Direct current amplifier system with feedback controlled high impedance input circuit. 3,101,451, 8-20-63, Cl. 330—10.
- Burge, Anthony R.: *See*—  
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- Burge, Joseph. Sealing and securing means for turbomachine blading. 3,079,128, 2-26-63, Cl. 253—78.
- Burgener, Karl L., to Automatic Electric Laboratories, Inc. Intercommunicating telephone systems. 3,089,000, 5-7-63, Cl. 179—42.
- Burgeni, Alfred A., to Johnson & Johnson. Absorbent pad and wrapper therefor. 3,111,948, 11-26-63, Cl. 128—290.
- Burger, Adolf. Carrying and planting plate for bulbs and the like. 3,112,577, 12-3-63, Cl. 47—37.
- Burger, Alex.: *See*—  
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- Burger, Edwin M.: *See*—  
Bain, Bruce K., Blair, Burger, Ross, Vorachek, and Wolcott. 3,106,373.
- Burger, Jerome H., to The Ohio Art Co. Popping ball top. 3,084,478, 4-9-63, Cl. 46—233.



- Burgermeister Brewing Corp.: *See*—  
Sariotti, Victor A., and Tonna. 3,115,150.  
Tonna, Arthur J., and Sariotti. 3,115,149.
- Burgert, Billy E., to The Dow Chemical Co. Latent gaseous catalysis. 3,075,943, 1-29-63, Cl. 260-38.
- Burgess, Frank H., G. Mathus, and O. Morningstar, to Morningstar Corp. Reel case. 3,074,546, 1-22-63, Cl. 206-52.
- Burgess, Glen W., to Clark Equipment Co. Steering system. 3,084,951, 4-9-63, Cl. 280-91.
- Burgess, John L.: *See*—  
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- Burgess-Manning Co.: *See*—  
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- Burgess, Mary T.: *See*—  
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- Burgess-Norton Mfg. Co.: *See*—  
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- Burgess, Peter J., to The General Electric Co. Ltd. Method of cold bonding metallic parts. 3,090,116, 5-21-63, Cl. 29-470.1.
- Burgess Products Co. Ltd.: *See*—  
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- Burgess Vibrocrafters Inc.: *See*—  
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- Burgin, Kermit H., 50% to F. B. Cline. Torsion bar multiple section door balance. 3,085,622, 4-16-63, Cl. 160-191.
- Burgin, Kermit H., 50% to F. B. Cline. Boat propelling water jet nozzle. 3,090,346, 5-21-63, Cl. 115-12.
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- Burgmer, Josef. Manifolding writing set with sheets glued together at the heads thereof. 3,088,754, 5-7-63, Cl. 282-22.
- Burgwin, Stephen L., to Minneapolis-Honeywell Regulator Co. Magnetic torquer. 3,076,111, 1-29-63, Cl. 310-266.
- Burgwin, Stephen L., and C. Green, to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,101,424, 8-20-63, Cl. 310-217.
- Burgy, Raymond A., to Toledo Scale Corp. System for controlling movements of elevator doors. 3,092,209, 6-4-63, Cl. 187-52.
- Burk, Emmett H., Jr.: *See*—  
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- Burk, Emmett H., Jr., T. H. Korelitz, and R. H. Jordan, to Sinclair Research, Inc. Process for converting alkylated aromatic hydrocarbons. 3,116,340, 12-31-63, Cl. 260-671.
- Burk, Lonnie C.: *See*—  
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- Burk, Marvin C., to Phillips Petroleum Co. Rubber bale moisture analyzer. 3,077,770, 2-19-63, Cl. 73-73.
- Burk, Marvin C., to Phillips Petroleum Co. Chromatographic analyzer peak reader. 3,094,862, 6-25-63, Cl. 73-23.
- Burkall, Alvin E.: *See*—  
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- Burkart, Edward H.: *See*—  
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- Burke, Arthur J., to Richardson Corp. Rotary feeder for bulk material. 3,072,301, 1-8-63, Cl. 222-342.
- Burke, Donald J. Self-punching T fittings. 3,094,137, 6-18-63, Cl. 137-318.
- Burke, Donald J., to Continental Industries, Inc. Molds for composite casting. 3,113,359, 12-10-63, Cl. 22-116.
- Burke, Frank J. Amusement device. 3,078,091, 2-19-63, Cl. 272-30.
- Burke, Glen F. Guitar construction. 3,072,007, 1-8-63, Cl. 84-267.
- Burke, Irvin D.: *See*—  
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- Burke, Jerry A., Jr.: *See*—  
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- Burke, John D. Final anode supply systems for cathode-ray tubes. 3,086,142, 4-16-63, Cl. 315-106.
- Burke, Joseph E.: *See*—  
Beyer, Raymond H., Burke, and Hasley. 3,089,417.
- Burke, Lawrence F. Automobile mechanic's creeper with adjustable headrest. 3,092,394, 6-4-63, Cl. 280-32.6.
- Burke, Mary. Child's car seat. 3,094,356, 6-18-63, Cl. 297-254.
- Burke, Maurice P. Return mechanism for swivels. 3,107,891, 10-22-63, Cl. 248-417.
- Burke, Oliver W., Jr.: *See*—  
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Kizer, Austin E., Klopfer, and Burke. 3,091,518.
- Burke, Oliver W., Jr., and O. M. Grace, said Grace assor. to said Burke. Aqueous dispersions of halogenated, polymer modified butyl rubber, process of making same and vulcanization thereof. 3,085,074, 4-9-63, Cl. 260-3.5.
- Burke, Thomas F., to Atlas General Industries, Inc. Devices for forming hinge cover folding boxes. 3,097,576, 7-16-63, Cl. 93-49.
- Burke, Wilfred: *See*—  
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- Burkel, Heinrich: *See*—  
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- Burker, Henry R. Inflatable float device for sinkable objects. 3,071,787, 1-8-63, Cl. 9-8.
- Burkhard, Hans. Apparatus for applying a substance to a road surface. 3,102,731, 9-3-63, Cl. 275-7.
- Burkhardt, Edgar G.: *See*—  
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- Burkhardt, George C.: *See*—  
Hamilton, Joseph P., and Burkhardt. 3,114,399.
- Burkhardt, Gisbert, and K. Kirsch, to Telefunken G.m.b.H. Photoelectric sorting method and apparatus. 3,105,908, 10-1-63, Cl. 250-219.
- Burkhardt, Hermann, to Richard Hirschmann Radiotechnisches Werk. Connection element for ignition cables having a tubular internal conductor. 3,109,691, 11-5-63, Cl. 339-100.
- Burkhardt, Horst, to Wenzler & Heidenhain. Electro-optical and electromagnetic determination of the position of scale divisions. 3,096,441, 7-2-63, Cl. 250-209.
- Burkhardt, Horst, to Fa. Wenzler & Heidenhain. Devices for adjusting and measuring lengths and angles. 3,100,345, 8-13-63, Cl. 33-1.
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- Burkhardt, Joseph A.: *See*—  
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- Burkhardt, Joseph A., B. Mosier, L. H. Robinson Jr., and J. A. Caldwell, to Jersey Production Research Co. Method and apparatus for injecting treating liquids in wells. 3,104,716, 9-24-63, Cl. 166-165.
- Burkhardt, Kenneth W., to American Radiator & Standard Sanitary Corp. Centrifugal fans. 3,085,741, 4-16-63, Cl. 230-127.
- Burkholder, Alden H., to Midland-Ross Corp. Apparatus for the manufacture of variable denier yarn. 3,072,064, 1-8-63, Cl. 103-126.
- Burkholder, Donald A.: *See*—  
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- Burkle, Robert. Varnish pouring machine. 3,074,374, 1-22-63, Cl. 118-324.
- Burkley, Ralph A., to Goodyear Aircraft Corp. Strain detection apparatus. 3,080,748, 3-12-63, Cl. 73-88.5.
- Burklin, Adolf J., to A. O. Smith Corp. Gas burner. 3,091,284, 5-28-63, Cl. 158-106.
- Burklo, Donald C.: *See*—  
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- Burks, Howard L., and T. E. Stewart, Jr., to Hilson Industries, Inc. Dispenser apparatus for paper containers. 3,075,324, 1-29-63, Cl. 53-29.
- Burks, Robert E., Jr.: *See*—  
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- Burks, Roland H. Filter cartridge and method and means for making the same. 3,106,528, 10-8-63, Cl. 210-496.
- Burleigh, Bertie G. S. B., to Firestone Burleigh Marine Pneumatic Fendering Co. Ltd. Fender. 3,106,182, 10-8-63, Cl. 114-220.
- Burleigh, Elmer G. Automatic identification marker for restricted equipment. 3,096,940, 7-9-63, Cl. 239-272.
- Burleson, Aaron.: *See*—  
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- Burleson, Aaron, and M. N. Holmes, to Burlington Industries, Inc. Compressive stocking. 3,098,369, 7-23-63, Cl. 66-178.
- Burleson, Aaron, and M. N. Holmes, to Burlington Industries, Inc. Compressive stocking. 3,098,389, 7-23-63, Cl. 66-178.
- Burleson, James C.: *See*—  
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- Burley, Cameron H., and R. E. Pospisil, to Lockheed Aircraft Corp. Electronic multiplexer system for converting multi-channel data into a single channel composite signal. 3,078,378, 2-19-63, Cl. 307-88.5.
- Burlington Industries, Inc.: *See*—  
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Isley, John V., and Gilliam. 3,094,859.  
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- Burlington Retailers, Inc.: *See*—  
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- Burman, Lawrence C.: *See*—  
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- Burmeister, Albert J., to Richards-Wilcox Mfg. Co. Sealing mechanism for movable partition panels, doors and the like. 3,072,975, 1-15-63, Cl. 20-19.
- Burmeister, Albert J., to Richards-Wilcox Mfg. Co. Sealing mechanism for partition panels and the like. 3,073,381, 1-15-63, Cl. 160-40.
- Burmeister, Henry. Pressure spray containers. 3,107,827, 10-22-63, Cl. 222-394.
- Burndett Ltd.: *See*—  
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- Burndy Corp.: *See*—  
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- Burdy Corp.: *See*—Continued  
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- Burnell & Co., Inc.: *See*—  
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 Burnell, Norman, to Burnell & Co., Inc. Encapsulated variable  
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 Burner, Andre H., and R. T. Symes, to The French Oil Mill  
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 Burner, Willard C., S. L. Hersh, and C. Lucas, to United  
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- Burness, Donald M.: *See*—  
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 Burness, Donald M., to Eastman Kodak Co. Hardeners for  
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 Burnett, Alice W. Window structure. 3,099,865, 8-6-63, Cl.  
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 Burnett, Harvey L. Portable shower bath assembly. 3,080-  
 568, 3-12-63, Cl. 4-145.  
 Burnett, James H., to Electronics, Inc. Half Frequency  
 power supply for vibrating machines. 3,102,223, 8-27-63,  
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 Burnett, James H., to Electronics, Inc. Motor control system.  
 3,105,180, 9-24-63, Cl. 318-138.  
 Burnett, Kenneth J., to General Electric Co. Cathode ray  
 tube having a plurality of interchangeable cathodes.  
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 Burnett, Lionel C., to Ericsson Telephones Ltd. Counting  
 tube stepped according to potential differences on guide  
 electrodes controlled by charging-discharging RC circuit.  
 3,096,463, 7-2-63, Cl. 315-84.6.  
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 Burnette, Richard T., to The Bendix Corp. Disk brake.  
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 Burnham, John B., Jr., to General Motors Corp. Fuel ele-  
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 Burnham, Robert J. Dispensing magazine for ball point re-  
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 Burnham, Virgil A., to Saco-Lowell Shops. Magnetic draft-  
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- Burns, Alan N.: *See*—  
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 63, Cl. 37-118.  
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 Burns, Erwin. Liner hanger and packer construction.  
 3,108,638, 10-29-63, Cl. 166-124.  
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- Burns, John P. Can puncturing device. 3,074,160, 1-22-63,  
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 Burns, John S., to Van Waters & Rogers, Inc. Process for  
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 Burns, Leo C., F. G. Warrick, and C. N. De Bruin, to Sealed  
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 Buros, Melvin S., to Diebold, Inc. Drive-in service unit for  
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 Buros, Melvin S. Method of implementing magnetic ink char-  
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 Burr, Francis K., to Metal Hydrides Inc. Washing cotton  
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 Mineraria e Chimica. Thermoplastic compositions com-  
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- O'Dell, Richard A. 3,092,010.
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- Butler, Martin R., Jr., and B. F. Tucker, to General Motors Corp. Propeller shaft damper. 3,075,406, 1-29-63, Cl. 74-574.
- Butler, Oscar. Control system for public carrier vehicles. 3,111,185, 11-19-63, Cl. 180-82.
- Butler Products Co.: See—  
Kuchenbecker, Raymond, Sr. 3,107,909.
- Butler, Richard A.: See—  
Gasper, Emeric, Munns, and Butler. 3,099,861.
- Butler, Richard A., Jr. Web splicing machine. 3,075,718, 1-29-63, Cl. 242-58.3.
- Butler, Richard K., to Union Screw and Mfg. Co. Bottom roll stand. 3,079,647, 3-5-63, Cl. 19-294.
- Butler, Roger M., and J. A. Bichard, to Esso Research and Engineering Co. Hydrofining process with temperature control. 3,094,481, 6-18-63, Cl. 208-255.
- Butler, Roger M., D. M. MacLeod, and J. L. Tiedje, to Esso Research and Engineering Co. Method of solvent dewaxing. 3,105,809, 10-1-63, Cl. 208-31.
- Butler, Roger M., and J. A. Bichard, to Esso Research and Engineering Co. Separation of aromatics from hydrocarbon streams. 3,114,783, 12-17-63, Cl. 260-674.
- Butler, Sammy A.: See—  
Yourke, Hannon S., and Butler. 3,104,332.
- Butler, Sammy A., to International Business Machines Corp. Shift register. 3,077,585, 2-12-63, Cl. 340-174.
- Butler, Sammy A., and H. S. Yourke, to International Business Machines Corp. Tunnel diode controlled transistor regulator. 3,108,218, 10-22-63, Cl. 323-22.
- Butler, Stanley C., and D. L. Marsh. Percolator toys. 3,078,607, 2-26-63, Cl. 40-106.22.
- Butler, Vaughn H., to The Gordon Co. Yarn handling and severing mechanism for circular knitting machines and methods. 3,077,097, 2-12-63, Cl. 66-140.
- Butler, Vaughn H., and A. Burleson, to The Gordon Co. Yarn tensioning and severing mechanism for circular knitting machines. 3,079,779, 3-5-63, Cl. 66-140.
- Butler, William F., to Cutter Laboratories, Inc. Administration equipment. 3,092,106, 6-4-63, Cl. 128-214.
- Butman, Louis S. Windmill tower. 3,099,220, 7-30-63, Cl. 103-55.
- Butsch, Alfred G., and C. M. Jenkins, to General Electric Co. Improved accumulator for refrigerating system. 3,111,135, 11-19-63, Cl. 137-471.
- Butter, George N., to Commercial Solvents Corp. Oxazolines as antistripping agents in asphalt pavings. 3,085,891, 4-16-63, Cl. 106-273.
- Butter, George N., and J. A. Frump, to Commercial Solvents Corp. Oxyalkylated carboxylic acid amides and production thereof. 3,097,219, 7-9-63, Cl. 260-404.
- Butter, Otto, to Gesellschaft fur Industrielle Technik m.b.H. Washing cabinet. 3,071,424, 1-1-63, Cl. 312-27.
- Butter, Otto, to Gesellschaft fur Industrielle Technik m.b.H. Apparatus for drawing lines and marking measurements and inscriptions on drawings. 3,095,075, 6-25-63, Cl. 197-2.
- Butter, Otto, to Gesellschaft fur industrielle Technik m.b.H. Drawing machine. 3,115,706, 12-31-63, Cl. 33-79.
- Butter, Otto, W. Irmscher, and R. Kaiser, to Gesellschaft fur industrielle Technik m.b.H. Lettering machine for drawings. 3,099,344, 7-30-63, Cl. 197-150.
- Butterfield, Charles G., to Fielden Electronics. Automatic bowling pinsetter out-of-range reset actuating device. 3,081,086, 3-12-63, Cl. 273-43.
- Butterfield, Neil J., to Olin Mathieson Chemical Corp. Explosive release means with mechanical and electrical actuating means. 3,087,369, 4-30-63, Cl. 85-1.
- Buttler, Daniel R. Educational device. 3,075,303, 1-29-63, Cl. 35-35.
- Butterworth, Arnold W., and J. E. Roberts, to Ferranti, Ltd. Tools for unwrapping wrapped electrical connections. 3,095,640, 7-2-63, Cl. 29-203.
- Butterworth, Arthur B. Hook and peg holding means for boards and walls. 3,091,423, 5-28-63, Cl. 248-225.
- Butterworth, Clifford, to P. Frankenstein & Sons (Manchester) Ltd. Non-return valves. 3,077,205, 2-12-63, Cl. 137-525.
- Butterworth, Grant J.: See—  
Sears, Chester G., and Butterworth. 3,112,078.
- Butterworth, Richard, and J. A. Parker, to Armstrong Cork Co. Branched polycarbonate and process for preparing same. 3,094,508, 6-18-63, Cl. 260-47.
- Butterworth, Robert J.: See—  
Hickman, Carl V., Taylor, Butterworth, Miller, Young, and Powell. 3,075,434.
- Buttner, Emily B.: See—  
Buttner, William C., Sr., and William C. Buttner, Jr. 3,074,700.
- Buttner, Paul: See—  
Zink, Heinrich J., John, and Buttner. 3,090,259.
- Buttner, William C., Jr.: See—  
Buttner, William C., Sr., and William C. Buttner, Jr. 3,074,700.
- Buttner, William C., Sr., deceased (E. B. Buttner, executrix), and William C. Buttner, Jr., to W. C. Buttner, Jr. Carbonating apparatus. 3,074,700, 1-22-63, Cl. 261-135.
- Buttriss, Albert T., to Tinnerman Products, Inc. Fastening devices. 3,081,853, 3-19-63, Cl. 189-88.
- Butts, David L.: See—  
Malcolmson, James V. C., and Butts. 3,113,544.
- Butts, Richard R. Nursing bottle construction. 3,113,687, 12-10-63, Cl. 215-11.
- Butzke, Fritz: See—  
Mayer, Hans F., and Butzke. 3,101,172.
- Butzko, Robert L. Apparatus for forming thermoplastic sheet material. 3,113,345, 12-10-63, Cl. 18-19.
- Butzow, George M. Foundry aerating flask-filler. 3,081,505, 3-19-63, Cl. 22-35.
- Buack, Frederick A., to International Telephone and Telegraph Corp. Automatic testing system and timing device therefor. 3,082,374, 3-19-63, Cl. 324-73.
- Buxbaum, Edwin C., and R. H. Teress, to E. I. du Pont de Nemours and Co. Process for preparing substituted dihydroxyanthraquinones. 3,082,218, 3-19-63, Cl. 260-380.
- Buxton, Henry H.: See—  
Reddick, John A., Berkley, Linthicum, and Buxton. 3,083,828.
- Buxton, Inc.: See—  
Corey, Donald W. 3,081,867.
- Buxton, James E., E. E. Hood, and J. J. Sabatini, to The Bendix Corp. Starter drive. 3,114,270, 12-17-63, Cl. 74-6.
- Buxton, Jarvis C., to Griffith Rubber Mills. Method and device for casting voids. 3,072,995, 1-15-63, Cl. 25-128.
- Buxton, Jarvis C., to Griffith Rubber Mills. Muffler. 3,095,944, 7-2-63, Cl. 181-70.
- Buxton, Michael W., and J. C. Tatlow, to The National Smelting Co. Ltd. 3-(pentafluorophenyl)-propene-1 and its preparation. 3,113,976, 12-10-63, Cl. 260-650.
- Buyalos, Michael A., Jr. Hobby horse base. 3,093,356, 6-11-63, Cl. 248-194.
- Buyer, Walter, to The Ridge Tool Co. Double release for threading die. 3,082,445, 3-26-63, Cl. 10-105.
- Buyken, Frank E. Concrete form tie and method of producing same. 3,075,272, 1-29-63, Cl. 25-131.



- Buys, Johannes J. H.: *See*—  
   Van Broeckhuysen, Johannes P. C. M., and Buys. 3,103,814.  
 Buysch, Heinrich, to H. Krantz. Thread counting device. 3,074,631, 1-22-63, Cl. 235-92.  
 Buzas, Andre. 5-acetylglucosyl salicylic acid and the methyl ester thereof. 3,113,962, 12-10-63, Cl. 260-473.  
 Buzawa, Michael J., to Bausch & Lomb Inc. Long focus optical objective. 3,106,598, 10-8-63, Cl. 88-57.  
 Buzzell, Harold O.: *See*—  
   Blout, Elkan R., Buzzell, and Farney. 3,097,106.  
 Byassee, Guy E. Fragile article cartons. 3,115,290, 12-24-63, Cl. 223-39.  
 Byatt, Dennis W. G., to Marconi's Wireless Telegraph Co. Ltd. Phase indicators. 3,076,963, 2-5-63, Cl. 343-113.  
 Byberg, Jonas J. Foldable floating platform. 3,079,616, 3-5-63, Cl. 9-1.  
 Byers, Edward V. Typewriter carriage traversing mechanism. 3,093,230, 6-11-63, Cl. 197-85.  
 Byers, Edward V. Universal bar for typewriters. 3,095,077, 6-25-63, Cl. 197-97.  
 Byers, Edward V. Type bar actuating mechanism for type-writing machines. 3,108,674, 10-29-63, Cl. 197-27.  
 Byers, James O., Jr., to The Bendix Corp. Hydraulic balancing system for rotary positive displacement fluid handling devices. 3,078,808, 2-26-63, Cl. 103-161.  
 Byk-Gulden Lomberg Chemische Fabrik G.m.b.H.: *See*—  
   Bolz, Karl, and Hein. 3,073,742.  
   Dreher, Emil, Raack, and Bolz. 3,075,849.  
 Byland, Henry L., and J. A. Van Auken, to E. Hyman, H. Levine, and S. H. Haims. Bookbinding apparatus. 3,107,375, 10-22-63, Cl. 11-1.  
 Byler, William H., to Spencer Chemical Co. Polymerization of ethylene. 3,072,608, 1-8-63, Cl. 260-94.9.  
 Byles, Theodore A., to Motorola, Inc. Voltage regulator. 3,077,558, 2-12-63, Cl. 322-28.  
 Byles, Theodore A., to Motorola, Inc. Voltage regulator for vehicular electrical system. 3,106,665, 10-8-63, Cl. 317-100.  
 Byloff, Robert C., to The Garrett Corp. Regulated control system. 3,083,327, 3-26-63, Cl. 318-202.  
 Byloff, Robert C., to The Garrett Corp. Electromagnetic fluid pressure modulating valve. 3,094,132, 6-18-63, Cl. 137-85.  
 Byloff, Robert C., to The Garrett Corp. Power failure sensor. 3,113,247, 12-3-63, Cl. 317-48.  
 Byrd, Carl, to R. S. Kaszuba. Pulse controlled servo system. 3,109,131, 10-29-63, Cl. 318-138.  
 Byrd, Dee H., Sr. Swivel for dance partners. 3,073,594, 1-15-63, Cl. 272-1.  
 Byrd, Ray H. Highway picket and reflective marker. 3,091,997, 6-4-63, Cl. 94-1.5.  
 Byrd, Russell A.: *See*—  
   Foster, Ezra M. 3,077,994.  
 Byrd, Wylie A. Grain harvester. 3,107,474, 10-22-63, Cl. 56-119.  
 Byrne Doors, Inc.: *See*—  
   Urquhart, Thornton L. 3,072,394.  
   Urquhart, Thornton L. 3,099,338.  
 Byrne, James D., G. W. Bergford, and R. K. Kirschner, to United Control Corp. Ice detector system. 3,116,395, 12-31-63, Cl. 219-20.  
 Byrne, Joe L.: *See*—  
   Sanborn, Daniel S., and Byrne. 3,095,820.  
 Byrne, John F., and P. F. Kurz, to Minneapolis-Honeywell Regulator Co. Photographic overcoating. 3,105,762, 10-1-63, Cl. 96-67.  
 Byrne, John J., and R. W. Cruger, to E. W. Bliss Co. Aircraft arresting system. Re. 25,406, 6-25-63, Cl. 244-110.  
 Byrne, Joseph F., to Westinghouse Air Brake Co. Digital flow computer employing a logarithmic mode of computation. 3,099,742, 7-30-63, Cl. 235-150.  
 Byrne, William L. Washer-extractor. 3,106,106, 10-8-63, Cl. 74-661.  
 Byrnes, Dennis W. Water trough and cleaning means. 3,099,979, 8-6-63, Cl. 119-22.  
 Bywater, John A. Clamp. 3,078,532, 2-26-63, Cl. 24-22.  
 Bywater, William G.: *See*—  
   Brown, Bernard B., and Bywater. 3,086,911.  
 Bywaters, Gordon L., to United Aircraft Corp. Liquid rocket engine system. 3,078,659, 2-26-63, Cl. 60-35.6.  
 C.A.V. Ltd.: *See*—  
   Curzon, Thomas. 3,091,282.  
   Evans, Fraser M. 3,101,078.  
   Evans, Fraser M. 3,101,079.  
   Evans, Fraser M., and Kemp. 3,091,230.  
   Kemp, Kenneth A. W. 3,107,661.  
   Parker, Kenneth G. 3,110,528.  
 C-B Southern, Inc.: *See*—  
   Jackson, Harry L., and Kraner. 3,087,291.  
 CBA Inc.: *See*—  
   Pletcher, Albert L. 3,109,594.  
 CBS-Hytron: *See*—  
   Giuffrida, Joseph. 3,076,910.  
 CBS Industries Inc.: *See*—  
   Pelosi, Michael H., Jr., and Maleno. 3,102,176.  
 C.C.D. Processes (N.Y.) Ltd.: *See*—  
   Chayen, Israel H. 3,090,779.  
 C & D Batteries, Inc.: *See*—  
   Jensen, Henry E. 3,090,904.  
 C & D Lumber Co.: *See*—  
   Randall, Burton T. 3,071,235.  
 CFF, Inc.: *See*—  
   Carlton, Daniel. 3,103,730.  
 C.F.K. Mfg. Co.: *See*—  
   Clark, William H. R. 3,080,166.  
 C & H Supply Co.: *See*—  
   Callow, Harry G.: *See*—  
     Colfer, James A., and Collins. 3,089,800.  
     Robbins, Earl D. 3,089,316.  
 C.H.B. Autobowling Corp.: *See*—  
   Bauerschmidt, Charles H. 3,072,405.  
 C. I. C. Engineering Ltd.: *See*—  
   Hawkins, Wallace G. 3,082,478.  
   Hawkins, Wallace G. 3,097,379.  
 C.I.R.-Costruzione Incollatrici Rapide S.a.r.l.: *See*—  
   Catozzo, Leo. 3,075,572.  
 C-M-G Corp.: *See*—  
   Castner, John F. 3,074,212.  
 "COQ," N.V.: *See*—  
   Hidde Nijland, Hendrik A. 3,098,134.  
   Irik, Gijbert W., and de Ruiter. 3,116,381.  
 C & S Products Co., Inc.: *See*—  
   Conger, Gerald A. 3,092,878.  
 CTS Corp.: *See*—  
   Barden, Wayne A., and Bender. 3,097,316.  
   Bender, Stanley O., and Barden. 3,115,589.  
   Daily, Arthur M., and Kelver. 3,096,500.  
 C.U.R.A. Patents Ltd.: *See*—  
   Hiorns, Frederick J. 3,072,348.  
 Cabaniss, Edward H., and J. S. Prince, to General Electric Co. Variable increment computer. 3,109,090, 10-29-63, Cl. 235-152.  
 Cabaniss, Edward H., and C. J. Isak, to General Electric Co. Position measuring system using two optical sensors. 3,114,046, 12-10-63, Cl. 250-237.  
 Cabbage, John T., to Phillips Petroleum Co. Recovery of wash solvent from filter cake. 3,084,119, 4-2-63, Cl. 208-321.  
 Cabbie, George M., Jr., and E. E. Allan, to Westinghouse Air Brake Co. Brake had and brake shoe assembly for composition brake shoes. 3,088,557, 5-7-63, Cl. 188-243.  
 Cabin Crafts, Inc.: *See*—  
   Hamilton, E. E. Harris, and Bryant. 3,112,717.  
   Payne, Otis C., and Bryant. 3,108,554.  
 Cable, Clyde F.: *See*—  
   Sugarman, Edward, and Cable. 3,110,465.  
 Cable Co.: *See*—  
   Nance, Granval J., and McDonald. 3,106,815.  
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   Drysdale, John. 3,085,306.  
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   Abrams, Ralph. 3,089,012.  
   Abrams, Ralph. 3,092,695.  
   Schwartz, Frederick W. 3,099,505.  
 Cable, Stephen J.: *See*—  
   Abernethy, Ira A., Cable, and Fishley. 3,113,900.  
 Cabot Corp.: *See*—  
   Belknap, Louis S., Bernstein, and Antonsen. 3,078,148.  
   Boonstra, Bram B. S. T. 3,096,210.  
   Carpenter, Clifford L. 3,112,210.  
   Cole, Harvey M., Burbine, Jordan, and Petterson. 3,107,980.  
   Goulston, Philip H., and Hardy. 3,075,845.  
   Hall, Joseph P., Jr., Hardy, and Jordan. 3,075,844.  
   Jordan, Merrill E. 3,085,989.  
   Jordan, Merrill E., Cole, Burbine, and Petterson. 3,088,806.  
   Loftman, Kenneth A., and Marsden. 3,098,040.  
   MacKenzie, James C. 3,102,877.  
   MacKenzie, James C. 3,105,066.  
   MacKenzie, James C., and Smith. 3,093,614.  
   McGray, Harold E., and Paden. 3,094,978.  
   Medalia, Avrom I. 3,105,057.  
   Munsell, David D. 3,095,608.  
   Secord, Robert N., and Wendell. 3,094,389.  
   Williams, Frank R., Perdigao, and Boonstra. 3,104,985.  
   Woody, Wayland B., and Scott. 3,072,224.  
 Cabot, Nat. Golf tee having a vertically adjustable ground engaging collar. 3,114,557, 12-17-63, Cl. 273-202.  
 Caccioppo, Charles: *See*—  
   Hirschfeld, Irving M., Caccioppo, Linse, and Leitch. 3,104,526.  
 Cacella, Arthur F., and W. R. Killen, to Globe Mfg. Co. Method of making elastic polymethane thread. 3,115,384, 12-24-63, Cl. 18-54.  
 Cachin, Andre, and M. Nardin, to Compagnie des Montres Longines Franchillon S.A. Electric wrist watch movement. 3,111,806, 11-26-63, Cl. 58-28.  
 Caccosa, Frank G., to The Flintkote Co. Wall construction. 3,083,506, 4-2-63, Cl. 50-251.  
 Cadario, Vittorino, to Bemberg S.p.A. Device for the twisting and heat setting of threads or yarns of synthetic material, constituted preferably of numerous elementary filaments or fibers. 3,093,955, 6-18-63, Cl. 57-34.  
 Caddell, Alfred M. Piston-crank connector assembly for two-cycle engines. 3,087,342, 4-30-63, Cl. 74-36.  
 Caddell, Alfred M. Pressure retaining means for double-acting piston engines. 3,100,401, 8-13-63, Cl. 74-36.  
 Caddock, Richard E.: *See*—  
   Bourns, Marlan E., and Caddock. 3,089,110.  
 Caddock, Richard E., and W. D. Hulbert, to Bourns, Inc. Variable resistor. 3,107,336, 10-15-63, Cl. 338-180.  
 Cade, Phillip J.: *See*—  
   Lewis, Robert E., and Cade. 3,115,561.



- Cadillac Co., Inc., The: See—  
Shustrom, Elmer J. 3,115,223.
- Cadiou, Jean, to Andre Citroen Societe Anonyme. Hydraulic generators and motors. 3,094,077, 6-18-63, Cl. 103-161.
- Cadley, John L., to Air-Lock, Inc. D-ring fastening clips. 3,102,316, 9-3-63, Cl. 24-230.
- Cadley, John L., to Air-Lock, Inc. Garment fasteners. 3,102,317, 9-3-63, Cl. 24-230.
- Cadmus, Fred T., Jr., to Joists Inc. Nailer joists. 3,110,933, 11-19-63, Cl. 20-1.
- Cadmus, Lamont A.: See—  
Ordorica, Miguel A., and Cadmus. 3,075,600.
- Cado, Erwin E., to Motorola, Inc. Printed circuit process. 3,090,706, 5-21-63, Cl. 117-212.
- Cadorete, George, to Draper Corp. Loom replenishing mechanism. 3,095,016, 6-25-63, Cl. 139-257.
- Cadre Industries Corp.: See—  
Hurlbut, Gordon K., and Reynolds. 3,085,455.
- Cady, Charles A. Control apparatus for charging a storage battery to a predetermined voltage. 3,111,617, 11-19-63, Cl. 320-39.
- Cady, George H.: See—  
Porter, Roger S., and Cady. 3,100,803.
- Cady, Joseph H.: See—  
Doggett, Towers, and Cady. 3,110,621.
- Cady, Percy L., Jr., to Lake Erie Machinery Co. Brake for forming metal plate and sheet. 3,078,903, 2-26-63, Cl. 153-16.
- Caesar, Orville S. Electric shavers. 3,107,423, 10-22-63, Cl. 30-90.
- Cafcas, Thomas H., and G. R. Tichelaar, to Standard Oil Co. Demulsifiable lubricant compositions. 3,073,781, 1-15-63, Cl. 252-32.7.
- Cafferro, Edward M., to Columbia Electric & Mfg. Co. Lighting fixture. 3,089,026, 5-7-63, Cl. 240-51.11.
- Caffier, Edouard: See—  
Hering, Hans, Menz, and Caffier. 3,082,603.
- Caffrey, James M., Jr.: See—  
Alpert, Norman, Caffrey, Watson, and Vermillion. 3,100,216.
- Cafiero, Vincent J.: See—  
Knoll, Florence S., and Cafiero. 3,102,763.
- Cafilich, Edward G., F. A. Lory, and T. P. Wilson, to Union Carbide Corp. Integral recording. 3,098,689, 7-23-63, Cl. 346-49.
- Cage, Darcy L. Damper control. 3,094,114, 6-18-63, Cl. 126-285.
- Cage, James, to Reynolds Metals Co. Unitary sectionable container. 3,086,692, 4-23-63, Cl. 229-51.
- Cagle, Toby T., to Airheart Products, Inc. Vehicle braking mechanism. 3,115,220, 12-24-63, Cl. 188-196.
- Caglioti, Luciano, and G. Gainelli, to Societa Farmaceutici Italia.  $\Delta^5$ -steroids and 3 $\alpha$ -hydroxy-5 $\alpha$ -steroids and the preparation thereof. 3,083,199, 3-26-63, Cl. 260-239.55.
- Caha, Theophil A. Ground-working apparatus. 3,090,333, 5-21-63, Cl. 111-63.
- Cahan, Boris D.: See—  
Ruetschi, Paul, and Cahan. 3,080,440.
- Cahen, Alfred and H. S., to The World Publishing Co. Apparatus for applying decorative foil to the edge of sheet material. 3,088,238, 5-7-63, Cl. 41-37.
- Cahen, Herman S.: See—  
Cahen, Alfred and H. S. 3,088,238.
- Cahen, Herman S., and F. Laufer. Fishing devices. 3,099,099, 7-30-63, Cl. 43-26.2.
- Cahill, Daniel T., to Specialties, Inc. Positioning device. 3,095,785, 7-2-63, Cl. 91-42.
- Cahill-Davis Co.: See—  
Cahill, Frank T., and Davis. 3,074,241.
- Cahill, Frank T., and C. S. Davis, to Cahill-Davis Co. Off-shore installation for launching boats. 3,074,241, 1-22-63, Cl. 61-67.
- Cahill, Harold D., and C. H. Dagnall, Jr., to Bell Telephone Laboratories, Inc. Automatic calling number identification. 3,071,650, 1-1-63, Cl. 179-8.5.
- Cahill, James W., to Nutone, Inc. Built-in barbecue unit. 3,086,449, 4-23-63, Cl. 99-446.
- Cahill, John J., to Ideal Pleating Co. Pleating machine. 3,086,685, 4-23-63, Cl. 223-30.
- Cahill, John L., and P. V. Signalling device. 3,102,359, 9-3-63, Cl. 43-14.
- Cahill, Paul V.: See—  
Cahill, John L., and P. V. 3,102,359.
- Cahill, Richard H.: See—  
Jones, Wilford D., Cahill, and Lukman. 3,112,282.
- Cahill, Robert F., to FMC Corp. Automatic warehouse. 3,093,252, 6-11-63, Cl. 214-16.
- Cahn, Lee. Electrical balance. 3,106,978, 10-15-63, Cl. 177-210.
- Cahn, Robert P., to Esso Research and Engineering Co. Blocked hydrocarbon conversion operation permitting reduced tankage. 3,072,561, 1-8-63, Cl. 208-80.
- Cahn, Robert P., to Esso Research and Engineering Co. Process for cracking petroleum waxes. 3,103,485, 9-10-63, Cl. 208-130.
- Cahoon, Nelson C., and M. P. Korver, to Union Carbide Corp. Anode film layer for galvanic cells. 3,092,518, 6-4-63, Cl. 136-146.
- Caillette, Georges E. Aircraft. 3,115,318, 12-24-63, Cl. 244-77.
- Cailliot, Serge L. L. Support for the recording of sounds and images and apparatus for the use thereof. 3,095,200, 6-25-63, Cl. 274-11.
- Cain, Dallas E., to General Electric Co. Seal. 3,098,666, 7-23-63, Cl. 285-363.
- Cain, Dean J.: See—  
Hill, Justin D., and Cain. 3,097,989.
- Cain, Farrell O.,  $\frac{1}{2}$  to C. S. Brown. Sculling apparatus. 3,108,565, 10-29-63, Cl. 115-28.
- Cain, Francis L. Adjustable automatic valve assembly. 3,074,686, 1-22-63, Cl. 251-138.
- Cain, Francis M., Jr.: See—  
Eck, John E., and Cain. 3,097,154.
- Cain, Francis M., Jr., and J. E. Eck, to United States of America, Atomic Energy Commission. Dispersion element consisting of chromium coated  $UO_2$  particles uniformly distributed in a zircaloy matrix. 3,088,892, 5-7-63, Cl. 204-154.2.
- Cain, William P.: See—  
Makowski, Henry S., and Cain. 3,088,929.
- Cain, William P., and H. S. Makowski, to Esso Research and Engineering Co. Cured chlorinated ethylene-higher alpha olefin copolymer and curing agents therefor. 3,088,930, 5-7-63, Cl. 260-41.
- Cainelli, Gianfranco: See—  
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- Caines, James F., R. F. Dyer, and J. K. Pannill, Jr., to Eastman Kodak Co. Method for blooming filter tow. 3,099,594, 7-30-63, Cl. 156-152.
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- Cairelli, Eremeldo: See—  
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- Cairns & Brother Inc.: See—  
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- Cairns, Dorothy L. Game apparatus. 3,107,095, 10-15-63, Cl. 273-105.
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- Cairns, Theodore, B. Graham, and D. Tanner, to E. I. du Pont de Nemours and Co. Process of coating a shaped swollen polymer substrate and treating with ionizing radiation. 3,101,275, 8-20-63, Cl. 117-47.
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- Calchera, Albert E., and F. J. Buccl, to The Product Machine Co. Mold press. 3,103,701, 9-17-63, Cl. 18-16.
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- Calcinator Corp.: See—  
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- Caldemeyer, Lloyd O., and D. F. Edge roll structure. 3,085,260, 4-16-63, Cl. 5-354.
- Calder, Alexander W., to Joy Mfg. Co. Method of supporting mine roofs and supporting means therefor. 3,107,902, 10-22-63, Cl. 262-1.
- Calder, Peter H., and D. J. S. Lancaster, to The De Havilland Engine Co. Ltd. Combustion chambers. 3,099,134, 7-30-63, Cl. 60-39.65.
- Caldora, Armand. Non-entangling, self-opening, resiliently closed hair clip. 3,072,127, 1-8-63, Cl. 132-48.
- Caldwell, Alfred. Indoor-outdoor swimming pool and enclosure therefor. 3,094,708, 6-25-63, Cl. 4-172.



- Caldwell, Blake M., to Jet Research Center, Inc. Lined shaped explosive charge and liner therefor. 3,077,834, 2-19-63, Cl. 102-24.
- Caldwell, Blake M., and H. D. Owen, to Halliburton Co. Well perforating assembly. 3,107,611, 10-22-63, Cl. 102-20.
- Caldwell, Blake M., and H. D. Owen, to Halliburton Co. Well perforating assembly. 3,107,612, 10-22-63, Cl. 102-20.
- Caldwell, Eric V.: *See—*
- Jolles, Zvi E., and Caldwell. 3,106,572.
- Caldwell, Frank A., and R. S. Brummer, to Cyclodrama Inc. Method and apparatus for making wide angle pictures. 3,078,758, 2-26-63, Cl. 88-16.8.
- Caldwell, Harry B., to Normalair Ltd. Breathing apparatus. 3,106,205, 10-8-63, Cl. 128-142.
- Caldwell, Harry F., and J. R. Davies, to Oliver Machinery Co. Labeling machine. 3,112,238, 11-26-63, Cl. 156-499.
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- Caldwell, John R., to Eastman Kodak Co. Mono esters and amides of di lower alkyl malonic acid with 2-carboxy-2 di lower alkyl ethyl alcohol and amine and preparation thereof. 3,072,712, 1-8-63, Cl. 260-485.
- Caldwell, John R., to Eastman Kodak Co. Linear polyethers of bis(hydroxymethyl) durenene and diphenols. 3,075,949, 1-29-63, Cl. 260-47.
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- Caldwell, John R., to Eastman Kodak Co. Halogenated bicycloheptane derivatives. 3,085,885, 4-16-63, Cl. 106-15.
- Caldwell, John R., R. Gilkey, and W. J. Jackson, to Eastman Kodak Co. Polyesters from disulfonyl dicarboxylic acids and esters. 3,077,466, 2-12-63, Cl. 260-75.
- Caldwell, John R., and R. Gilkey, to Eastman Kodak Co. Linear aromatic acid copolymers modified with dimer glycols having 36 carbons. 3,091,600, 5-28-63, Cl. 260-75.
- Caldwell, John R., and W. J. Jackson, Jr., to Eastman Kodak Co. Bischloroformates of 2,2,4,4-tetraalkyl-1,3-cyclobutanediols. 3,096,359, 7-2-63, Cl. 260-463.
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- Caldwell, Joseph M. Bellows conduit coupling with strain relief cable. 3,084,957, 4-9-63, Cl. 285-114.
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- Cale, Richard C. High speed planning hull. 3,091,206, 5-28-63, Cl. 114-66.5.
- Cale, Richard C. Trim control device. 3,106,178, 10-8-63, Cl. 114-66.5.
- Caledex Machine Co. Ltd.: *See—*
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- Caledonia Electronics and Transformer Corp.: *See—*
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- Calfee, Virgil T. Material working machines. 3,076,391, 2-5-63, Cl. 94-48.
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- Calhoun, Edward J., to Pharmaceutical Foods & Drugs Associates, Inc. Process of deodorizing. 3,091,511, 5-28-63, Cl. 21-55.
- Calhoun, Ernest N., to Edwin L. Wiegand Co. Radiant heating apparatus. 3,116,399, 12-31-63, Cl. 219-34.
- Calhoun, Ernest N., and L. D. Ripley, to E. L. Wiegand Co. Baseboard heater assembly. 3,105,295, 10-1-63, Cl. 29-505.
- Calhoun, Frank B.: *See—*
- Goldwater, Robert, and Calhoun. 3,100,814.
- Calhoun, Frederick L., and A. L. Browning, to Geo. J. Meyer Mfg. Co. Inspection device. 3,081,666, 3-19-63, Cl. 88-14.
- Calhoun, George M., to Shell Oil Co. Lubricating oil compositions. 3,112,268, 11-26-63, Cl. 252-32.7.
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- Calhoun, George M., and A. J. L. Toombs, to Shell Oil Co. Combustible solid dispersions. 3,105,747, 10-1-63, Cl. 44-51.
- Calhoun, George M., and H. Diamond, to Shell Oil Co. Lubricating compositions containing sulpoxy alkyl phosphono compounds. 3,112,269, 11-26-63, Cl. 252-32.7.
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- California Crematorium: *See—*
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 3,079,382, 2-26-63, Cl. 260-239.55.  
 Camerino, Bruno, R. Sciaky, and G. Sala, to Società Farma-  
 ceutici Italia. 3-(N-pyrrolidinyl)-derivatives of 4-hydroxy-  
 17a-methyl testosterone. 3,083,141, 3-26-63, Cl. 167-74.  
 Camerino, Bruno, and G. Palamidessi, to Società Farma-  
 ceutici Italia. Pyrazine derivatives. 3,098,069, 7-16-63, Cl.  
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 4-hydroxy-17 alpha methyl-testosterone. 3,103,522, 9-10-  
 63, Cl. 260-397.4.  
 Cameron, Donald J., to Holley Carburetor Co. Fluid pump.  
 3,072,061, 1-8-63, Cl. 103-38.  
 Cameron, Donald J., to Holley Carburetor Co. Manifold  
 sensing device. 3,103,211, 9-10-63, Cl. 123-140.  
 Cameron Iron Works, Inc.: *See*—  
 Ahlstone, Arthur G., and Jones. 3,096,999.  
 Allen, Herbert. 3,080,883.  
 Allen, Herbert. 3,095,007.  
 Allen, Herbert. 3,102,709.  
 Allen, Herbert, and Jones. 3,097,869.  
 Jones, Marvin R. 3,093,996.  
 Lucky, Maurice C. 3,083,973.  
 Woelfel, Albert E. 3,083,726.



- Cameron, John A., to General Foods Corp. Scouring and polishing device and method of producing same. 3,074,099, 1-22-63, Cl. 15-506.
- Cameron, John A., to General Foods Corp. Metallized scouring article and method of making same. 3,109,191, 11-5-63, Cl. 15-209.
- Cameron, John A., to General Foods Corp. Scouring article and method for making same. 3,112,584, 12-3-63, Cl. 51-185.
- Cameron, Joseph S.: *See*—  
Jackson, Merion L., Merlin, and Cameron. 3,106,026.
- Cameron Machine Co.: *See*—  
Aaron, Charles. 3,086,726.  
Aaron, Charles, and Crowe. 3,101,915.  
Rockstrom, Leonard. 3,079,101.
- Cameron, Phillip G., and J. L. Maxwell, to American Telephone and Telegraph Co. Teletypewriter message distributing system. 3,078,336, 2-19-63, Cl. 178-3.
- Camerson and Jones, Inc.: *See*—  
Brakel, Lewis H., and Jones. 3,071,230.
- Camettili, George M.: *See*—  
Matlyak, Andrew J., Mullen, and Camettili. 3,099,771.
- Camfield, Eugene J., and W. E. Hauschild, to Western Electric Co., Inc. Safety circuit. 3,089,985, 5-14-63, Cl. 317-435.
- Camilli, Guglielmo, to General Electric Co. Insulating and cooling arrangement for electrical apparatus. 3,073,885, 1-15-63, Cl. 174-15.
- Camloc Fastener Corp.: *See*—  
Griffiths, Edward G. 3,084,409.
- Vander Sande, John L., and Beehner. 3,091,488.
- Camp, Albert T., to United States of America, Navy. Solventless processed nitrocellulose propellants containing lead compounds. 3,088,858, 5-7-63, Cl. 149-91.
- Camp, Albert T., and F. G. Crescenzo, to United States of America, Navy. Composition comprising nitrocellulose, nitroglycerin and oxides of lead or copper. 3,102,834, 9-3-63, Cl. 149-97.
- Camp, John W. A., to Ford Motor Co. Clutch release mechanism. 3,099,340, 7-30-63, Cl. 192-99.
- Camp, William W., to Schick Inc. Electric shaver reciprocating motor-drive unit. 3,105,163, 9-24-63, Cl. 310-29.
- Campaigne, Ernest E.: *See*—  
Campbell, John R., and Campaigne. 3,096,375.
- Campana, Robert J., to General Dynamics Corp. Electromagnetic pump. 3,115,837, 12-31-63, Cl. 103-1.
- Campanella, Angelo J.: *See*—  
Slavecki, Ronald J., Campanella, and McLucas. 3,109,057.
- Campanella, Liborio A.: *See*—  
Shetty, Bola V., Campanella, and Hays. 3,086,910.
- Campanella, Paul S.: *See*—  
Watlington, Lee S., and Campanella. 3,101,557.
- Campanella, Samuel J., and T. E. Bayston, to Melpar, Inc. Speech compression systems. 3,078,345, 2-19-63, Cl. 179-15,55.
- Campanile, Vincent A.: *See*—  
Bell, Edward R., Campanile, and Bergman. 3,105,801.
- Campanile, Vincent A., to Shell Oil Co. Process for polymerizing unsaturated monomers using ionizing radiation. 3,081,244, 3-12-63, Cl. 204-154.
- Campanizzi, Joseph C. Flat iron holder. 3,082,986, 3-26-63, Cl. 248-117.7.
- Campbell, Bruce W., and G. W. Painter, to Lord Mfg. Co. Damped beam. 3,078,969, 2-26-63, Cl. 189-37.
- Campbell, Charles, and F. R. Barning, to Dynamic Process Co., Inc. Ink transfer impression-making ribbons. 3,092,236, 6-4-63, Cl. 197-172.
- Campbell, Donald H.: *See*—  
Vullo, William J., and Campbell. 3,100,728.
- Campbell, Donald H., to Hooker Chemical Corp. Stabilization of chlorinated hydrocarbon solvents. 3,112,348, 11-26-63, Cl. 260-632.5.
- Campbell, Donald J., to The Baldwin Piano Co. Multi-stage amplifier with feedback. 3,112,455, 11-26-63, Cl. 330-88.
- Campbell, Donald J., D. W. Elbrecht, and W. L. Fritz, to The Baldwin Piano Co. Mutually exclusive stop switch mechanism. 3,106,618, 10-8-63, Cl. 200-5.
- Campbell, Donald R.: *See*—  
Glomb, Walter L., Campbell, and Kressman. 3,101,446.
- Campbell, Dudley H., to Stackpole Carbon Co. Electric slide switch. 3,097,269, 7-9-63, Cl. 200-16.
- Campbell, Edgar C., and F. F. Timpner, to General Motors Corp. Method and mechanism for controlling engine torsional oscillation. 3,103,210, 9-10-63, Cl. 123-103.
- Campbell, Ernest C., Jr., to Hallmark Cards, Inc. Dispensing container for rolled paper. 3,088,641, 5-7-63, Cl. 225-48.
- Campbell, Ernest F., to United States of America, Navy. Weapon mount. 3,102,451, 9-3-63, Cl. 89-41.
- Campbell, Esperanza, now by change of name E. Parrish, to E. I. du Pont de Nemours and Co. Process for producing a fibrous regenerated cellulose precipitate. 3,114,747, 12-17-63, Cl. 260-212.
- Campbell, Harris S., to Eastern Rotocraft Corp. Control mechanism for cargo release devices. 3,081,121, 3-12-63, Cl. 294-83.
- Campbell, Hobart T., J. J. Monahan, and J. A. Roeder, to Western Electric Co., Inc. Article transfer apparatus. 3,104,765, 9-24-63, Cl. 214-1.
- Campbell, Homer C. Kitchen utensil. 3,088,345, 5-7-63, Cl. 81-1.
- Campbell, Homer C.,  $\frac{1}{2}$  to G. A. Hill. Tree or post puller apparatus. 3,110,477, 11-12-63, Cl. 254-132.
- Campbell, Hosea L., to Texaco Inc. Outside pipe-cutting tool. 3,080,241, 3-5-63, Cl. 166-55.6.
- Campbell, Hosea L., to Texaco Inc. Down hole plugging device for fishing tool. 3,106,245, 10-8-63, Cl. 166-55.6.
- Campbell, J. Allan: *See*—  
Babcock, John C., Campbell, and Pederson. 3,098,083.  
Babcock, John C., Campbell, and Pederson. 3,098,850.
- Campbell, J. Allan, J. C. Babcock, and W. J. Wechter, to The Upjohn Co. 16 $\alpha$ ,17 $\alpha$ -methylene-6-substituted progesterones and process therefor. 3,086,029, 4-16-63, Cl. 260-397.3.
- Campbell, James B. Exhaust gas purifying method and apparatus. 3,113,418, 12-10-63, Cl. 60-30.
- Campbell, James R. Method and apparatus for fabricating honeycomb core. 3,077,532, 2-12-63, Cl. 219-82.
- Campbell, James W. Golf shot indicating device for golf shot practice ball. 3,101,948, 8-27-63, Cl. 273-183.
- Campbell, Jerry B., 50% to R. J. Sutherland. Specific vehicle mounting for gang mower. 3,103,090, 9-10-63, Cl. 56-6.
- Campbell, John K. Pattern control for buckshot charges. 3,085,510, 4-16-63, Cl. 102-42.
- Campbell, John R., and R. E. Hatton, to Monsanto Chemical Co. Phenylphosphonates and phosphonites. 3,071,609, 1-1-63, Cl. 260-461.
- Campbell, John R., and E. E. Campaigne, to Monsanto Chemical Co. Thioethers. 3,096,375, 7-2-63, Cl. 260-609.
- Campbell, John R., and R. E. Hatton, to Monsanto Chemical Co. Alkyl xylol sulfones. 3,102,148, 8-27-63, Cl. 260-607.
- Campbell, Joseph K., to Sperry Rand Corp. Door safety switch. 3,115,558, 12-24-63, Cl. 200-61,58.
- Campbell, Neal J. River terminal. 3,076,565, 2-5-63, Cl. 214-14.
- Campbell, Ned. Cabinet with aerosol sprayer. 3,100,066, 8-6-63, Cl. 222-180.
- Campbell, Phillip B., to Wagner Electric Corp. Fluid pressure operated piston valve. 3,101,187, 8-20-63, Cl. 251-63.
- Campbell, Richard E., and M. H. Murphy, to Packard-Bell Electronics Corp. Transistor tone control circuit. 3,103,635, 9-10-63, Cl. 330-28.
- Campbell, Richard H., Jr., to The Seeburg Corp. Percussion circuit for electronic organs. 3,112,353, 11-26-63, Cl. 84-126.
- Campbell, Robert A.,  $\frac{1}{2}$  to Gadget-Of-The-Month Club, Inc. Fire-resistant, ash-retaining, open-topped jacket for a cigarette. 3,073,817, 1-15-63, Cl. 131-174.
- Campbell, Robert A., to The Carborundum Co. Ceramic fiber products and method and apparatus for manufacture thereof. 3,077,413, 2-12-63, Cl. 106-38.9.
- Campbell, Robert C.,  $\frac{1}{2}$  to P. A. Godby. Locking means. 3,091,011, 5-28-63, Cl. 24-81.
- Campbell, Robert E.: *See*—  
Harding, Denys F., Campbell, and Baker. 3,077,809.
- Campbell, Robert E., to British Ropes Ltd. Wire ropes. 3,083,817, 4-2-63, Cl. 205-2.
- Campbell, Robert V. D., and H. Epstein, to Burroughs Corp. Electrostatic page printer. 3,076,393, 2-5-63, Cl. 95-4.5.
- Campbell, Rodney B., to M. R. Mabey. Piston type multiport valve. 3,076,476, 2-5-63, Cl. 137-622.
- Campbell, Ross W.: *See*—  
Collins, Harvey C. 3,113,396.
- Campbell, Ruth R. Blood collector. 3,113,688, 12-10-63, Cl. 215-79.
- Campbell, Sherman B.: *See*—  
Pontius, Paul E., and Campbell. 3,089,575.
- Campbell Soup Co.: *See*—  
Johannes, Erich H. L. 3,107,704.
- Campbell, Sumner E. Refining of crude petroleum. 3,093,576, 6-11-63, Cl. 208-221.
- Campbell Taggart Associated Bakeries, Inc.: *See*—  
Spewart, Samuel J., Goodman, and Sutherland. 3,115,250.
- Campbell, Thomas A., J. L. Luna, and F. R. Meinardus, to Stewart-Warner Corp. High-low pressure pump. 3,106,320, 10-8-63, Cl. 222-318.
- Campbell, Thomas C.: *See*—  
Bainbridge, William N., Campbell, and Heath. 3,083,937.
- Campbell, Thomas C., and G. F. Sharples, to The English Electric Co. Ltd. Aircraft cockpits. 3,079,112, 2-26-63, Cl. 244-122.
- Campbell, Tod W., to E. I. du Pont de Nemours and Co. Cycloaliphatic spirooxetanes and polymers thereof. 3,110,688, 11-12-63, Cl. 260-2.
- Campbell, Vernon R., to L & L Mfg. Co. Fluid pressure tube fitting. 3,112,127, 11-26-63, Cl. 285-158.
- Campbell, Vernon R., to L & L Mfg. Co. Self-flaring tube coupling. 3,112,131, 11-26-63, Cl. 285-334.5.
- Campbell, William B., to Garlock Inc. Apparatus for molding a ball and socket joint assembly. 3,098,263, 7-23-63, Cl. 18-36.
- Campbell, William M. Two-passenger rocking toy. 3,096,120, 7-2-63, Cl. 297-247.
- Campbell, Willis S.: *See*—  
Marks, Wilbur, Tuckerman, and Campbell. 3,110,178.
- Campeau, Joseph O., to Litton Industries of California. Cyclically operating distributor computer with a single logically complete calculating unit. 3,113,205, 12-3-63, Cl. 235-159.
- Campbell, Rudolph R. Wood framing clamp. 3,083,007, 3-26-63, Cl. 269-151.



- Campion, Frank E., to Pan American Petroleum Corp. Process for recovering hydrocarbons from solid materials. 3,112,255, 11-26-63, Cl. 208—11.
- Campion, Frank E., E. D. Glass, and R. A. Morse, to Pan American Petroleum Corp. Heavy oil recovery. 3,115,928, 12-31-63, Cl. 166—11.
- Campion, Harold H., to Avco Mfg. Corp. Protective system with parallel diode arrangement to cause pulse stretching thus allowing sufficient relay current. 3,076,101, 1-29-63, Cl. 307—83.5.
- Campise, Nash O.: *See—*  
Nagel, Richard R., and Campise. 3,083,773.
- Campman, Arthur R.: *See—*  
Koppelman, Edward, and Campman. 3,090,406.  
Koppelman, Edward, and Campman. 3,102,559.
- Campotel Corp.: *See—*  
Guerrant, Edmonds L. 3,102,546.
- Camras, Marvin, to Armour Research Foundation of Illinois Institute of Technology. Magnetic transducer head. 3,079,470, 2-26-63, Cl. 179—100.2.
- Camras, Marvin, to Armour Research Foundation of Illinois Institute of Technology. Interchangeable magnetic record tape and method of making same. 3,083,268, 3-26-63, Cl. 119—110.2.
- Camras, Marvin, and J. J. Brophy, to Armour Research Foundation of Illinois Institute of Technology. Hall element magnetic transducer. 3,114,009, 12-10-63, Cl. 179—100.2.
- Can, R. C., Co.: *See—*  
Galbierz, Jerome J. 3,071,294.
- Canada, Her Majesty the Queen in the right of, as represented by the Minister of Mines and Technical Surveys: *See—*  
Foster-Pegg, Richard W. 3,086,362.  
Mitchell, Barland R., and Friedrich. 3,078,839.  
Serson, Paul H. 3,114,103.
- Canada, Her Majesty the Queen in right of, as represented by the Minister of National Defence: *See—*  
Armstrong, Wilfred H. 3,092,067.  
Morton, Geoffrey W. 3,073,588.  
Owens, Walter J. 3,096,085.  
Owens, Walter J. 3,098,645.  
Wright, Jerauld G., and Wilson. 3,080,117.
- Canada, Her Majesty The Queen in the right of, as represented by the Postmaster General: *See—*  
Levy, Maurice M. 3,102,254.
- Canada, Alfred H., to United States of America, Navy. Optical image feedback. 3,090,830, 5-21-63, Cl. 178—6.8.
- Canada Cycle and Motor Co. Ltd.: *See—*  
Shaw, William C. 3,095,208.
- Canada Iron Foundries, Ltd.: *See—*  
Stewart, John K. 3,098,302.  
Stewart, John K. 3,105,674.
- Canada Packers Ltd.: *See—*  
Barnett, Hugh W., and Force. 3,113,870.  
Verex, Harry B., Nordin, and Shiozaki. 3,105,433.
- Canada Wire and Cable Co. Ltd.: *See—*  
Miller, Donald J. 3,077,068.  
Southgate, Harold A. 3,103,453.
- Canadian Celanese Ltd.: *See—*  
Fairbairn, Bruce H., and Deschambault. 3,100,161.  
Killoran, Joseph L., and Larue. 3,078,509.
- Canadian Chemical Co. Ltd.: *See—*  
Trevoy, Lloyd W., and Tegg. 3,108,133.
- Canadian General Electric Co., Ltd.: *See—*  
Sills, Hubert R. 3,089,049.  
Ulug, Mehmet E. 3,077,858.
- Canadian Industries Ltd.: *See—*  
Abbott, Mark. 3,090,077.  
Aitken, Roger G. 3,110,644.  
Halverson, Ernest N., and Coker. 3,103,700.  
McIrvine, John D. 3,108,917.  
Pajackowski, Andrzej, and Turner. 3,108,093.  
Rowlinson, Hugh C. 3,097,056.
- Canadian Ingersoll-Rand Co. Ltd.: *See—*  
Haug, Anton J. 3,114,309.
- Canadian Marconi Co.: *See—*  
Onno, Peter, and Haberl. 3,105,939.
- Canadian National Railway Co.: *See—*  
Lamont, John. 3,092,979.
- Canadian Patents and Development Ltd.: *See—*  
Beer, Charles T., Cutts, and Noble. 3,097,137.  
Engel, Charles R. 3,087,941.
- Canadian Pittsburgh Industries Ltd.: *See—*  
Peeters, Jean. 3,091,331.
- Canadian Westinghouse Co., Ltd.: *See—*  
Boesel, Walter F., Carter, Oldfield, and Tiley. 3,075,133.  
Hulls, Leonard R., and Jacobsen. 3,100,410.  
Jacobsen, Bjarne P., and Hulls. 3,081,544.
- Canadair Ltd.: *See—*  
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- Can-Amara Oil Sands Development Ltd.: *See—*  
Coulson, Gordon R. 3,081,027.
- Canamero, Ernest V., to United States of America, Army. Sheet clamping and unclamping mechanism. 3,101,234, 8-20-63, Cl. 346—138.
- Canan, Walter T. Means for introducing flavor imparting agents into tobacco and tobacco articles. 3,105,499, 10-1-63, Cl. 131—133.
- Cancerinus, Hendrik: *See—*  
Friedmann, Eric H., and Cancerinus. 3,082,646.
- Cancerinus, Hendrik, to Inpower Works (Proprietary) Ltd. Torque transmission by inertia. 3,077,793, 2-19-63, Cl. 74—752.
- Candelise, Alfred, to General Motors Corp. Means for burning hydrocarbons in an internal combustion engine cylinder. 3,073,289, 1-15-63, Cl. 123—26.
- Candelise, Alfred, to General Motors Corp. Spark plug and connector device therefor. 3,076,113, 1-29-63, Cl. 313—135.
- Candelise, Alfred, to General Motors Corp. Low tension spark plug. 3,113,232, 12-3-63, Cl. 313—11.5.
- Candellero, Giovanni, to Fiat Societa per Azioni. Epicyclic change-speed gearing. 3,077,794, 2-19-63, Cl. 74—763.
- Candlin, James E., Jr., and R. B. Bergstrand, to Pullman Inc. Single beam railway car. 3,078,814, 2-26-63, Cl. 105—404.
- Candlin, James E., Jr., and R. B. Bergstrand, to Pullman Inc. Flat car for railway freight unit loading. 3,102,497, 9-3-63, Cl. 105—368.
- Candlin, James E., Jr., and A. J. Christian, to Pullman Inc. Compartmentizer pivot suspension. 3,104,624, 9-24-63, Cl. 105—376.
- Candon, Basil H., M. Chessin, and W. E. Lange, to The Purdue Frederick Co. Metal chelates of oxazolidinones as central nervous system stimulants. 3,108,045, 10-22-63, Cl. 167—65.
- Cane, Virginio. Dishwashing machine. 3,103,940, 9-17-63, Cl. 134—140.
- Canfield, Carl R., Jr., to Borg-Warner Corp. Balanced drive mechanism for a fuel injection pump. 3,107,631, 10-22-63, Cl. 103—157.
- Canfield, Charles L.: *See—*  
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- Canfield, Joseph A.: *See—*  
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- Cangelosi, Charles: *See—*  
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- Cangelosi, Ignazio: *See—*  
Schwartz, Louis J., and C. and I. Cangelosi. 3,099,971.
- Cannell, Lawrence G., to Shell Oil Co. Preparation of transition metal organic phosphite complexes. 3,102,899, 9-3-63, Cl. 260—439.
- Canning Equipment Co.: *See—*  
Keesling, Thomas B. 3,086,638.
- Canning, Gordon, Jr., and R. E. Clough, to Remington Arms Co., Inc. Package for small arms ammunition. 3,101,840, 8-27-63, Cl. 206—3.
- Cannon, Clarence V.: *See—*  
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- Cannon, Craig W.: *See—*  
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- Cannon, Dennis H.: *See—*  
Mills, Joseph A. W., and Cannon. 3,093,026.
- Cannon, Earl, 1/4 to F. Crampton. Press. 3,082,725, 3-26-63, Cl. 113—38.
- Cannon Electric Co.: *See—*  
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Johnson, George S. 3,110,093.  
Keith, John T., and Maston. 3,090,937.  
Kelly, Joseph F. 3,085,221.  
Kuehl, Ernest W., and Ewing. 3,115,380.  
McCann, Joe G., Stegen, and Falstrom. 3,092,834.
- Cannon, Emerson T., W. H. Clark, and W. S. Partridge, to Utah Research & Development Co., Inc. Amplifying by short-circuiting conductive loop. 3,113,272, 12-3-63, Cl. 328—1.
- Cannon, George E.: *See—*  
Overly, Charles R., and Cannon. 3,075,592.  
Overly, Charles R., and Cannon. 3,100,544.
- Cannon, Guy H., to The Dow Chemical Co. Heat exchanger. 3,106,957, 10-15-63, Cl. 165—157.
- Cannon, John B., Jr. Reconnaissance system with a stabilized recording magazine. 3,092,687, 6-4-63, Cl. 178—6.7.
- Cannon, Leona, and C. Kratzer. Chair. 3,103,383, 9-10-63, Cl. 297—116.
- Cannon, Madison M., G. M. Dick, and S. M. Salomon, to Bird Machine Co. Screening apparatus. 3,092,578, 6-4-63, Cl. 210—304.
- Cannon, Maxwell R., to International Business Machines Corp. Apparatus for sensing variations. 3,100,889, 8-13-63, Cl. 340—259.
- Cannon, Robert K. Scribe. 3,100,846, 8-13-63, Cl. 33—21.
- Cannon, William N., G. B. Kline, J. E. Cochran, Jr., and Q. F. Soper, to Eli Lilly and Co. Methods of destroying nematodes with a pyridine base and its acid addition salts. 3,105,005, 9-24-63, Cl. 167—33.
- Canny, Floyd H., to SCM Corp. Removable type and type bar assembly. 3,101,141, 8-20-63, Cl. 197—36.
- Canny, Floyd H., and A. J. Kalfelz, to SCM Corp. Ribbon mechanism. 3,104,750, 9-24-63, Cl. 197—156.
- Canomac Corp.: *See—*  
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- Canon Camera Co., Inc.: *See—*  
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Goshima, Takeshi. 3,081,680.  
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- Canova, Samuel W. Rocking attachment. 3,075,205, 1-29-63, Cl. 5—109.
- Canrad Precision Industries: *See—*  
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- Cantalupo, Francis J., and J. P. Doelger, to Crane Co. Valve actuating mechanism or the like. 3,075,737, 1-29-63, Cl. 251-26.
- Cantarutti, Armando: *See—*  
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- Cante, Roger, to Commissariat a l'Energie Atomique. Core-sampling appliance for graphite-type nuclear reactor. 3,107,740, 10-22-63, Cl. 175-78.
- Canelli, Nino. Implement for water sports of the type sledge resting on skis. 3,081,107, 3-12-63, Cl. 280-21.
- Canter, Walter H., Jr.: *See—*  
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- Canterino, Peter J.: *See—*  
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- Canterino, Peter J., to Phillips Petroleum Co. Chlorinated polyethylene. 3,110,709, 11-12-63, Cl. 260-94.9.
- Canterino, Peter J., and R. J. Martinovich, to Phillips Petroleum Co. Blends of high pressure type polyethylene with cracked highly crystalline 1-olefin polymers. 3,086,958, 4-23-63, Cl. 260-45.5.
- Canterino, Peter J., and L. T. Smith, to Phillips Petroleum Co. Method of coating particulated resinous material by polymerization technique. 3,102,050, 8-27-63, Cl. 117-100.
- Canterino, Peter J., and R. M. McGlamery, to Phillips Petroleum Co. Flame resistant chlorinated polyethylene compositions. 3,113,118, 12-3-63, Cl. 260-41.
- Cantieri Riuniti Dell'Adriatico S.p.A.: *See—*  
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Costanzi, Nicolo. 3,092,061.
- Cantieri, William F., to Diamond Power Specialty Corp. Long retracting blower requiring minimum outboard clearance. 3,111,701, 11-26-63, Cl. 15-317.
- Cantonwine, Charles R. Electric motor construction with various winding distribution factors. 3,111,616, 11-19-63, Cl. 318-224.
- Cantor, Jacob J., deceased (E. J. Karshner, executrix). Back-flow preventing valve. 3,114,382, 12-17-63, Cl. 137-116.
- Cantor, Theodore, to Manostat Corp. Fastening apparatus. 3,079,187, 2-26-63, Cl. 287-116.
- Cantor, Theodore, to Manostat Corp. Clamp. 3,096,110, 7-2-63, Cl. 287-54.
- Cantrall, Edward W., R. Littell, S. Bernstein, and S. Gordon, to American Cyanamid Co. 3-substituted ethers of the androstane series. 3,094,541, 6-18-63, Cl. 260-397.5.
- Cantril, Kenneth E.: *See—*  
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Goodhue, Lyle D., Cantril, and Louthan. 3,092,542.  
Goodhue, Lyle D., Cantril, and Louthan. 3,103,465.  
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- Cantrill, John E., to The Carborundum Co. Abrasive articles and their manufacture. 3,081,161, 3-12-63, Cl. 51-298.
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- Capitol Products Corp.: *See—*  
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- Caplan, Samuel R., to National Research Development Corp. Process and apparatus for effecting electrochromatographic separations. 3,085,956, 4-16-63, Cl. 204-180.
- Capp, Leslie J.: *See—*  
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- Cappa, Giulio: *See—*  
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- Cantrell, John E. 3,081,161.
- Carroll, Paul E. 3,074,887.
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- Card, Joseph L., to The Singer Co. Yarn clamp for tufting machine. 3,115,856, 12-31-63, Cl. 112—253.
- Card, Roy T., to Singer-Cobble, Inc. Three-level tufted pile apparatus. 3,075,482, 1-29-63, Cl. 112—79.
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- Carey, Frederick H., and W. H. Arscott, to The De Havilland Engine Co. Ltd., and Dowty Fuel Systems Ltd. Control of variable pitch stator blades or vanes in axial flow machines. 3,053,892, 4-2-63, Cl. 230—114.
- Carey, Joseph P., to Combustion Engineering, Inc. Observation door for pressurized furnaces. 3,110,274, 11-12-63, Cl. 110—179.
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- Fasold, George A., and Leibbrook. 3,091,893.
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- Cargo, George K. Air door. 3,113,501, 12-10-63, Cl. 98—36.
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- Carkhuff, Le Roy F., to Diamond National Corp. Egg carton pricing unit. 3,083,636, 4-2-63, Cl. 101—37.
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- Carlberg, Erik R., and K. J. Wahlborg, to Electrolux, Aktiebolaget. Suction nozzle. 3,080,590, 3-12-63, Cl. 15—421.
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- Carlin, Robert, C. W. Cannon, and R. J. Soeteber, to Allis-Chalmers Mfg. Co. Crawler tractor suspension. 3,083,781, 4-2-63, Cl. 180—9.5.
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- Carlo, Clarence E., to Dubuque Products, Inc. Coilable partition with doors. 3,090,424, 5-21-63, Cl. 160—23.
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- Carls, William. Valve housing mount and manifold. 3,072,148, 1-8-63, Cl. 137—622.
- Carlsen, Carl E. Hand stamps. 3,101,048, 8-20-63, Cl. 101—125.
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- Carlsen, Leonard O., and C. B. King, to The Gleason Works. Method and apparatus for cutting spiral bevel and hypoid gears. 3,110,225, 11-12-63, Cl. 90—9.4.
- Carlsen, Olaf. Roll-over machine. 3,080,984, 3-12-63, Cl. 214—1.
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- Carlson, Arthur W., and G. C. Schweiker, to Velsicol Chemical Corp. Resinous compositions of matter and methods for preparing same. 3,102,872, 9-3-63, Cl. 260—47.
- Carlson, Byron, and G. Kuhn, to McCulloch Corp. Filling spout for puncturing containers. 3,115,908, 12-31-63, Cl. 141—330.
- Carlson, Carl J., Jr., and D. W. Carlson. Fastener assemblage. 3,097,360, 7-16-63, Cl. 1—56.
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- Hedderich, William E., Jannenga, Carlson, and Hawkinson. 3,078,535.
- Carlson, Carl R., D. E. Hawkinson, W. E. Hedderich, and J. A. Jannenga, to Greenlee Bros. & Co. Wire tensioning device. 3,081,976, 3-19-63, Cl. 254—29.
- Carlson, Charles L., and S. A. Rosecrans, to Westinghouse Electric Corp. Method of making aluminum clad copper wire. 3,096,577, 7-9-63, Cl. 29—473.3.
- Carlson, Charles W., and C. W. Carlson, Jr. Method for forming cased glassware. 3,083,552, 4-2-63, Cl. 65—48.
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- Carlson, Chester F., to Xerox Corp. Xerographic fusing apparatus. 3,078,589, 2-26-63, Cl. 34—77.
- Carlson, Chester F., to Xerox Corp. Apparatus for pattern reproduction. 3,083,684, 4-2-63, Cl. 118—246.
- Carlson, Clarence A., to United States Gypsum Co. Apparatus and method for extracting trash. 3,113,733, 12-10-63, Cl. 241—68.
- Carlson, Dana P., to E. I. du Pont de Nemours and Co. Stabilized polyoxymethylene. 3,081,280, 3-12-63, Cl. 260—45.85.
- Carlson, David J., and W. Y. Pan, to Radio Corp. of America. Negative resistance amplifier. 3,108,231, 10-22-63, Cl. 330—34.
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- Carlson, Donald W.: See—
- Carlson, Carl J., Jr., and D. W. Carlson. 3,097,360.
- Carlson, Carl J., Sr., and D. W. Carlson. 3,113,317.
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- Ott, William F., Krein, Eickmann, and Carlson. 3,100,236.
- Szwargulski, Jesse L., Eickmann, Carlson, and Korte. 3,076,639.
- Carlson, Harold A., to ACF Industries, Inc. Carburetor. 3,078,078, 2-19-63, Cl. 261—41.
- Carlson, Harold A., and A. N. Szwargulski, to ACF Industries, Inc. Carburetor inlet valve. 3,086,750, 4-23-63, Cl. 251—358.
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- Carlson, Harold A., O. J. Eickmann, and R. J. Smith, to ACF Industries, Inc. Carburetor. 3,109,043, 10-29-63, Cl. 261—23.
- Carlson, Irma E.: See—
- Carlson, Swan O. 3,108,657.
- Carlson, John W., to Speed-O-Print Business Machines Corp. Photocopy machine. 3,078,777, 2-26-63, Cl. 95—89.
- Carlson, John W., to Speed-O-Print Business Machines. Photocopying devices. 3,097,585, 7-16-63, Cl. 95—89.
- Carlson, John W., to Speed-O-Print Business Machines Corp. Disposable cartridge for use in a photocopy machine. 3,101,036, 8-20-63, Cl. 95—89.
- Carlson, John W., to Speed-O-Print Business Machines Corp. Photocopy machine and ejector plate. 3,113,499, 12-10-63, Cl. 95—77.5.
- Carlson, Leonard A.: See—
- Sullivan, Wilbur M., and Carlson. 3,092,601.
- Carlson, Lorian A., to Wood Conversion Co. Ceiling structure and tile therefor. 3,100,319, 8-13-63, Cl. 20—4.
- Carlson, Martin. Panic release door centering stop. 3,105,992, 10-8-63, Cl. 16—82.
- Carlson, Norman E., to ACF Industries, Inc. Car end wall. 3,095,831, 7-2-63, Cl. 105—410.
- Carlson, Norman G., and G. V. D. Tiers, to Minnesota Mining and Mfg. Co. Catalytic polymerization of pyrrolidone. 3,075,953, 1-29-63, Cl. 260—78.
- Carlson, Olof B., to Consolidated Cigar Corp. Apparatus for applying tear tab to a web. 3,090,285, 5-21-63, Cl. 93—1.
- Carlson, Olof B., to Consolidated Cigar Corp. Cigar tip applying machine. 3,097,654, 7-16-63, Cl. 131—88.
- Carlson, Ralph G., to Pneumatic Scale Corp., Ltd. Web feeding mechanism and control means therefor. 3,108,032, 10-22-63, Cl. 156—361.
- Carlson, Ralph L. Device for repairing tubeless tire casing or the like. 3,113,606, 12-10-63, Cl. 152—370.
- Carlson, Raymond H., to Textron Industries, Inc. Method of extruding shank portions with 50% or less cross-sectional area than that of the original blanks. 3,072,933, 1-15-63, Cl. 10—27.
- Carlson, Raymond H., to Textron Industries, Inc. Method of forming a cap stud. 3,080,587, 3-12-63, Cl. 10—10.
- Carlson, Raymond H., to Textron Industries, Inc. Method of forming blanks with internal and external torque engaging means. 3,088,140, 5-7-63, Cl. 10—27.
- Carlson, Raymond H., to Textron Industries, Inc. Process for forming a fastener including the step of piercing an unworked head portion. 3,089,159, 5-14-63, Cl. 10—27.
- Carlson, Raymond H., to Textron Industries, Inc. Metal blank with extruded portion of non-circular cross section. 3,104,161, 9-17-63, Cl. 29—190.
- Carlson, Raymond H., to Textron Industries, Inc. Cold header drives. 3,107,557, 10-22-63, Cl. 78—17.
- Carlson, Raymond L., to Westinghouse Electric Corp. Fans having radial flow rotors in axial flow casings. 3,101,890, 8-27-63, Cl. 230—127.
- Carlson, Reuben C., to Admiral Corp. Control system. 3,075,400, 1-29-63, Cl. 74—472.
- Carlson, Richard A.: See—
- Bertsche, Ralph H., Jr., Carlson, Hetzler, and Raver. 3,078,409.
- Carlson, Robert G., to General Electric Co. Columbian base alloy article. 3,078,554, 2-26-63, Cl. 29—194.
- Carlson, Roland W., to The Harshaw Chemical Co. Scintillation detector with compensating reflector for the crystal. 3,102,955, 9-3-63, Cl. 250—71.5.
- Carlson, Roland W., and R. D. Platt, to The Harshaw Chemical Co. Shock resistant scintillation meter component. 3,073,954, 1-15-63, Cl. 250—71.5.



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- Carlson, Sperling. Cigarette extinguisher. 3,113,577, 12-10-63, Cl. 131—237.
- Carlson, Swan O., deceased; I. E. Carlson, administratrix, to Stair 'N' Fold Co. Scaffold device. 3,103,657, 10-29-63, Cl. 182—119.
- Carlson, Theodore F. Anti-friction idler arm assembly. 3,078,113, 2-19-63, Cl. 287—93.
- Carlson, Theodore F. Ball-type linkage joint. 3,114,569, 12-17-63, Cl. 287—87.
- Carlson, Wilbur L., to General Motors Corp. Method of forming locators. 3,077,030, 2-12-63, Cl. 29—401.
- Carlson, Wilbur L., and O. H. Deyle, to General Motors Corp. Commutator and method of attaching same. 3,080,615, 3-12-63, Cl. 18—59.
- Carlson, William A., and J. R. Little, to Pfaunder Permutit, Inc. Corrosion resistant coating and method of applying the same. 3,089,783, 5-14-63, Cl. 117—66.
- Carlson, William L., Jr., to Minneapolis-Honeywell Regulator Co. Method of making a capillary tube fluid filled transmission system. 3,091,023, 5-28-63, Cl. 29—400.
- Carlson, William L., Jr., to Minneapolis-Honeywell Regulator Co. Fluid actuator. 3,099,136, 7-30-63, Cl. 60—52.
- Carlstedt, Ragnar L. Apparatus for controlling moving members. 3,083,592, 4-2-63, Cl. 77—3.
- Carlstedt, Sven B. F. Valve device operated by reversible electric motor. 3,080,952, 3-12-63, Cl. 192—02.
- Carlston, Hamilton S. Unidirectional control mechanism for a sliding closure member. 3,085,300, 4-16-63, Cl. 20—52.
- Carlton, Alvar G., and J. W. Follin, Jr., to United States of America, Navy. Radar tracking loop. 3,110,896, 11-12-63, Cl. 343—74.
- Carlton, Charles F. Water shoes. 3,112,504, 12-3-63, Cl. 9—310.
- Carlton, Daniel, to CFF, Inc. Clamping system for concrete wall forms. 3,103,730, 9-17-63, Cl. 25—131.
- Carlton, Louis A.: *See*—  
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- Carlton, Louis A., and B. A. Peters, to Jersey Production Research Co. Fluid sampler. 3,075,585, 1-29-63, Cl. 166—164.
- Carlton, Stuart S., to Thompson Ramo Wooldridge Inc. Fuel cell construction. 3,110,631, 11-12-63, Cl. 136—86.
- Carlzen, Carl F., R. W. Helda, and W. L. Lehner, to Sylvania Electric Products Inc. Assembly apparatus. 3,081,885, 3-19-63, Cl. 214—1.
- Carman, Francis J., and K. W. Whalan, to said F. J. Carman and G. T. Peacock. Coin counting mechanism. 3,073,699, 1-29-63, Cl. 235—100.
- Carmellini, Andrew E., J. E. Lee, and O. T. Hornkohl. Fluid dispensing device having light sensitive means. 3,107,818, 10-22-63, Cl. 222—50.
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- Carmichael, James L. Vegetable trimmer. 3,080,904, 3-12-63, Cl. 146—81.
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- Carmichael, Mead S., Jr., and R. A. Stark, to FMC Corp. Method of hauling peas. 3,087,499, 4-30-63, Cl. 130—30.
- Carmichael, Robert, and J. L. S. Daley, to Union Carbide Corp. Separator for galvanic cells. 3,089,914, 5-14-63, Cl. 136—143.
- Carmichael, Thomas F., to Synco Corp. Ignition coil construction. 3,106,655, 10-8-63, Cl. 310—70.
- Carmody, Don R., to Standard Oil Co. Removal of static charges. 3,081,518, 3-19-63, Cl. 28—80.
- Carnahan, Robert E.: *See*—  
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- Carnaut, Boris. Process of making plates and sheets of polyvinyl chloride fragments by a simultaneous heat and pressure treatment. 3,096,145, 7-2-63, Cl. 18—55.
- Carneck, Robert C.: *See*—  
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- Carney, Delmar E., and R. E. Warren, to Libbey-Owens-Ford Glass Co. Method and apparatus for glass melting. 3,103,149, 10-22-63, Cl. 13—6.
- Carney, Leroy L.: *See*—  
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- Carney, Patrick E., and J. H. Keahy, to Texas Instruments Inc. Automatic gain control circuit. 3,098,199, 7-16-63, Cl. 330—29.
- Carnt, Peter S., and E. Ribchester, to Hazeltine Research Inc. D.C. insertion apparatus for a color television receiver. 3,113,177, 12-3-63, Cl. 178—54.
- Caroli, Gerhard, and O. Lutz. Hydraulic clutch. 3,101,825, 8-27-63, Cl. 192—18.
- Caron, Charles, to Meffna S.A. Digital programme controller. 3,076,066, 1-29-63, Cl. 200—37.
- Caron, Claude, to Soletanche. Novel method for injecting clay-containing grout into ground and products serving for the execution of said method. 3,111,006, 11-19-63, Cl. 61—36.
- Caroselli, Remus F., to Owens-Corning Fiberglas Corp. Apparatus for treating fibrous glass. 3,096,970, 7-9-63, Cl. 263—3.
- Caroselli, Remus F., and A. Marzocchi, to Owens-Corning Fiberglas Corp. Sized glass fibers and composition. 3,097,963, 7-16-63, Cl. 117—126.
- Carosello, Michael P. Door attachment. 3,084,965, 4-9-63, Cl. 292—1.
- Carosino, Lawrence E., to Hercules Powder Co. 5-mercapto-4-phenyl-1,2-dithiole-3-thione and fungicidal compositions containing the same. 3,109,772, 11-5-63, Cl. 167—33.
- Carothers, John N., and R. J. Hurka, Jr. Process of treating phosphate rock. 3,076,691, 2-5-63, Cl. 23—109.
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- Carpenter, Charles M., Jr.: *See*—  
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- Carpenter, Clayton A., to Union Oil Co. of California. Method and apparatus for heating oil sands. 3,113,622, 12-10-63, Cl. 166—39.
- Carpenter, Clifford L., to Cabot Corp. Process for the manufacture of ceramic grade titanium dioxide. 3,112,210, 11-26-63, Cl. 106—300.
- Carpenter, Dorothy J. M.: *See*—  
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- Carpenter, Earl S., H. E. Chace, and C. B. Derr, to American Optical Co. Method for making metal reinforced plastic articles. 3,074,117, 1-22-63, Cl. 18—59.
- Carpenter, Edward W. Bracket for an outboard stabilizing element for a canoe, rowboat and the like. 3,100,100, 8-6-63, Cl. 248—214.
- Carpenter, Elmer B., to Automatic Poultry Feeder Co. Fowl waterer. 3,099,981, 8-6-63, Cl. 119—61.
- Carpenter, Gardner D., to The McLaughlin Co. Plastic nut retained by a washer received in an exterior annular groove. 3,085,613, 4-16-63, Cl. 151—41.72.
- Carpenter, Harry W., and P. D. Johnson, to United States of America, Atomic Energy Commission. Cadmium phosphate glass. 3,084,055, 4-2-63, Cl. 106—52.
- Carpenter, Herbert L., and H. L. Carpenter, Jr., to The Greif Bros. Cooperage Corp. Top and bottom chime construction for plastic-lined fiber containers. 3,116,001, 12-31-63, Cl. 229—5.5.
- Carpenter, Herbert L., Jr.: *See*—  
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- Carpenter, Herbert L., Sr., and H. L. Carpenter, Jr. 3,103,787.
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- Carpenter, Irvin M.: *See*—  
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- Melton, James O., and Carpenter. 3,104,864.
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- Carpenter, James H. Method of shucking scallops. 3,070,834, 1-1-63, Cl. 17—45.
- Carpenter, James W. Paint distributor attachment for a paint brush. 3,099,033, 7-30-63, Cl. 15—551.
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- Carpenter, Robert J., to Tote-Cart Co. Wheel mounting for cart. 3,097,887, 7-16-63, Cl. 301—1.
- Carpenter, Theodore R. Elevatable power bath tub seat. 3,106,723, 10-15-63, Cl. 4—185.
- Carpenter, Tracy L., to General Motors Corp. Automobile door safety lock mechanism. 3,112,947, 12-3-63, Cl. 292—280.
- Carpenter, Victor W., to Armco Steel Corp. Heat treatment of ferrous strip materials with separator coating. 3,084,081, 4-2-63, Cl. 148—14.
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- Carr, Clide I., to United States Rubber Co. Expanded polyethylene and method of making the same. 3,098,831, 7-23-63, Cl. 260-2.5.
- Carr, Donald E., to Phillips Petroleum Co. Method of combustion utilizing ozone. 3,071,924, 1-8-63, Cl. 60-35.4.
- Carr, Donald E., to Phillips Petroleum Co. Production and upgrading of hydrocarbons in situ. 3,072,187, 1-8-63, Cl. 166-11.
- Carr, Donald E., to Phillips Petroleum Co. Fuel-air ratio control for a reaction engine. 3,080,708, 3-12-63, Cl. 60-35.6.
- Carr, Donald E., to Phillips Petroleum Co. Insect repellent compositions having extended repellent life. 3,108,039, 10-22-63, Cl. 167-33.
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- Carr, Dugald M., and T. D. Striggles, to The Chemical and Industrial Corp. Manufacture of nitrogen tetroxide. 3,101,255, 8-20-63, Cl. 23-162.
- Carr, Edward W., and R. P. Setka, to Crane Co. Closure lifting means for relief valves or the like. 3,078,869, 2-26-63, Cl. 137-523.
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- Carr, James C., to General Electric Co. Method of installing grommets. 3,090,115, 5-21-63, Cl. 29-450.
- Carr, John H., to Dura-Vent Corp. Factory-built chimney. 3,087,408, 4-30-63, Cl. 98-46.
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- Carr, John W., to Lockheed Aircraft Corp. V-strip antenna with artificial dielectric lens. 3,099,836, 7-30-63, Cl. 343-753.
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- Carr, Roy E., to Pinco, Inc. Clothespin. 3,103,727, 9-17-63, Cl. 24-137.
- Carr, Thomas E. Molded plastic pontoons. 3,090,339, 5-21-63, Cl. 114-66.5.
- Carr, Warren F., and M. D. Wood. Directional drill with hydraulically extended shoe. 3,098,534, 7-23-63, Cl. 175-73.
- Carr, William H., Jr., and E. R. Dobyns, to United States of America, Atomic Energy Commission. Diaphragm pumping system. 3,101,058, 8-20-63, Cl. 102-38.
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- Carrick, Wayne L., and R. W. Kluiber, to Union Carbide Corp. Ethylene polymerization catalysts. 3,076,796, 2-5-63, Cl. 260-94.9.
- Carrico, Ralph T., C. R. Ford, J. D. Halbrooks, M. Beyersdorfer, and E. K. Percifield, to Indus Corp. Constant mesh gear transmission. 3,111,860, 11-26-63, Cl. 74-372.
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- Carriere, John G., to W. R. Grace & Co. Apparatus for conditioning bagged material. 3,081,956, 3-19-63, Cl. 241-283.
- Carriere, Raymond L., R. DeS. Vaulry, and H. Feehr, to Compagnie de Construction Mecanique-Procédes Sulzer. Magnetic coupling having a magnetic bearing. 3,107,310, 10-15-63, Cl. 310-103.
- Carrigan, Raymond J.: *See—*  
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- Carrigan, Robert J., to Bigelow-Sanford, Inc. Method of seaming carpeting with a tape. 3,077,429, 2-12-63, Cl. 156-159.
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- Carriol, Louis A., to Societe d'Etudes d'Inventions et de Brevets-S.E.I.B. Indicating means for liquid dispenser. 3,072,291, 1-8-63, Cl. 222-26.
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- Carroll, Charles, to Duff-Norton Co. Hand-operated chain hoist. 3,092,369, 6-4-63, Cl. 254-170.
- Carroll, David D. Stuffed animated toy animal. 3,099,894, 8-6-63, Cl. 46-135.
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- Carroll, Lawrence K., J. H. Messenger, C. D. Whitcomb, and E. R. Baster, to Quikut, Inc. Citrus fruit juicer. 3,101,758, 8-27-63, Cl. 146-3.
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- Carroll-Walton Engineering Co., Inc.: *See—*  
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- Carroll, William. Automotive air intake apparatus. 3,077,715, 2-19-63, Cl. 55-310.
- Carroll, William L.: *See—*  
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- Carroll, William N.: *See—*  
Hinkell, Donald J., and Carroll. 3,088,041.
- Carroll, William N., to International Business Machines Corp. Capacitor digital data storage and regeneration system. 3,111,649, 11-19-63, Cl. 340-173.



- Carroll, William N., R. A. Cooper, and R. G. Counihan, to International Business Machines Corp. Transistorized logic circuit operative in the pulse mode. 3,087,074, 4-23-63, Cl. 307-88.5.
- Carrollton Mfg. Co.: *See*—  
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- Carrona, Genevieve C. Electrically heated garment. 3,084,241, 4-2-63, Cl. 219-16.
- Carrozza, Roy J., and A. W. Gembol, to Logan Metal Products, Inc. Sheet handling apparatus. 3,086,100, 4-16-63, Cl. 219-19.
- Carruth, Edwin I. Nailfile-tieclip devices. 3,077,892, 2-19-63, Cl. 132-73.5.
- Carruthers, Robert, and P. C. Thonemann, to United Kingdom Atomic Energy Authority. Gas discharge apparatus. 3,105,027, 9-24-63, Cl. 204-193.2.
- Carry, William J.: *See*—  
Gaines, John R. and C. F., De Pew, and Carry. 3,103,259.  
Gaines, John R. and C. F., De Pew, and Carry. 3,103,260.
- Carry-Pack Corp.: *See*—  
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- Carse, George: *See*—  
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- Carskadon, Thomas W., Sr. Pant leg pressing machine. Re. 25,357, 3-19-63, Cl. 38-22.
- Carson, Andrew: *See*—  
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- Carson, Cyril, to I-T-E Circuit Breaker Co. Omnidirectional horn radiator for beacon antenna. 3,116,485, 12-31-63, Cl. 343-754.
- Carson, Frank J., to Libbey-Owens-Ford Glass Co. Glass bending mold. 3,092,431, 6-4-63, Cl. 65-288.
- Carson, Frank J., and H. A. Leflet, Jr., to Libbey-Owens-Ford Glass Co. Apparatus for bending glass sheets. 3,086,376, 4-23-63, Cl. 65-288.
- Carson, Frank J., and H. A. Leflet, Jr., to Libbey-Owens-Ford Glass Co. Apparatus for bending glass sheets. 3,087,317, 4-30-63, Cl. 65-288.
- Carson, Frank J., and G. White, to Libbey-Owens-Ford Glass Co. Glass bending apparatus. 3,089,319, 5-14-63, Cl. 65-288.
- Carson, Frank J., and H. A. Leflet, Jr., to Libbey-Owens-Ford Glass Co. Method and apparatus for feeding flat sheets onto a moving conveyor. 3,101,156, 8-20-63, Cl. 221-93.
- Carson, Frank J., and H. A. Leflet, Jr., to Libbey-Owens-Ford Glass Co. Apparatus for bending glass sheets. 3,102,802, 9-3-63, Cl. 65-288.
- Carson, Frank J., and H. A. Leflet, Jr., to Libbey-Owens-Ford Glass Co. Vehicle windshields. 3,114,571, 12-17-63, Cl. 296-84.
- Carson, Gordon A.: *See*—  
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- Carson, Gordon B., and W. L. Starkey, to Selby International, Inc. Digital controlled machine. 3,083,580, 4-2-63, Cl. 74-113.
- Carson, Henry L.: *See*—  
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- Carson, Oliver S., and G. McMurtry, to Short Brothers & Harland Ltd. Electrical signalling systems. 3,105,174, 9-24-63, Cl. 317-146.
- Carson, Ralph C., Jr., S. J. Grillo, and T. W. Jansen, to United States of America, Navy. Method and apparatus for launching rockets. 3,094,896, 6-25-63, Cl. 89-1.7.
- Carson, Robert E., and W. C. Jonson, to Avco Corp. Intermediate frequency balanced bias system. 3,095,540, 6-25-63, Cl. 325-323.
- Carson, William S., Jr. Feeder for cattle or the like. 3,112,732, 12-3-63, Cl. 119-52.
- Carstens, Fred A., to A. O. Smith Corp. Starting joints for continuous wound vessel. 3,092,148, 6-4-63, Cl. 138-151.
- Carstens, Fred A., to Chicago Bridge & Iron Co. Method and apparatus for manufacturing of high strength cylindrical shells. 3,098,620, 7-23-63, Cl. 242-75.2.
- Carstens, Jørgen V. Book cover-applying machine. 3,101,493, 8-27-63, Cl. 11-4.
- Carstensen, Andreas: *See*—  
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- Carswell, John L., and J. H. Carpenter, to Carpc-Kewanee, Inc. Method and apparatus for electrically separating the phases of a water-in-oil emulsion. 3,074,870, 1-22-63, Cl. 204-188.
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- Carter, Alva B. Material heating dispenser. 3,116,403, 12-31-63, Cl. 219-39.
- Carter, Alvie. Shiny nose toy. 3,074,205, 1-22-63, Cl. 46-228.
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- Carter, B. & F. & Co. Ltd.: *See*—  
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- Carter, Charlie F.: *See*—  
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Carter, William W. and C. F. 3,100,061.
- Carter, Clare A., to Union Carbide Corp. Preparation of alkyl borate esters. 3,086,039, 4-16-63, Cl. 260-462.
- Carter, Dale B., to Socony Mobil Oil Co. Removal of arsenic from reformer feed. 3,110,569, 11-12-63, Cl. 23-288.
- Carter, David C., and E. M. Jenkins, to Johns-Manville Corp. Acoustical panel. 3,073,412, 1-15-63, Cl. 181-33.
- Carter, Don E., to Monsanto Chemical Co. Removal of catalyst residues from solid polymer slurries by multistage countercurrent extraction. 3,074,921, 1-22-63, Cl. 260-94.9.
- Carter, Edward D. Height gauge. 3,113,385, 12-10-63, Cl. 33-169.
- Carter, Edward S., Jr., to United Aircraft Corp. Flight control system. 3,071,335, 1-1-63, Cl. 244-77.
- Carter, Ernest P., to Monsanto Chemical Co. Textile impact tester. 3,083,564, 4-2-63, Cl. 73-12.
- Carter, Gillian M., D. A. Everest, and R. A. Wells, to United Kingdom Atomic Energy Authority. Recovery of thorium oxalate from sulphuric acid leach liquor containing dissolved thorium rare earths and phosphate. 3,087,948, 4-30-63, Cl. 260-429.1.
- Carter, Herschel B. Electrician's trim tool. 3,078,485, 2-26-63, Cl. 15-104.02.
- Carter, Howard J., to Epsco, Inc. Relay control circuit. 3,097,353, 7-9-63, Cl. 340-253.
- Carter, Howell L., Jr.: *See*—  
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- Carter, J. Warne, to Black, Sivalls & Bryson, Inc. Apparatus for winding resin-impregnated strands on a mandrel involving a winding control pattern. 3,106,504, 10-8-63, Cl. 156-351.
- Carter, John L., and I. Reingold, to United States of America, Army. Equivalent high-power pulsed microwave transmitter. 3,078,424, 2-19-63, Cl. 333-7.
- Carter, John L., E. V. Edwards, I. Reingold, and D. L. Fresh, to United States of America, Army. Technique for shaping crystalline spheres. 3,103,770, 9-17-63, Cl. 51-289.
- Carter, John L., and I. Reingold, to United States of America, Army. Electron discharge device. 3,112,426, 11-26-63, Cl. 315-39.
- Carter, John R., to Laclade Metal Products Co. Muffler construction. 3,106,984, 10-15-63, Cl. 181-57.
- Carter, John S., Jr. High speed water surface craft. 3,081,727, 3-19-63, Cl. 114-66.5.
- Carter, Joseph C., R. H. Armstrong, and M. J. Janicke, to United States of America, Atomic Energy Commission. Nuclear power plant. 3,089,840, 5-14-63, Cl. 204-193.2.
- Carter, Joseph E., and C. B. Goodrich, to The International Nickel Co., Inc. Method for producing nickel carbonyl. 3,076,693, 2-5-63, Cl. 23-203.
- Carter, June E. Costumes. 3,074,714, 1-22-63, Cl. 272-25.
- Carter, Martin F. Device for firming, grading and smoothing ground. 3,106,969, 10-15-63, Cl. 172-197.
- Carter, Mary E., and L. B. Ticknor, to American Viscose Corp. Modification of cellulose with epoxypropyl amine compounds. 3,102,112, 8-27-63, Cl. 260-212.
- Carter, Melvin A. System for automatically displaying illuminated pictures and delivering sound messages coordinated therewith. 3,088,996, 5-7-63, Cl. 179-1.
- Carter, Morris B., R. C. Stroup, J. J. Vadla, and K. B. McGhee, to Union Carbide Corp. Process for making carbon articles. 3,092,437, 6-4-63, Cl. 18-47.5.
- Carter Parts Co.: *See*—  
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- Carter, Paul H., T. E. Marion, and R. L. Morse, to Universal Machine Co., Inc. Machine for manufacturing novelty ice cream products. 3,070,933, 1-1-63, Cl. 53-282.
- Carter, Paul H., and T. E. Marion, to Universal Machine Co., Inc. Feeder for sugar cones. 3,104,780, 9-24-63, Cl. 221-223.
- Carter, Phyllis J., to Atlas Chemical Industries, Inc. Hair conditioning method. 3,090,727, 5-21-63, Cl. 167-87.
- Carter Products, Inc.: *See*—  
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- Powell, Leo S. 3,092,656.
- Carter, Ralph B., Co.: *See*—  
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- Carter, Ralph E., to General Electric Co. High density ferrites. 3,074,888, 1-22-63, Cl. 252-62.5.
- Carter, Randall W., to Phillips Petroleum Co. Halogenated ethylene polymer compositions and method for preparing same. 3,086,957, 4-23-63, Cl. 260-45.5.
- Carter, Robert C., to Collins Radio Co. Variable threshold sensing circuit. 3,106,646, 10-8-63, Cl. 307-88.5.
- Carter, Robert C., and R. A. Herndon, to Collins Radio Co. Delay generator. 3,079,601, 2-26-63, Cl. 343-103.
- Carter, Rollie. Variable spacing control. 3,077,668, 2-19-63, Cl. 33-81.
- Carter, Sidney T., to Geo. J. Meyer Mfg. Co. Apparatus for applying wrap-around body labels to articles. 3,108,033, 10-22-63, Cl. 156-492.
- Carter, Sidney T., to Geo. J. Meyer Mfg. Co. Article combining conveyor apparatus. 3,109,529, 11-5-63, Cl. 198-30.
- Carter, Sidney T. Mirror system for golf analysis. 3,110,495, 11-12-63, Cl. 273-35.
- Carter, Sidney T., to Geo. J. Meyer Mfg. Co. Article-straightening apparatus for use with labeling machine. 3,115,232, 12-24-63, Cl. 198-33.
- Carter, Thomas F. Communication systems. 3,100,818, 8-13-63, Cl. 179-1.



- Carter, Thomas J., to Baker Oil Tools, Inc. Subsurface well apparatus with packing structures. 3,109,493, 11-5-63, Cl. 166-204.
- Carter, Thomas N., to Champion Paper Inc. Coating apparatus. 3,078,822, 2-26-63, Cl. 118-33.
- Carter, Wilbert V., to General Dynamics Corp. Blowing leading edge flap. 3,114,519, 12-17-63, Cl. 244-12.
- Carter, William A., to I-T-E Circuit Breaker Co. Uninterrupted arc chute venting path for jump gap and runner. 3,081,389, 3-12-63, Cl. 200-144.
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- Carter, William W. and C. F. Vending machine. 3,100,061, 8-6-63, Cl. 221-131.
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- Cartoprint A/S: *See*—
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- Cartwright, Cecil L., and F. B. Heitmeyer. Weather indicator device. 3,105,383, 10-1-63, Cl. 73-189.
- Cartwright, Horace A. Road maintenance device. 3,100,425, 8-13-63, Cl. 94-44.
- Cartwright, John C., and D. K. Hicks, to Associated Electrical Industries (Woodrich), Ltd. Potential testing circuits. 3,078,346, 2-19-63, Cl. 179-18.
- Cartwright, Theodore R., and L. A. Werner. Self-motivating automatic siphoning and equalizing tank system. 3,083,720, 4-2-63, Cl. 137-38.
- Cartwright, Victor F., to Traid Corp. Range measuring system. 3,095,564, 6-25-63, Cl. 343-13.
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- White, Robert H., and Carullo. 3,090,109.
- Carusi, Alexander, to Olympic Screw & Rivet Corp. Method of making tubular rivets. 3,114,921, 12-24-63, Cl. 10-27.
- Caruso, Frank E., to United States of America, Army. Cascaded differential amplifiers with biased diode switches for providing single output dependent upon input amplitude. 3,114,057, 12-10-63, Cl. 307-88.5.
- Caruso, John S. Disinfecting apparatus for shoes and the like. 3,078,526, 2-26-63, Cl. 21-102.
- Caruth, Juanita W.: *See*—
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- Caruthers, Robert S., to International Telephone and Telegraph Corp. Single side-band multichannel carrier system. 3,082,296, 3-19-63, Cl. 179-15.
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- Carvil Enterprises, Inc.: *See*—
- Bollum, Carl W., Sr. 3,078,938.
- Bollum, Carl W., Sr. 3,078,939.
- Bollum, Carl W., Sr. 3,106,260.
- Crowley, Walter A. 3,090,327.
- Crowley, Walter A. 3,090,455.
- Cary, Henry H., to Applied Physics Corp. Double folded-Z-configuration monochromator. 3,098,408, 7-23-63, Cl. 88-14.
- Cary, James E., and W. D. Walker, to Sweden Freezer Mfg. Co. Dual lever control mechanism. 3,112,656, 12-3-63, Cl. 74-471.
- Casabi Co.: *See*—
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- Casaleggi, Charles J., to Purolator Products, Inc. Liquid filter. 3,111,488, 11-19-63, Cl. 210-232.
- Casanave, Jean C., to Aldersville Corp. Rope and connector assembly. 3,094,755, 6-25-63, Cl. 24-129.
- Casas-Robert, Ramon, and R. Gianinazzi, to Mefina S.A. Zig-zag sewing machines. 3,108,556, 10-29-63, Cl. 112-158.
- Casas-Robert, Ramon, and R. Gianinazzi, to Mefina S.A. Device for changing the ratio and the direction of transmission between a driving shaft and a shaft driven in sewing machines. 3,115,043, 12-24-63, Cl. 74-124.
- Casassa, William H. L., Jr., and R. D. Sibley, to General Controls Co. Electrohydraulic actuator. 3,084,513, 4-9-63, Cl. 60-52.
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- Casavina, Paul R., and Kitson. 3,081,488.
- Casavina, Paul R., and J. R. Kitson, to Casavan Industries, Inc. Apparatus for making preformed building elements. 3,075,240, 1-29-63, Cl. 18-5.
- Casavina, Paul R., and J. R. Kitson, to Casavan Industries, Inc. Mold form for fabricating modules. 3,081,488, 3-19-63, Cl. 18-5.
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- Casco Products Corp.: *See*—
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- Krause, David E. 3,114,995.
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- Case, John M., to Minnesota Mining and Mfg. Co. Positively-acting diazo planographic printing plate. 3,085,008, 4-9-63, Cl. 96-75.
- Case, John R., G. Pass, and H. L. Roberts, to Imperial Chemical Industries Ltd. Telomeric organo-fluorine compounds. 3,111,537, 11-19-63, Cl. 260-456.
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- Case, Laura E., to Union Carbide Corp. Arc promoted chemical reactions. 3,114,691, 12-17-63, Cl. 204-171.
- Case, Leslie C., to Research Corp. Perfluoroalkyloxetanes. 3,096,344, 7-2-63, Cl. 260-333.
- Case, Morris A. Collapsible boat and motor mover. 3,093,386, 6-11-63, Cl. 280-42.
- Case, Noel L., and W. E. Rexford, to Louis Marx & Co. Subminiature electric motor. 3,095,515, 6-25-63, Cl. 310-43.
- Case, Noel L., and W. E. Rexford, to Louis Marx & Co., Inc. Subminiature electric motor. 3,100,270, 8-6-63, Cl. 310-154.
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- Casebolt, Ralph T. Reverse latching assembly for sliding door. 3,095,227, 6-25-63, Cl. 292-244.
- Casebolt, Ralph T. Reversible latching assembly for sliding door. 3,097,873, 7-16-63, Cl. 292-244.
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- Casella, Francesco. Hoist. 3,089,599, 5-14-63, Cl. 214-1.
- Casely, Robert E.: *See*—
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- Casement, James S., to Minnesota Mining and Mfg. Co. Curing of epoxy resins. 3,090,793, 5-21-63, Cl. 260-399.
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- Casey, Edward J., and R. H. Miller, to General Electric Co. Automatic circuit recloser with cold load pickup means. 3,109,961, 11-5-63, Cl. 317-22.
- Casey, Edward T., to The British Oxygen Co. Ltd. Torch body assembly for oxygen lancing equipment. 3,094,081, 6-18-63, Cl. 110-22.
- Casey, James H.: *See*—
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- Casey, John L.: *See*—
- Engle, Allen W., Casey, and Brokaw. 3,112,466.
- Casey, Robert T., to General Electric Co. Circuit breaker. 3,080,462, 3-5-63, Cl. 200-109.
- Casey, Thomas M.: *See*—
- Nelson, Gordon A., Sanders, and Casey. 3,080,826.
- Casey, Walter P., Jr., to Pier, Inc. Tank dumping apparatus. 3,076,467, 2-5-63, Cl. 134-48.
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- Cash, James, Machine Co.: *See*—
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- Cash, James A., Sr., to James Cash Machine Co. Mattress sewing table. 3,083,654, 4-2-63, Cl. 112-3.
- Cashman, Edward P., T. A. White, and H. M. Farnham, Jr., to Esso Research and Engineering Co. Composition for superior molding wax. 3,081,187, 3-12-63, Cl. 106-270.
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- Cass, Jules S. Apparatus for maintaining separated the urine and feces specimens of caged laboratory animals. 3,107,650, 10-22-63, Cl. 119-17.
- Cass, Louis G., and R. F. Schaber, to Chrysler Corp. Pedal operated switch. 3,115,559, 12-24-63, Cl. 200-61.89.
- Cass, Richard W., to Harvey Aluminum (Inc). Thermally balanced piston. 3,091,502, 5-28-63, Cl. 309-9.
- Cassady, Cecil C. Sliding vane rotary piston engine and compression seals therefor. 3,098,471, 7-23-63, Cl. 123-16.
- Cassalette, Fernand: *See*—  
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Delevo, Victor, and Cassalette. 3,086,098.
- Cassar, Richard D., and J. D. Tice, to Sun Oil Co. Purification of ethylene-propylene copolymers. 3,071,566, 1-1-63, Cl. 260-88.2.
- Cassara, Nicholas. Article grasping and handling tool. 3,108,834, 10-29-63, Cl. 294-19.
- Cassatt, Wayne A., Jr., and R. G. Bradley, to Phillips Petroleum Co. Preparation of hexahaloethanes. 3,078,220, 2-19-63, Cl. 204-163.
- Cassel, Harrison H., to The Allen Iron & Steel Co. Storage racks. 3,072,262, 1-8-63, Cl. 211-147.
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- Cassell, Robert D., to Flowmatic Controls Inc. Hydraulic lift control system and valve therefor. 3,072,107, 1-8-63, Cl. 121-46.4.
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- Cassella Farbwerke Mainkur Aktiengesellschaft: *See*—  
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- Casselman, Robert C.: *See*—  
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- Cassidy, Stephen J. Apparatus to harvest sea products. 3,087,293, 4-30-63, Cl. 56-8.
- Cassidy, William B., to Ling-Temco-Vought, Inc. Safety apparatus for oxygen system. 3,092,104, 6-4-63, Cl. 128-142.
- Cassiers, Paul M., J. M. Nys, J. F. Willems, and R. M. Hart, to Gevaert Photo-Producten N.V. Electrophotographic process. 3,113,022, 12-3-63, Cl. 96-1.
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- Casson, Nicholas V. Depth stop for saw blades. 3,101,106, 8-20-63, Cl. 145-35.
- Castanedo, Luis L. Lifting and lowering system for Venetian blinds. 3,093,186, 6-11-63, Cl. 160-167.
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- Castelli, Charles, to Johnson & Johnson. Tape dispenser with snap-out cutter slide. 3,071,034, 1-1-63, Cl. 83-578.
- Castelli, Charles, to Johnson & Johnson. Tape dispenser. 3,079,827, 3-5-63, Cl. 83-614.
- Castelli, Charles, to Johnson & Johnson. Container. 3,090,271, 5-21-63, Cl. 83-614.
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- Castellini, Nello R. Method and apparatus for the reduction of interference. 3,092,776, 6-4-63, Cl. 325-474.
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- Castellini, Renzo: *See*—  
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- Castiglia, John E. Re-surfacing tool. 3,076,364, 2-5-63, Cl. 82-4.
- Castle, A. M. & Co.: *See*—  
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- Castle, Alfred B. Instrument clamps. 3,097,820, 7-16-63, Cl. 248-27.
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- Castle, William S., and J. B. Minnich to General Motors Corp. Fabricated wheel and blade attachments. 3,081,021, 3-12-63, Cl. 230-134.
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- Casto, Alvin G., and E. H. Duncan. Plumber's snake meter. 3,078,486, 2-26-63, Cl. 15-104.3.
- Castro, Charles E., and J. K. Kochi, to Shell Oil Co. Oxidation of aldehydes. 3,075,000, 1-22-63, Cl. 260-486.
- Castro, Clarence J.: *See*—  
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- Castro W., Andres.  $\frac{1}{2}$  to J. Castro. Telephone attachment. 3,084,473, 4-9-63, Cl. 45-5.
- Casty, Richard: *See*—  
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- Casty, Richard, to Ciba Corp. Process for finishing dyeings. 3,086,832, 4-23-63, Cl. 8-54.
- Casty, Richard, to Ciba Co., Inc. Process for dyeing nitrogenous fibers. 3,097,040, 7-9-63, Cl. 8-54.
- Casty, Richard, H. Abel, A. Maeder, and A. Berger, to Ciba Corp. Process for dyeing wool. 3,104,931, 9-24-63, Cl. 8-54.
- Caswell, Arthur S., to I-T-E Circuit Breaker Co. Recloser mechanism. 3,105,129, 9-24-63, Cl. 220-92.
- Caswell, Hollis L., to International Business Machines Corp. Vacuum evaporation method. 3,085,913, 4-16-63, Cl. 117-212.
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- Catalano, Dr. D.: *See*—  
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- Cataldi, Louis V. Method of manufacturing a cuff link. 3,109,229, 11-5-63, Cl. 29-160.6.
- Cataldo, John B., to I-T-E Circuit Breaker Co. Clamped busway structure. 3,088,994, 5-7-63, Cl. 174-99.
- Cataldo, John B., to I-T-E Circuit Breaker Co. Joint means for bus duct. 3,095,469, 6-25-63, Cl. 174-88.
- Cataldo, John B., and N. Shackman, to I-T-E Circuit Breaker Co. Through-bolt joint for bus duct. 3,104,276, 9-17-63, Cl. 174-88.
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- Catallo, Leo, and A. T. Kohlstrunk, to Wheel Trueing Tool Co. Rotary wheel dresser. 3,079,905, 3-5-63, Cl. 125-11.
- Catania, Salvatore J. Hair clip. 3,073,318, 1-15-63, Cl. 132-41.
- Catania, Salvatore J. End papers for hair-waving and dispenser therefor. 3,094,323, 6-18-63, Cl. 271-33.
- Catania, Salvatore J. Hair curler. 3,101,726, 8-27-63, Cl. 132-42.
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- Cater, Harold T., and L. O. Waibel. Device for removing and installing tubular lamps. 3,101,212, 8-20-63, Cl. 294-20.
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- Catha, Ralph H. Oil vapor condenser. 3,087,474, 4-30-63, Cl. 123-41.86.
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- Catlett, John C., to Roto-Swing Door Co., Inc. Automatic door operator. 3,087,720, 4-30-63, Cl. 268-65.
- Catlin, Eric R., and M. D. Mehta, to Beecham Research Laboratories Ltd. Process for the production of synthetic penicillins. 3,080,356, 3-5-63, Cl. 260-239.1.
- Catling, Harold: *See*—  
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- Cato, Carl P.: *See*—  
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- Caton, Walter N. Corrosion resistant valve. 3,095,902, 7-2-63, Cl. 137-354.
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- Caubet, Jacques J. Anti-friction material. 3,079,338, 2-26-63, Cl. 252-12.
- Cauchois, Antonin L., M. M. Estavoyer, and J. M. Lamazou, 25% to Commissariat a l'Energie Atomique and 75% to Societe Nationale des Petroles d'Aquitaine. Devices for manipulating radio-active articles from a distance. 3,085,825, 4-16-63, Cl. 294-86.
- Cauffman, Eugene W., to Parker Feeders, Inc. Adjustable livestock feeder. 3,107,005, 10-15-63, Cl. 198-213.
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- Cavallito, Chester J., to Neisler Laboratories, Inc. Uniform release process. 3,100,738, 8-13-63, Cl. 167-82.
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- Cavanagh, Daniel A. Magnetic concentration apparatus. 3,111,484, 11-19-63, Cl. 209-227.
- Cavanagh, John C.,  $\frac{1}{2}$  to E. G. Inman. Process for the production of protein enriched material from protein-containing materials having a relatively high water content. 3,076,708, 2-5-63, Cl. 99-7.
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- Chaffee, Lester F., Jr., to Sundstrand Corp. Multiple start screw machine. 3,090,283, 5-21-63, Cl. 90-11.62.
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- Chaffee, Sydney H., to United-Greenfield Corp. Gage handle. 3,096,589, 7-9-63, Cl. 33-178.
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- Klemme, William W. 3,091,325.
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- Morris, John M. 3,095,747.
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- Musschoot, Albert. 3,083,811.
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- Chalfin, Norman L. Automatic slide projector program control. 3,110,216, 11-12-63, Cl. 88-28.
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- Chalfin, William L., and D. Friedwald, to Chalsea Products Co., Inc. Hair curler. 3,099,990, 8-6-63, Cl. 132-39.
- Chalfin, William L., and R. Boser, to Regina Enterprises, Inc. Covered wire. 3,114,374, 12-17-63, Cl. 128-465.
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- Chalkley, Brian: *See*—  
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- Chamberlain, Clair J. Line holder for ring buoy. 3,099,845, 8-6-63, Cl. 9-313.
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- Chamberlin, Wellman, to National Geographic Society. Globe support and measuring device. 3,100,353, 8-13-63, Cl. 35-46.
- Chambers, Arthur E. Method and apparatus for assembling and fastening laminations. 3,109,550, 11-5-63, Cl. 218-29.
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- Chambers, Hubert H., and A. D. S. Tantram, to National Research Development Corp. Fuel cells. 3,099,587, 7-30-63, Cl. 136-86.
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- Chambers, John. Swimming pool heater. 3,090,376, 5-21-63, Cl. 126-350.
- Chambers, John M., and H. D. Robinson, Jr., to Stone & Webster Engineering Corp. Purification of naphthalene by distillation. 3,075,890, 1-29-63, Cl. 202-39.5.
- Chambers, Lyl C. Wheeled conveyor. 3,092,200, 6-4-63, Cl. 180-9.22.
- Chambers, Marshall R. Means for boosting run-down vehicle batteries. 3,105,910, 10-1-63, Cl. 307-49.
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- Chambers, Walter H. Portable tester for rockwell or other penetration hardness methods. 3,102,417, 9-3-63, Cl. 73-81.
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- Chambon, Louis J., to Societe d'Etudes de Machines Speciales. Automatic rewinding devices for webs of paper and the like. 3,091,412, 5-28-63, Cl. 242-56.
- Chamouard, André, to Massey-Ferguson, S.A. Manufacture of knife blades. 3,089,352, 5-14-63, Cl. 76-101.
- Champ, Marcel. Fuel feed device for explosion engines. 3,072,113, 1-8-63, Cl. 123-133.
- Champagnat, Alfred, to The British Petroleum Co. Ltd. Fuel oil composition. 3,085,868, 4-16-63, Cl. 44-79.
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- Champney, Ralph P., deceased; by C. C. Matheny, executor. Tilting transom drive mechanism. 3,088,430, 5-7-63, Cl. 115-41.
- Champoux, Louis, and G. Siebol, to Boeing Airplane Co. Lock bolt sealing collar and method of installing the same. 3,094,017, 6-18-63, Cl. 78-46.
- Chan, Andre D. H., and R.-E. Lambert, to Compagnie de Saint-Gobain. Tempered glass sheet or plate. 3,081,209, 3-12-63, Cl. 154-57.
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- Chancellor, Charles W., Jr. Chair with double pivot spring assembly. 3,093,413, 6-11-63, Cl. 297-284.
- Chandler, Charles H., to United States of America, Air Force. Interference removal device with reverte and progressive gating means for setting desired signal pattern. 3,072,855, 1-8-63, Cl. 328-165.
- Chandler, Edward F. Reaction automotor. 3,087,451, 4-30-63, Cl. 114-20.
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- Chandler, John, Jr., L. C. Holly, and J. L. Vilbig, Jr., to Texas Instruments Inc. Ferrite phase shifter having casing-supported thin-foil waveguide, with magnetising pole pieces penetrating the casing. 3,101,458, 8-20-63, Cl. 333-24.2.
- Chandler, Milton E., and A. M. Wright, to Chandler-Evans Corp. Fuel control system. 3,108,435, 10-29-63, Cl. 60-39.16.
- Chandler, Norman H., to Thor Mills Ltd. Process and apparatus for dyeing sliver. 3,093,867, 6-18-63, Cl. 19-66.
- Chandler & Price Co., The: See—
- Rupp, William C. 3,111,876.
- Chandler, Robert M., to E. I. du Pont de Nemours and Co. Process of making a knitted fabric. 3,115,693, 12-31-63, Cl. 28-72.
- Chandler, Robert W.: See—
- Guy, Kenneth T., and Chandler. 3,092,132.
- Chaney, Clifford R., to Harper Hosiers Mills, Inc. Method for producing run-resistant seamless hosiery and hosiery produced thereby. 3,071,950, 1-8-63, Cl. 66-178.
- Chaney, Davis R., and R. A. Anderson. Mobile hopper and screw conveyor pickup, loading and unloading means therefor. 3,089,601, 5-14-63, Cl. 214-522.
- Chaney, Earl J. Method of producing plants containing substantially no assimilated nickel ions. 3,107,163, 10-15-63, Cl. 71-1.
- Chaney, Preston E.: See—
- Bennett, John D., and Chaney. 3,085,636.
- Chaney, Preston E., to Sun Oil Co. Closure means for withstanding high pressures. 3,074,589, 1-22-63, Cl. 220-46.
- Chaney, Preston E., F. M. Mayes, and J. D. Bennett, to Sun Oil Co. Bore hole logging methods and apparatus. 3,086,167, 4-16-63, Cl. 324-1.



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- Chang, Charles H., to General Aniline & Film Corp. Method for preparing bis(2-alkoxyethyl)sulfones. 3,095,457, 6-25-63, Cl. 260-607.
- Chang, Hung-Chi, to Westinghouse Electric Corp. Surface treatment of silicon carbide. 3,078,219, 2-19-63, Cl. 204-143.
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- Chang, Melvin C., and D. Goldstein, to Crucible Steel Co. of America. Temperature control apparatus. 3,095,463, 6-25-63, Cl. 261-130.
- Chang, Robert W. H., to General Mills, Inc. Nickel complex of glutamine dihydrate and method for purification of glutamine. 3,084,189, 4-2-63, Cl. 260-534.
- Chang, Sing-Wu. Anti-skid textile shoe sole structures. 3,110,971, 11-19-63, Cl. 36-59.
- Chang, Stephen S., to A. E. Staley Mfg. Co. Oxyalkylated lecithin. 3,085,100, 4-9-63, Cl. 260-403.
- Chang, Stephen S., and L. H. Wiedermann, to Swift & Co. Continuous manufacture of monoglycerides. 3,079,412, 2-26-63, Cl. 260-410.7.
- Chang, Winston H., and J. W. Clark, to General Electric Co. Columbium base alloy. 3,113,863, 12-10-63, Cl. 75-174.
- Change-ares Ltd.: See—
- Dowdall, Lawrence W. 3,115,254.
- Chanin, Milton: See—
- Cvjetkovic, Antun M., and Chanin. 3,105,414.
- Chann, David: See—
- Hawn, Walter M., Chann, Besal, and Vesely. 3,098,114.
- Channel Master Corp.: See—
- Anderson, Warner H. Re. 25,437.
- Greenberg, Harry. 3,086,206.
- Chantooni, Arsen M. Means for processing fluids. 3,108,066, 10-22-63, Cl. 210-321.
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- Chapdelaine, Eugene G.: See—
- Bellinger, Kenneth P., and Chapdelaine. 3,072,516.
- Chapehart Corp.: See—
- Bennett, Herbert S. 3,081,439.
- Chapell, Harry F., to Raytheon Co. Delay lines for traveling wave tubes. 3,084,275, 4-2-63, Cl. 315-3.6.
- Chapin, Daryl M., to Bell Telephone Laboratories, Inc. Telemetering system. 3,072,894, 1-8-63, Cl. 340-200.
- Chapin, Daryl M., and N. D. Newby, to Bell Telephone Laboratories, Inc. Remote meter reading system. 3,083,357, 3-26-63, Cl. 340-204.
- Chapin, Earl C.: See—
- Abramo, John G., and Chapin. 3,073,862.
- Abramo, John G., and Chapin. 3,074,995.
- Abramo, John G., and Chapin. 3,093,622.
- Abramo, John G., and Chapin. 3,093,676.
- Garner, Albert Y., Chapin, and Abramo. 3,075,011.
- Chapin, Earl C., B. A. Wilson, and W. F. Yates, to Monsanto Chemical Co. Interpolymers of allyl alcohol, vinyl chloride and acrylic esters, process of preparing same and coating composition therefrom. 3,084,136, 4-2-63, Cl. 260-45.2.
- Chapin, Henry J.: See—
- Avery, Howard S., and Chapin. 3,075,838.
- Chapin, Richard D. Potted plant watering device. 3,085,364, 4-16-63, Cl. 47-1.
- Chapin, Robert S., to E. I. du Pont de Nemours and Co. Method for making a high flannel cover fabric of synthetic organic fibers. 3,114,191, 12-17-63, Cl. 28-76.
- Chapiro, Adolphe: See—
- Magat, Michel, Chapiro, and Sebban. 3,115,418.
- Chapleau, Richard J. Device for crushing containers. 3,106,888, 10-15-63, Cl. 100-232.
- Chapleur, Andre, and B. Schoeps, to Forges de Strasbourg. Method of welding galvanized steel. 3,102,190, 8-27-63, Cl. 219-117.
- Chaplin, Albin, and V. C. Reddy, to General Motors Corp. Gear pump for internal combustion engine and the like. 3,096,849, 7-9-63, Cl. 184-6.
- Chaplin, George F., to Continental Can Co., Inc. Closure cap for glass containers. 3,110,409, 11-12-63, Cl. 215-40.
- Chaplin, Roland H., to Hawker Aircraft Ltd. Aircraft. 3,098,628, 7-2-63, Cl. 244-83.
- Chapman, Albert L., to United States of America, Health, Education and Welfare. Medicine cabinet latch. 3,087,765, 4-30-63, Cl. 312-209.
- Chapman, Charles H., to Hercules Powder Co. Aqueous emulsions of waxes and resins. 3,096,232, 7-2-63, Cl. 162-172.
- Chapman, Charles S., and R. W. Craig, to General Motors Corp. Drive axle transmission. 3,075,408, 1-29-63, Cl. 74-677.
- Chapman, Charles S., Jr., to General Motors Corp. Vehicle drive and starting transmissions. 3,077,113, 2-12-63, Cl. 74-7.
- Chapman, Charles S., Jr., and R. W. Craig, to General Motors Corp. Brake systems. 3,110,363, 11-12-63, Cl. 188-69.
- Chapman, Christopher L. C., to Yardney International Corp. Electric batteries. 3,100,165, 8-6-63, Cl. 136-177.
- Chapman, David Z., to Aerpat A.G. Clevis pin with spring urged detents and means to limit spring movement. 3,097,559, 7-16-63, Cl. 85-5.
- Chapman, Donald D., and J. P. Swed, to E. I. du Pont de Nemours and Co. Process for separating individual metallic layers of a hollow multilayered object. 3,089,230, 5-14-63, Cl. 29-403.
- Chapman, Douglas W.: See—
- Madsen, Mathew D., and Chapman. 3,082,202.
- Wiegert, Philip E., Rands, and Chapman. 3,073,814.
- Chapman, Frank R. Gutter mounting. 3,115,324, 12-24-63, Cl. 248-48.2.
- Chapman, Harold E. Containers or packages. 3,092,249, 6-4-63, Cl. 206-46.
- Chapman, Harold E. Containers for the aseptice storage of liquids. 3,112,045, 11-26-63, Cl. 220-44.
- Chapman, Harry V., to The Emco Corp. Lever lock. 3,075,401, 1-29-63, Cl. 74-531.
- Chapman, Harvey W.: See—
- Dunlap, Henry L., and Chapman. 3,073,260.
- Chapman, Harvey W., and H. L. Dunlap, to Evans Products Co. Freight bracing apparatus. 3,074,359, 1-22-63, Cl. 105-369.
- Chapman, Howard D., to Clarin Mfg. Co. Chair. 3,084,977, 4-9-63, Cl. 297-239.
- Chapman, James R., and M. F. Nagle, to Reynolds Metals Co. Package marking system. 3,086,650, 4-23-63, Cl. 206-65.
- Chapman, James R., and M. T. Farquhar, to Reynolds Metals Co. Plural container package and method of making the same. 3,111,221, 11-19-63, Cl. 206-65.
- Chapman, John B., to Jersey Production Research Co. Single tubing string dual installation. 3,083,771, 4-2-63, Cl. 166-146.
- Chapman, John F., J. H. Cundall, and J. A. Partridge, to Imperial Chemical Industries Ltd. Manufacture of polymeric materials. 3,094,434, 6-18-63, Cl. 117-106.
- Chapman, Julian. Barbell weight mold assembly. 3,108,329, 10-29-63, Cl. 18-36.
- Chapman, Robert Y. Acoustic resonant cabinet. 3,072,212, 1-8-63, Cl. 181-31.
- Chapman, Ronald W.: See—
- Dillie, Roger M., Chapman, Ahlborn, and Eastman. 3,095,453.
- Chapman, Ronald W., and R. M. Dille, to Texaco Inc. Method of preparing acetaldehyde from acetylene. 3,116,333, 12-31-63, Cl. 260-605.
- Chapman, William I., to Chrysler Corp. Adjustable nozzle ring support. 3,074,689, 1-22-63, Cl. 253-78.
- Chapman, William P., to Johnson Service Co. Casing for condition-sensing element. 3,115,039, 12-24-63, Cl. 73-363.5.
- Chappell, Thomas T.: See—
- Von Wranau, Guido, and Phillips. 3,095,311.
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- McLean, Robert E., Chappell, and Briar. 3,078,568.
- Chapron, Georges. Supporting framework for a mine gallery or shaft. 3,097,494, 7-16-63, Cl. 61-45.
- Charbonneau, Allan P., to Cutler-Hammer, Inc. Helix forming means. 3,090,419, 5-21-63, Cl. 153-64.
- Charbonneau, Allan P., and R. A. Mukai, to Cutler-Hammer, Inc. Limit switch. 3,100,824, 8-13-63, Cl. 200-47.
- Charbonneau, Robert R.: See—
- Fram, Paul, and Charbonneau. 3,079,367.
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- Charbonnier, Francis M.: See—
- Dyke, Walter P., Henderson, and Charbonnier. 3,091,719.
- Charbonnier, Roger, to Rochar Electronique. Pulse counting and display device. 3,080,501, 3-5-63, Cl. 315-84.5.
- Charcoal Industries, Inc.: See—
- Thomsen, Svend. 3,110,652.
- Chard, Clifford R. Anchor. 3,082,729, 3-26-63, Cl. 114-208.
- Charge-A-Vision International Ltd.: See—
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- Charland, Telephore L., and R. H. Moss, to Westinghouse Electric Corp. Process for the preparation of thermoelectric elements. 3,086,068, 4-16-63, Cl. 136-5.
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- Charles, George E.: See—
- Eldib, Ibrahim A., Charles, and Baeder. 3,088,907.
- Charles, Harold H., to Reynolds Metals Co. Double-locking strip shingle. 3,108,405, 10-29-63, Cl. 50-230.
- Charles, Maynard G., to Aeroquip Corp. Valved coupling. 3,106,222, 10-8-63, Cl. 137-614.
- Charles, Randolph E. Precision potentiometer. 3,076,161, 1-29-63, Cl. 338-157.
- Charles of The Ritz, Inc.: See—
- Dearling, Harry S. 3,103,224.
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- Borne, Jean P. G., and Charles-Georges. 3,074,635.
- Charlesworth, Donald H., to Atomic Energy of Canada Ltd. Means for detecting insulation failure in reactor pressure tubes. 3,085,961, 4-16-63, Cl. 204-193.2.
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- Saltman, Paul D., and Charley. 3,074,927.



- Charlton, George H., and E. L. Allen, to Power Jets (Research and Development) Ltd. Jet deflecting flap for a jet flap aircraft. 3,076,622, 2-5-63, Cl. 244-42.
- Charlton, Roy E., to Northrop Corp. Adjustable support pin. 3,072,423, 1-8-63, Cl. 287-20.
- Charman, Walter M., Jr., and B. F. Anthony, to Oglebay Norton Co. Hot top ring, wiper, clip unit combination. 3,106,001, 10-8-63, Cl. 22-147.
- Charnetsky, Harry, Jr.: *See*—  
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- Charnetsky, Harry, Jr., and W. R. Maclay, to International Business Machines Corp. Apparatus for manifesting intelligence on record media. 3,072,752, 1-8-63, Cl. 179-100.2.
- Charnota, Steven, and A. F. Wolf. Liquid metering valve unit. 3,097,762, 7-16-63, Cl. 222-20.
- Charon, Clarence W., and L. C. Renaud, to Owens-Corning Fiberglas Corp. Amylaceous forming size compositions. 3,108,891, 10-29-63, Cl. 106-213.
- Charos, Peter. Thermoelectric cooler arrangement for roller mixer freezers. 3,096,624, 7-9-63, Cl. 62-3.
- Charpentier, Maurice: *See*—  
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- Charpentier, Maurice, and M. Mabru, to Compagnie de Saint-Gobain. Apparatus for manufacturing fibers. 3,078,691, 2-26-63, Cl. 65-12.
- Charrin, Denis, to Societe de Prospection Electrique Procèdes Schlumberger. Perforating shaped charges. 3,079,861, 3-5-63, Cl. 102-24.
- Charron, Antonio P., and W. D. McKeon, to United Shoe Machinery Corp. Stitch separating machines. 3,075,211, 1-29-63, Cl. 12-32.1.
- Charschan, Sidney S., to Western Electric Co., Inc. Means for securing conductive leads to semiconductive devices. 3,103,137, 9-10-63, Cl. 78-82.
- Charske, Charles J.: *See*—  
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- Chart-Pak Inc.: *See*—  
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- Charvat, Fedra R., to Union Carbide Corp. Recovering magnesium-aluminum spinel from ferro-chromium slag. 3,106,447, 10-8-63, Cl. 23-52.
- Charvat, Fedra R., to Union Carbide Corp. Fused refractory grain. 3,116,156, 12-31-63, Cl. 106-59.
- Charvat, Fedra R., and A. D. Fentzke, to Union Carbide Corp. Glass fiber composition. 3,081,179, 3-12-63, Cl. 106-50.
- Charvat, Vernon K., to The Osborn Mfg. Co. Brush and brush material. 3,090,061, 5-21-63, Cl. 15-159.
- Charvat, Vernon K., to The Osborn Mfg. Co. Self-regulating brushing tool. 3,114,925, 12-24-63, Cl. 15-179.
- Chase, Ascher, to General Foam Plastics Corp. Semicylindrical foam elastomer insulation shell. 3,095,337, 6-25-63, Cl. 154-45.
- Chase Bag Co.: *See*—  
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- Chase, Clyde H. Door closing device. 3,094,738, 6-25-63, Cl. 16-49.
- Chase, Corson W., W. J. Jasinowski, and A. V. Pedersen, to Miehe-Goss-Dexter, Inc. Web splicing apparatus. 3,098,618, 7-23-63, Cl. 242-58.3.
- Chase, David R., and H. A. Michaelis, to General Electric Co. Cooking appliance. 3,077,530, 2-12-63, Cl. 219-38.
- Chase, George, to Hoffmann-La Roche Inc. Process for the purification of 7-chloro-1-methyl-5-phenyl-1,4,3H-benzodiazepin-2(1H)-one. 3,102,116, 8-27-63, Cl. 260-239.3.
- Chase Industries, Inc.: *See*—  
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- Chase, John A., to Radio Corp. of America. Method of assembling a heater mount. 3,103,738, 9-17-63, Cl. 29-155.53.
- Chase, Joseph J., and N. J. Connarino, to Turbotronics Corp. Contour measuring and checking instrument. 3,078,583, 2-26-63, Cl. 33-174.
- Chase, Paul W., R. L. Howard, and J. W. Stoddard, to United States of America, Navy. Sun seeker. 3,078,372, 2-19-63, Cl. 250-203.
- Chase, Robert L., to United States of America, Atomic Energy Commission. Multiplier circuit. 3,088,671, 5-7-63, Cl. 235-194.
- Chase, Walter E., to Johnson & Johnson. Platy talc beneficiation. 3,102,856, 9-3-63, Cl. 209-166.
- Chasek, Norman E., to Bell Telephone Laboratories Inc. Frequency modulated balanced discriminator. Re. 25,436, 8-27-63, Cl. 329-141.
- Chasek, Norman E., to Bell Telephone Laboratories, Inc. Electron beam encoder. 3,110,840, 11-12-63, Cl. 315-8.5.
- Chasek, Norman E., to Bell Telephone Laboratories, Inc. Coherent carrier regenerator. 3,110,862, 11-12-63, Cl. 325-30.
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Kozacka, Frederick J. 3,113,195.
- Chasman, Sydney A. Apparatus for encapsulating. 3,092,942, 6-11-63, Cl. 53-182.
- Chasmar, Reginald P., and E. Cohen, to Associated Electrical Industries (Manchester) Ltd. Device for multiplying electrical quantities. 3,097,296, 7-9-63, Cl. 235-194.
- Chatfield, Henry B. Punch and die assembly. 3,108,502, 10-29-63, Cl. 78-9.
- Chatfield, Herbert W., to A. Boake Roberts & Co. Ltd. Process of converting free carboxylic acid groups in liquid ester coating compositions to half-ester groups with retention of the coating composition in the liquid state. 3,086,949, 4-23-63, Cl. 260-22.
- Chatham, George N., and O O Shurtleff, to Chatleff Controls, Inc. Fluid pressure operated valves. 3,096,790, 7-9-63, Cl. 137-628.
- Chatham, George N., and O O Shurtleff, to Chatleff Controls, Inc. Diverting valve. 3,099,290, 7-30-63, Cl. 137-607.
- Chatham Mfg. Co.: *See*—  
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Smith, Alexander M., II. 3,112,549.  
Smith, Alexander M., II. 3,112,552.
- Chatillon, John, & Sons: *See*—  
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- Chatillon, John F., to John Chatillon & Sons. Movement multiplying mechanism. 3,081,640, 3-19-63, Cl. 74-110.
- Chatillon, John F., to John Chatillon & Sons. Scale. 3,081,835, 3-19-63, Cl. 177-229.
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Chatham, George N., and Shurtleff. 3,099,290.
- Chatlos, Edward S., to The McIntire Co. Liquid-moisture indicator. 3,108,566, 10-29-63, Cl. 116-117.
- Chatt, Joseph, and R. G. Hayter, to Imperial Chemical Industries Ltd. Phosphorous-containing-ligand stabilized transition metal compounds. 3,084,179, 4-2-63, Cl. 260-429.
- Chatt, Joseph, F. A. Hart, and H. C. Fielding, to Imperial Chemical Industries Ltd. Bis(dialkylphosphino)acetylenes and 1:2-bis(dialkylphosphino)ethylenes. 3,086,054, 4-16-63, Cl. 260-606.5.
- Chatt, Joseph, and P. A. Small, to Imperial Chemical Industries Ltd. Polymerization catalysts and processes. 3,109,838, 11-5-63, Cl. 260-93.7.
- Chattanooga Royal Co.: *See*—  
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- Chatten, John B., to Philco Corp. Self-limiting photomultiplier amplifier circuit. 3,089,959, 5-14-63, Cl. 250-207.
- Chatten, John B., to Philco Corp. Control of chroma channel by low intensity brightness signals. 3,107,275, 10-15-63, Cl. 178-5.4.
- Chatten, Victor H., to Anheuser-Busch, Inc. Article carrier. 3,106,289, 10-8-63, Cl. 206-65.
- Chaudet, Julian H.: *See*—  
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- Chauncey, James R.: *See*—  
Bloom, Charles G., and Chauncey. 3,085,432.
- Chausson, Andre, to Societe Anonyme des Usines Chausson. Clack-valve plug, more particularly for cooling radiators of motor vehicles. 3,080,994, 3-12-63, Cl. 220-44.
- Chausson, Andre, to Societe Anonyme des Usines Chausson. Evaporation heat exchanger. 3,100,386, 8-13-63, Cl. 62-467.
- Chausson, André, to Societe Anonyme des Usines Chausson. Device for soldering various parts. 3,108,559, 10-29-63, Cl. 113-94.
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- Chaussey, Pern J., to E. I. du Pont de Nemours and Co. Yarn traversing apparatus. 3,089,657, 5-14-63, Cl. 242-43.
- Chauvelot, Albert. Drawing-table. 3,087,276, 4-30-63, Cl. 45-131.
- Chavannes Industrial Synthetics, Inc.: *See*—  
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- Chavrier, Roger, to Societe Francaise des Glycerines. Method for improving the viscosity of natural clays. 3,115,416, 12-24-63, Cl. 106-72.
- Chayen, Israel H., to C.C.D. Processes (N.Y.) Ltd. Method of extracting protein and lipid from raw vegetable materials. 3,090,779, 5-21-63, Cl. 260-112.
- Chayne, Charles A., to General Motors Corp. Brake pedal assembly. 3,097,542, 7-16-63, Cl. 74-560.
- Chayne, Charles A., and V. D. Polhemus, to General Motors Corp. Single leaf spring semi-swivel axle suspension. 3,108,650, 10-29-63, Cl. 180-73.
- Cheal, James: *See*—  
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- Cheatle, Hazel S. R.: *See*—  
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- Cheatum, Leo G., and C. W. Meinders, to Deere & Co. Tying mechanism. 3,082,798, 3-26-63, Cl. 140-115.
- Check, Mathias M., to The Yale and Towne Mfg. Co. Sliding door lock. 3,074,749, 1-22-63, Cl. 292-27.
- Check, Mathias M., to The Yale and Towne Mfg. Co. Combination push button lock. 3,099,150, 7-30-63, Cl. 70-313.



- Checker Motors Corp.: *See*—  
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- Checketts, Jack H., and G. D. La Tell, to International Business Machines Corp. Sheet orienting and aligning mechanism. 3,104,099, 9-17-63, Cl. 271-27.
- Cheidster, Conkling. Driver training apparatus. 3,071,874, 1-8-63, Cl. 35-11.
- Ched-O-Matic Corp.: *See*—  
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- McCadam, William W. 3,078,169.
- Cheek, Alan W., to North American Aviation, Inc. Wave-form generator. 3,115,546, 12-24-63, Cl. 178-7.2.
- Cheek, Willard D., and H. K. Wilcox, Jr., to General Motors Corp. Method of measuring a variable condition by use of short half-life radioactive source material. 3,106,641, 10-8-63, Cl. 250-83.3.
- Cheeley, William E., to Reynolds Metals Co. Rimmed-plate dispenser. 3,074,594, 1-22-63, Cl. 221-93.
- Cheeseboro, Robert G., to Febo, Inc. Rotary sprinkler. 3,090,563, 5-21-63, Cl. 239-206.
- Cheeseman, Ian C.: *See*—  
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- Cheeseman, Ian C., and C. E. Moss, to Power Jets (Research Development) Ltd. Aircraft. 3,096,041, 7-2-63, Cl. 244-7.
- Cheesman, William D. Barrel finishing. 3,071,456, 1-1-63, Cl. 51-316.
- Cheftel, Henri, and M. Beauvais. Sterilizing method for canned foodstuffs. 3,071,478, 1-1-63, Cl. 99-214.
- Cheifetz, Howard L.: *See*—  
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- Cheln, J., & Co.: *See*—  
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- Chelle, Louise G.: *See*—  
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- Chelle, Marie T. J.: *See*—  
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- Chelle, Paul L., deceased; L. G. Chelle, donee; and P. J. L. and M. T. J. Chelle, heirs. Packaging and packing machine. 3,091,065, 5-28-63, Cl. 53-171.
- Chelle, Pierre J. L.: *See*—  
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- Chellis, Fred F., P. E. Glaser, and R. J. Ayling, to The Strong Electric Corp. Arc image furnace. 3,103,574, 9-10-63, Cl. 219-34.
- Cheltenham Auto Controls Ltd.: *See*—  
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- Hallett, Henry A., and Young. 3,073,097.
- Chelwin Productions, Inc.: *See*—  
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- Winchell, Paul. 3,097,366.
- Winchell, Paul. 3,110,424.
- Winchell, Paul. 3,110,501.
- Chem Research Co.: *See*—  
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- Chemagro Corp.: *See*—  
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- Earhart, Robert W., Aichenegg, and Hensel. 3,095,350.
- Rattenbury, Kenneth H., Levy, and Zakaryan. 3,074,946.
- Trademan, Leo, and Yagelowich. 3,089,807.
- Chematur, Aktiebolaget: *See*—  
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- Chemerda, John M.: *See*—  
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- Cutler, Frank A., Jr., and Chemerda. 3,116,290.
- Tull, Roger J., and Chemerda. 3,092,642.
- Chemerda, John M., and A. E. Erickson, to Merck & Co., Inc. Production of 11 $\beta$ ,17 $\alpha$ -dihydroxy-1-methyl-17 $\beta$ -(1-oxo-2-hydroxyethyl)-4-estren-3-one and 11 $\beta$ ,17 $\alpha$ -dihydroxy-1-methyl-17 $\beta$ -(1-oxo-2-hydroxyethyl)-4,6-estradiene-3-one and esters thereof. 3,074,934, 1-22-63, Cl. 260-239.55.
- Chemerda, Joan M., M. Slettinger, and F. W. Bollinger, to Merck & Co., Inc.  $\alpha$ -hydrazino- $\beta$ -(5-hydroxy-3-indolyl) alkanolic acids. 3,075,993, 1-29-63, Cl. 260-319.
- Chemerda, John M., and R. F. Hirschmann, to Merck & Co., Inc. A-ring modified steroids and processes for preparing same. 3,079,383, 2-26-63, Cl. 260-239.55.
- Chemerda, John M., and R. F. Hirschmann, to Merck & Co., Inc. Novel 2-alkoxy steroids and processes for preparing the same. 3,083,198, 3-26-63, Cl. 260-239.55.
- Chemetals Corp.: *See*—  
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- Chemetron Corp.: *See*—  
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- Ansel, Richard M. 3,081,673.
- Arnold, Melvin R. 3,098,882.
- Arnold, Melvin R., McCarthy, and Dienes. 3,075,915.
- Barton, Daniel M., and Haggerty. 3,108,137.
- Bottoms, Robert R. 3,078,316.
- Dann, Otto. 3,099,660.
- De Wald, Lee H., and Lapota. 3,089,766.
- Eichelman, Francis J. 3,075,523.
- Eichelman, Francis J. 3,075,545.
- Eichelman, Francis J., and Smiley. 3,086,528.
- Evans, Bruce M., and Adams. 3,072,781.
- Evans, Bruce M., and Adams. 3,107,291.
- Gottschalk, Roy F. 3,087,808.
- Hanover, Kenneth A. 3,109,018.
- Harnik, Marcel. 3,076,824.
- Harnik, Marcel. 3,096,327.
- Harnik, Marcel. 3,096,352.
- Harnik, Marcel. 3,096,354.
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- Illsley, Ralph W. 3,076,487.
- Illsley, Ralph W., Schmidt, Highley, and Hutchins. 3,076,488.
- Israel, Philip. 3,077,360.
- Minard, Everett S. 3,097,672.
- Rodgers, Felix C. 3,097,499.
- Schmidt, Chester W., Highley, and Hutchins. 3,076,489.
- Slattery, Robert E. 3,090,170.
- Vance, Robert F., and Strotman. 3,104,228.
- Williams, David A. 3,093,973.
- Williams, David A. 3,097,498.
- Williams, David A., and Browning. 3,109,293.
- Williamson, Hilding V., and Wolfe. 3,109,296.
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- Chemical Construction Corp.: *See*—  
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- Koniewicz, Paul, and James. 3,087,798.
- Negra, John S., and McCloskey. 3,087,778.
- Newman, Daniel J. 3,102,788.
- Pike, Daniel E., and Stone. 3,085,793.
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- Chemical Processes of Ohio Inc.: *See*—  
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- Chemical Products Corp.: *See*—  
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- Chemical Research Laboratories of America, Inc.: *See*—  
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- Lipschutz, Sidney, and Barnett. 3,112,057.
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- Chemiewerk Homburg, Zweigniederlassung der Deutschen Gold- und Silber-Scheideanstalt, vorm. Roessler (Degussa): *See*—  
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- Chemineer, Inc.: *See*—  
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- Chemionics Engineering Laboratories, Inc.: *See*—  
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- Freiser, Herman S., Cook, and Tytell. 3,101,311.
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- Chemische Fabrik L. van der Grinten N.V.: *See*—  
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- Buskes, Willem M. 3,091,529.
- Swenker, Martin D. P., and Vercoulen. 3,096,089.
- Van der Grinten, Lodewijk P. F., and van Beek. 3,077,401.
- Chemische Fabrik Hoesch K.-G.: *See*—  
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- Chemische Fabrik Kalk G.m.b.H.: *See*—  
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- Chemische Fabrik Stockhausen & Cie: *See*—  
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- Resier, Mario, Eidebenz, and von Schuh. 3,073,828.
- Schlenker, Felix. 3,071,563.
- Von Reppert, Ruediger L. 3,110,572.
- Chemische Werke Huls Aktiengesellschaft: *See*—  
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- Wick, Georg, Niedenbruck, and Kopetz. 3,075,944.
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- Chemo-Vine Processes, Inc.: *See*—  
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- Chen, Chung C., to E. I. du Pont de Nemours and Co. Production of dihydroquinacridones. 3,072,660, 1-8-63, Cl. 260-279.
- Chen, Harold H., to Westinghouse Electric Corp. Polycyclidyl ether and electrical conductor insulated therewith. 3,072,737, 1-8-63, Cl. 174-110.
- Chen Ming C., and M. E. Cox, to Simoniz Co. Method of making polyurethane products and polyurethane products. 3,103,408, 9-10-63, Cl. 18-48.
- Chen, Peter R., and G. V. Planer, to Cosmocord Ltd. Transducers. 3,114,122, 12-10-63, Cl. 338-32.
- Chen, Tung C., and R. A. Tracy, to Burroughs Corp. Counter employing quantizing core to saturate counting core in discrete steps to effect countdown. 3,102,239, 8-27-63, Cl. 328-40.



- Chen, Tung C., and O. B. Stram, to Burroughs Corp. Magnetic signal distribution system. 3,112,474, 11-26-63, Cl. 340-174.1.
- Chenault, Louis W. Wire line cutter. 3,073,388, 1-15-63 Cl. 166-54.5.
- Cheney, Allan. Gravel stop and flashing for roofs. 3,086,324, 4-23-63, Cl. 50-66.
- Cheney Bigelow Wire Works, Inc.: See—  
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- Cheney, C. W., & Son Ltd.: See—  
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- Cheney, Donald E.: See—  
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- Cheney, Harry A., and C. A. Schleicher, Jr., to Shell Oil Co. Polymerization apparatus and method. 3,081,289, 3-12-63, Cl. 260-93.7.
- Cheney, James E., to General Electric Co. Diamond tool. 3,101,260, 8-20-63, Cl. 51-293.
- Cheney, Lee C.: See—  
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- Cheney, Lee C., W. C. Risser, and W. J. Gottstein, to Bristol-Myers Co. Mannich bases of tetracycline antibiotics. 3,104,240, 9-17-63, Cl. 260-247.2.
- Cheney, North, to Ideal Industries, Inc. Electrical connector. 3,097,257, 7-9-63, Cl. 174-87.
- Cheney, Walter J.: See—  
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- Cheng, Chao-Shing, and R. G. Spaunburgh, to Allied Chemical Corp. Rearrangement of oxime hydrochlorides. 3,080,357, 3-5-63, Cl. 260-239.3.
- Cheng, Francis M. Y., and M. J. Neibling, to The Pillsbury Co. Protein food composition and method. 3,111,408, 11-19-63, Cl. 99-14.
- Cheng, Theodore, W. D. MacNabb, and H. A. List, to Leeds and Northrup Co. Multiple motor control system. 3,109,130, 10-29-63, Cl. 518-72.
- Chenick, Albert G., and F. G. Alster, to Martin-Marietta Corp. Processes for curing epoxy resins. 3,080,341, 3-5-63, Cl. 260-47.
- Chenick, Joseph A.: See—  
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- Chenoweth, Albert J., to Case-Jamb, Inc. Corner reinforcing and adjusting means for frames. 3,099,051, 7-30-63, Cl. 20-92.
- Chenoweth, David V., to Baker Oil Tools, Inc. Locator for casing couplings and the like. 3,112,794, 12-3-63, Cl. 166-64.
- Cherbuliez, Emile, and J. Rabinowitz, to Ciba Corp. Improved process for phosphorylating amino-alcohols. 3,098,072, 7-16-63, Cl. 260-247.
- Cherchi, Robert A. Exhaust duct for turbo-jet engine. 3,084,505, 4-9-63, Cl. 60-35.6.
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- Cherel, Guy, and H. Forey, to Commissariat à l'Energie Atomique. Remote-controlled manipulating apparatus. 3,090,500, 5-21-63, Cl. 214-1.
- Chermerda, John M.: See—  
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- Chern, Diomed M.: See—  
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- Chernak, John A., and E. J. Giese, to Tomlinson Industries, Inc. Self-closing stop valve. 3,094,145, 6-18-63, Cl. 137-614.2.
- Chernansky, Joseph. Decorative support. 3,109,596, 11-5-63, Cl. 240-2.
- Cherniak, Earl L. Foot balancing device. 3,099,267, 7-30-63, Cl. 128-615.
- Chernivsky, Victor A. Baby chair. 3,110,519, 11-12-63, Cl. 297-285.
- Cherowbrier, Edward, and S. D'Amico. Ventilated coverall-type garment. 3,113,320, 12-10-63, Cl. 2-81.
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- Cherrin, Phillip,  $\frac{1}{2}$  to S. Cherrin,  $\frac{1}{2}$  to Abe Cherrin,  $\frac{1}{2}$  to L. Cherrin, and  $\frac{1}{2}$  to Archie Cherrin. Carton and liner assembly. 3,079,060, 2-26-63, Cl. 229-14.
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- Cherry-Burrell Corp.: See—  
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- Cherundolo, Michael, and J. B. Wandel, to Daystrom, Inc. Multiple spindle attachment. 3,100,407, 8-13-63, Cl. 77-22.
- Cherup, Nicholas. Impact absorbers. 3,089,144, 5-14-63, Cl. 2-3.
- Chesebrough-Pond's Inc.: See—  
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- Cheshire, Inc.: See—  
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- Cheshire, John L. Die stamping and printing methods and apparatus. 3,084,624, 4-9-63, Cl. 101-353.
- Cheskin, David B. Pretensioned multiple span beam system. 3,070,845, 1-1-63, Cl. 189-37.
- Chesler, Howard I. Accelerator pedal signal system. 3,103,561, 9-10-63, Cl. 200-61.89.
- Chesley, Frank G., to Central Research Laboratories, Inc. Manipulator. 3,095,096, 6-25-63, Cl. 214-1.
- Chesley Industries Inc.: See—  
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- Chesley, Robert G., to Chesley Industries Inc. Shelf structure. 3,092,047, 6-4-63, Cl. 108-137.
- Chesney, Albert W., to Soag Machine Tools Ltd. Machine for operating on paper and like material. 3,071,029, 1-1-63, Cl. 77-32.2.
- Chesney, Raymond V. Hand cart for transporting trash cans. 3,108,702, 10-29-63, Cl. 214-375.
- Chesrown, Russell: See—  
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- Chessin, Hyman, and G. K. Cooper, to Van Der Horst Corp. of America. Iron-phosphorus electroplating. 3,086,927, 4-23-63, Cl. 204-43.
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- Chester, Martin H. Ureteral stone extractor and dilator. 3,074,408, 1-22-63, Cl. 128-328.
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- Cheung, Wong W. Method of preserving duck carcasses. 3,089,777, 5-14-63, Cl. 99-157.
- Chevalier, Hubert M. J. Malting plant. 3,088,881, 5-7-63, Cl. 195-129.
- Chevalier, Pierre J., to Societe des Usines Chimiques Rhone-Poulenc. Aqueous emulsions having anti-foam properties and process for preparing same. 3,113,930, 12-10-63, Cl. 252-358.
- Chevallaz, Henri, to Paillard S.A. Device for the automatic hooking of a film on a receiving spool. 3,079,055, 2-26-63, Cl. 226-91.
- Chevreaux, Gerard: See—  
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- Chevreaux, Gerard, and R. Mutterel, to Societe Anonyme D.B.A. Brake proportioning valve. 3,107,127, 10-15-63, Cl. 303-22.
- Chew, Thornton W. Device for automatic homing of movable objects. 3,112,399, 11-26-63, Cl. 250-83.3.
- Chewning, Arthur W., R. L. Haase, and R. E. Stephens, to The Detroit Edison Co. Spreader for distribution secondary conductors. 3,073,890, 1-15-63, Cl. 174-146.
- Chezem, Norman B. Ground cushion car. 3,088,536, 5-7-63, Cl. 180-7.
- Chi, Jerome N. C., to General Electric Co. Dynamoelectric machine. 3,075,106, 1-22-63, Cl. 310-60.
- Chiado, Paul S. Lightweight molded building slab. 3,090,165, 5-21-63, Cl. 50-445.
- Chiaia, Paolo. Automatic counting machine for screws, nails and similar articles. 3,096,603, 7-9-63, Cl. 53-78.
- Chiang, Franklin C., to International Business Machines Corp. Character generation system. 3,103,658, 9-10-63, Cl. 340-324.
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- Chiapuzio, Anton, Jr., and G. H. Shaw, to North American Aviation, Inc. Sequence verification apparatus. 3,102,191, 8-27-63, Cl. 235-61.7.
- Chiarello, Eugene. Automatic transmission housing. 3,082,645, 3-26-63, Cl. 74-606.
- Chibata, Ichiro, M. Kisumi, Y. Ashikaga, and J. Kato, to Tanabe Seiyaku Co., Ltd. Isoleucine fermentation. 3,086,918, 4-23-63, Cl. 195-47.
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 Chickvary, William S., and C. E. Dibble, to Burndy & Film Corp. 2,233-tetrachloro-1,4-butanediol cyclic acid phosphate. 3,094,458, 6-18-63, Cl. 167-33.  
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- Chlebowski, Harry B.,  $\frac{1}{2}$  to J. Wallen,  $\frac{1}{2}$  to B. Lallier, and  $\frac{1}{2}$  to M. Chlebowski. Two speed hydraulic pumps. 3,112,705, 12-3-63, Cl. 103-37.
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- Chonka, Louis,  $\frac{1}{4}$  to A. Szabo, and  $\frac{1}{4}$  to G. Z. Szabo. Heavy duty shears. 3,090,121, 5-21-63, Cl. 30-251.
- Chope, Henry R., to Industrial Nucleonics Corp. Indicating and recording device. 3,095,254, 6-25-63, Cl. 346-32.
- Chope, Henry R., and A. F. G. Hanken, to Industrial Nucleonics Corp. Radiation analysis. 3,082,323, 3-19-63, Cl. 250-83.3.
- Chorney, Harry, to Sanders Associates, Inc. Copper oxidation. 3,114,683, 12-17-63, Cl. 204-28.
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- Choungs, Leslie C., to Automotive Products Co., Ltd. Disc brakes. 3,109,518, 11-5-63, Cl. 188-73.
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- Chow, Ho, to International Patent Research Corp. Adjustable nozzle. 3,093,318, 6-11-63, Cl. 239-456.
- Chow, Ken-Tang. Process for irradiating pearls and product resulting therefrom. 3,075,906, 1-29-63, Cl. 204-154.
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- Choyke, Wolfgang J., and L. A. Patrick, to Westinghouse Electric Corp. Electron tube with a cold emissive cathode. 3,105,166, 9-24-63, Cl. 313-310.
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- Chrest, Roy W., F. O. Rummery, J. D. Richards, and R. Roseman, to The Glidden Co. Inorganic blue to green pigments and processes for making same. 3,079,269, 2-26-63, Cl. 106-300.
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- Christ, Robert E., to Diamond Alkali Co. Phenol-urea-aldehyde-sulfite liquor adhesive, method of production and product made therefrom. 3,076,772, 2-5-63, Cl. 260-17.2.
- Christeler, Ernst, to Oerlikon Engineering Co. Electromagnetic air contactor. 3,102,935, 9-3-63, Cl. 200-104.
- Christen, Charles C., and M. J. Matovich, Jr., to United States of America, Navy. Torsion bar support for sliding rack. 3,093,429, 6-11-63, Cl. 312-331.
- Christen, Jean-Francois, to Novochooc S.A. Shock-damping bearing for clockwork gears. 3,104,518, 9-24-63, Cl. 58-140.
- Christens, John M., D. Gintis, and R. J. Kirkpatrick, to E. I. du Pont de Nemours and Co. Textile material. 3,104,450, 9-24-63, Cl. 57-140.
- Christensen, Alfred C., Jr.: *See*—  
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- Christensen, Bent, to Westinghouse Electric Corp. Function generator and frequency doubler using non-linear characteristics of semiconductor device. 3,093,752, 6-11-63, Cl. 307-88.5.
- Christensen, Borge J. R., and I. Refsholm. Method and means for the production of hollow bent articles of plastic material. 3,095,613, 7-2-63, Cl. 18-42.
- Christensen, Bruce V.: *See*—  
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- Christensen, Burton G., to Merck & Co., Inc. 17a-alkoxy-7a-acetylthioprogesterones. 3,100,210, 8-6-63, Cl. 260-397.4.
- Christensen, Burton G., R. F. Hirschmann, and J. M. Chermarda, to Merck & Co., Inc. Process for the production of 12 $\beta$ -methyl- $\Delta$ 5,17(20)-pregnadiene-11 oxygenated-3-ketal derivatives. 3,087,925, 4-30-63, Cl. 260-239.55.
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- Christensen, Edward R., to Texaco Inc. Conversion of hydrocarbons and catalyst therefor. 3,079,328, 2-26-63, Cl. 208—139.
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- Christensen, Henry M. Preparation of insulin containing 2.75 to 8% zinc content. 3,102,077, 8-27-63, Cl. 167—75.
- Christensen, Joseph M. Daylight fluorescent tape structure. 3,115,417, 12-24-63, Cl. 117—33.5.
- Christensen, Kenneth M., to Overhead Door Corp. Lock. 3,075,376, 1-29-63, Cl. 70—95.
- Christensen, Kenneth M., and J. W. Binns, to Overhead Door Corp. Lock for slidable closures. 3,108,833, 10-29-63, Cl. 292—113.
- Christensen, Lars N., and W. L. Strunk. Feed grinder. 3,074,656, 1-22-63, Cl. 241—247.
- Christensen, Magnus, to The Babcock & Wilcox Co. Self-leveling welding ring with projecting ears. 3,076,261, 2-5-63, Cl. 29—491.
- Christensen, Magnus, to The Babcock & Wilcox Co. Self-leveling welding ring of triangular cross-section. 3,101,532, 8-27-63, Cl. 29—483.
- Christiansen, Ole F., to The Reece Corp. Work clamp. 3,081,721, 3-19-63, Cl. 112—235.
- Christiansen, Paul M., to Federal Pacific Electric Co. Circuit breakers. 3,101,399, 8-20-63, Cl. 200—168.
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- Christensen, Warren C., to The Buehler Corp. Swinging gate for jet boat. 3,070,956, 1-1-63, Cl. 60—35.54.
- Christenson, Charles H., to Lockheed Aircraft Corp. Combination aircraft fuel tank and powerplant arrangement. 3,098,632, 7-23-63, Cl. 244—135.
- Christenson, Howard W., to General Motors Corp. Torque transmitting mechanism. 3,073,179, 1-15-63, Cl. 74—645.
- Christenson, Howard W., to General Motors Corp. Automatic transmission. 3,083,588, 4-2-63, Cl. 74—472.
- Christenson, Howard W., and U. A. Breting, to General Motors Corp. Servo-type disc brake. 3,088,552, 5-7-63, Cl. 188—72.
- Christenson, Howard W., M. E. Fisher, and R. H. Schaefer, to General Motors Corp. Transmission. 3,095,760, 7-2-63, Cl. 74—710.5.
- Christenson, Howard W., M. E. Fisher, and E. T. Mabley, to General Motors Corp. Transmission. 3,096,666, 7-9-63, Cl. 74—645.
- Christenson, Howard W., W. G. Livezey, and W. E. Schilke, to General Motors Corp. Transmission. 3,101,012, 8-20-63, Cl. 74—752.
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- Christiansen, Christian, and E. Haoya, to Mandals Reberbane Christiansen & Co. A/S. Warp thread brakes for circular looms. 3,071,163, 1-1-63, Cl. 139—13.
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- Denison, George H., Bolt, Kent, Christiansen, and Carroll. 3,115,467.
- Christiansen, Milton J., deceased (by B. E. Christiansen, executrix), to Western Electric Co., Inc. Mechanism for lifting and rotating reels of various sizes. 3,099,117, 7-30-63, Cl. 53—198.
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- Christianson, Charles L., and J. L. Ware. Microwave ferrite-rotator degaussing system. 3,093,774, 6-11-63, Cl. 317—157.5.
- Christie, Cleve F., 25% to D. A. Harrison. Attachment for winders. 3,107,123, 10-15-63, Cl. 300—16.
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- Christman, Charles W., to Formacel, Inc. Continuous method of manufacturing cellular cored panels. 3,108,367, 10-29-63, Cl. 29—430.
- Christman, Donald L., to Hercules Powder Co. Polymerization of vinyl chloride. 3,108,993, 10-29-63, Cl. 260—92.8.
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- Christoff, Chris A., and J. D. Gearheart, to Clary Corp. Printer. 3,101,664, 8-27-63, Cl. 101—93.
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- Christoffersen, Glen R., and C. G. Montanaro, Jr., to United States of America, Navy. Captivated fastening means. 3,093,222, 6-11-63, Cl. 189—36.
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- Christy, Earl B. Handle construction for sliding blade knives. 3,079,686, 3-5-63, Cl. 30—162.
- Christy, Howard L. Outdoor fluorescent light holder. 3,093,321, 6-11-63, Cl. 240—25.
- Christy, Roland, and K. J. Fewel, to United States of America, Navy. Latching assembly for closure elements. 3,075,795, 1-29-63, Cl. 292—216.
- Chromalloy Corp.: *See—*
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- De Guisto, Charles A. 3,096,205.
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- Wachtell, Richard L., and De Guisto. 3,073,015.
- Chromium Mining & Smelting Corp.: *See—*
- Belz, Fred W. 3,082,104.
- Chromium Mining & Smelting Corp., Ltd.: *See—*
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- Commanday, Maurice R., and Plambeck. 3,090,702.
- Chromy, Benjamin J.: *See—*
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- Chrostowski, Joseph E.: *See—*
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- Aebersold, Frederick C. 3,093,007.
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 Little, Harvey J. 3,093,736.  
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 Mancewicz, Stanley C. 3,074,428.  
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- Cirigliano, Caesar A. Portfolio. 3,091,482, 5-28-63, Cl. 281—33.
- Cirillo, Nicholas, and V. Lovrich, to Autographic Business Forms, Inc. Continuous stapling machine. 3,077,602, 2-19-63, Cl. 1—62.
- Cirone, Frank P., and T. N. Lowry, to Bell Telephone Laboratories, Inc. Supervisory circuits for telephone subscriber's line. 3,102,168, 8-27-63, Cl. 179—18.
- Cirone, Frank P., J. A. Harr, T. N. Lowry, and P. G. Ridinger, to Bell Telephone Laboratories, Inc. Supervisory circuit. 3,114,007, 12-10-63, Cl. 179—18.
- Cirves, Francis J., and M. A. Marsh. Coilable measuring ruler. 3,073,544, 1-15-63, Cl. 242—107.
- Cisco, Edward S., to Stanray Corp. Movable bulkhead. 3,112,712, 12-3-63, Cl. 105—376.
- Cisin, Harry G. Educational device. 3,114,212, 12-17-63, Cl. 35—74.
- Cislak, Frank, to Ideal Instrument & Mfg. Co. Inc. Metering hypodermic syringe. 3,110,310, 11-12-63, Cl. 128—218.
- Cislak, Frank W. Automatic tire mounting machine. 3,095,920, 7-2-63, Cl. 157—1.1.
- Cislo, Casimer J., to Thermvent Corp. Automatic ventilator for buildings. 3,073,525, 1-15-63, Cl. 236—49.
- Cissell, Eric B. Golf club heads. 3,084,940, 4-9-63, Cl. 273—173.
- Cities Service Oil Co.: *See*—  
Wilson, Wilmer G., and O'Rear. 3,101,798.
- Cities Service Research and Development Co.: *See*—  
Berger, Bernard H. 3,090,757.
- Bosmajian, George. 3,081,283.
- Bosmajian, George. 3,097,108.
- Bosmajian, George. 3,108,709.
- Bosmajian, George. 3,113,695.
- Greenwald, Bertrand W. 3,092,564.
- Greenwald, Bertrand W., and Lazarus. 3,094,472.
- Kerschner, Paul M., and Greenwald. 3,074,988.
- Kerschner, Paul M., and Greenwald. 3,086,044.
- Mosier, Loren C. 3,078,647.
- Shotts, Adolph C. 3,095,450.
- Citroen, Andre, Societe Anonyme: *See*—  
Brueder, Antoine. 3,081,131.
- Brueder, Antoine. 3,089,558.
- Brueder, Antoine. 3,094,078.
- Cadiou, Jean. 3,094,077.
- Henry-Biabaud, Edmond. 2,076,517.
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- Mercier, Pierre E. 3,099,223.
- Citrus Equipment Corp.: *See*—  
Andrews, Richard A. 3,095,805.
- James, Donald R. 3,072,161.
- Cituk, John J. Throwable-catchable tackling bag. 3,111,317, 11-19-63, Cl. 273—55.
- City National Bank and Trust Co.: *See*—  
Johansen, John V., and Stanley. 3,110,144.
- City Tank Corp.: *See*—  
Brown, Robert E., and Bamber. 3,092,269.
- City Vending Equipment Corp.: *See*—  
Newcomer, Everett J. 3,089,612.
- Ciuti, Brunelo, to Laboratori Riuniti Studi e Ricerche S.p.A. Process for preparing improved compositions of lubricating greases. 3,106,532, 10-8-63, Cl. 252—21.
- Cizek, Leopold, E. Jirasek, F. Bucil, and J. Ripka, to Vyzkumny Ustav Bavlnarsky. Spinning apparatus. 3,115,001, 12-24-63, Cl. 57—58.91.
- Claas, Gebr.: *See*—  
Claas, Reinhold. 3,089,299.
- Claas, Gunther, and E. Schewe, to Deutsche Spiralbohrer- und Werkzeugfabriken G.m.b.H. Method for the production of cutting tools. 3,089,354, 5-14-63, Cl. 76—108.
- Claas, Helmut. Threshing machines. 3,106,921, 10-15-63, Cl. 130—27.
- Claas, Helmut. Grills of combine harvesters. 3,116,236, 12-31-63, Cl. 209—26.
- Claas, Reinhold, to Gebr. Claas. Stone trap for combines. 3,089,299, 5-14-63, Cl. 56—20.
- Claas, Reinhold. Combine harvester. 3,094,829, 6-25-63, Cl. 56—20.
- Claas, Reinhold. Combine harvester. 3,096,605, 7-9-63, Cl. 56—23.
- Claassen, Edwin J., Jr., J. W. Bulls, and J. K. Normand, to Sid Richardson Carbon Co. Process and apparatus for the production of carbon black. 3,076,695, 2-5-63, Cl. 23—209.4.
- Claesson, Carl O., and H. H. Hultgren. Machines for determining the dry substance in various materials. 3,073,152, 1-15-63, Cl. 73—61.
- Claeys, Julian J., and L. B. Francis. Drapery pleating device. 3,090,533, 5-21-63, Cl. 223—35.
- Clagett, Robert F., to Western Electric Co., Inc. Methods of bonding leads to semiconductor devices. 3,087,239, 4-30-63, Cl. 29—471.1.
- Clagett, Royal L.: *See*—  
Bennett, John L., Wooten, and Clagett. 3,102,964.
- Clairborne, Jefferson L., to Dixie Mercerizing Co. Seal for yarn package treating apparatus. 3,097,515, 7-16-63, Cl. 68—198.
- Clair, Jacques, to Pechiney, Compagnie de Produit Chimiques et Electrometallurgiques. Method and composition for assembling together refractory bodies. 3,091,027, 5-28-63, Cl. 29—472.7.
- Clair Mfg. Co., Inc.: *See*—  
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- Clair Inc.: *See*—  
Tinsley, Frederick E. 3,007,906.
- Claissie, Arnold J., E. D. Collett, and T. G. Staggs, to The Gillette Co. Sealed hypodermic needle package. 3,114,455, 12-17-63, Cl. 206—56.
- Claitor, Lilburn C.: *See*—  
Schilling, Clarence J., and Claitor. 3,086,371.
- Clancy, John B.: *See*—  
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- Clancy, John J., D. W. Lovering, and R. C. Wells, to Arthur D. Little, Inc. Process coating a substrate with an opaque coating and resultant article. 3,108,009, 10-22-63, Cl. 117—46.
- Clanin, Richard D., and R. F. McVicker, to Lynch Corp. Product feeder for cartoning machine. 3,105,337, 10-1-63, Cl. 53—251.
- Clapp, Archie J. Aircraft take-off distance computer. 3,084,858, 4-9-63, Cl. 235—84.
- Clapp, Daniel E.: *See*—  
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- Clapp, Daniel E., to The Proctor-Silex Corp. Apparatus for control of cooking temperatures. 3,072,773, 1-8-63, Cl. 219—20.
- Clapp, Daniel E., to The Proctor-Silex Corp. Cooking temperature control apparatus. 3,083,287, 3-26-63, Cl. 219—20.
- Clapp, Daniel E., to King-Seeley Thermos Co. Clothes dryer controls. 3,109,717, 11-5-63, Cl. 34—45.
- Clapp, Daniel E., and J. L. Eaton, Jr., to The Proctor-Silex Corp. System employing manually deactivated heating element. 3,073,917, 1-15-63, Cl. 200—4.
- Clapp, Daniel E., and J. L. Eaton, Jr., to The Proctor-Silex Corp. System employing manually deactivated heating element. 3,073,939, 1-15-63, Cl. 219—20.
- Clapp, John M., to Ingersoll-Rand Co. Hydraulic dashpot. 3,106,267, 10-8-63, Cl. 188—97.
- Clapp, Richard G., to Philco Corp. Variation of cathode emission area with shift from monochrome to color. 3,102,923, 9-3-63, Cl. 178—5.4.
- Clapp, Roy A., to Pako Corp. Photographic printer. 3,100,419, 8-13-63, Cl. 88—24.
- Clapp, Roy A., to Pako Corp. Photographic printer. 3,105,410, 10-1-63, Cl. 88—24.
- Clapper, Genung L., to International Business Machines Corp. Integrating pulse circuit having regenerative feed back to effect pulse shaping. 3,098,939, 7-23-63, Cl. 307—88.5.
- Clapper, Genung L., to International Business Machines Corp. Voltage monitor system. 3,098,999, 7-23-63, Cl. 340—248.
- Clapper, Genung L., to International Business Machines Corp. Speech synthesis system. 3,102,165, 8-27-63, Cl. 179—1.
- Clapper, Genung L., to International Business Machines Corp. Delay compensation by distributed synchronous pulses. 3,108,228, 10-22-63, Cl. 328—72.
- Clare, C. P., & Co.: *See*—  
Ehrismann, Kurt H. 3,076,880.
- Farmer, Robert B. 3,098,135.
- Koda, Arthur J. 3,076,878.
- Koda, Arthur J. 3,089,010.
- Koda, Arthur J. 3,114,019.
- Koda, Arthur J. 3,114,807.
- Koda, Arthur J., and Morrison. 3,114,018.
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- Clare, Cora M. Hair curling device with head protecting means. 3,106,213, 10-8-63, Cl. 132-40.
- Clare, Harold, to Power Jets (Research and Development) Ltd. Combustion apparatus. 3,102,393, 9-3-63, Cl. 60-39.74.
- Clare, John D.: *See*—  
Marsh, Stanley B., and Clare. 3,079,563.
- Claridge, George H., and C. J. Maindonald. Ball-cock. 3,096,068, 7-2-63, Cl. 251-118.
- Clarín Mfg. Co.: *See*—  
Banke, Henry C. 3,099,479.  
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- Clark, Adna R., to International Harvester Co. Blower control means for motor vehicle heating and ventilating systems. 3,075,449, 1-29-63, Cl. 98-2.
- Clark, Albert R.: *See*—  
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- Clark, Alex M.: *See*—  
Newland, Arthur E., and Schultz. 3,086,513.
- Clark, Alexander, to Gadget-Of-The-Month Club, Inc. Inflatable travel toy. 3,071,892, 1-8-63, Cl. 46-88.
- Clark, Alfred S., A. S. Dorosz, A. J. Gilbride, and J. E. Walsh, to United Shoe Machinery Corp. Automation of shoemaking machinery. 3,086,230, 4-23-63, Cl. 12-1.
- Clark, Austin B. J. Method of mounting electrical resistance strain gage. 3,082,139, 3-19-63, Cl. 156-153.
- Clark, Bryce L.: *See*—  
Shely, Benjamin L., and Clark. 3,072,541.
- Clark, Calvin M., to California Research Corp. Pulse analyzing. 3,092,751, 6-4-63, Cl. 315-8.5.
- Clark, Charles A.: *See*—  
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- Clark, Charles A., N. J. Doorebos, and L. Horwitz, to General Aniline & Film Corp. Process for preparation of certain arylated hydroxybenzoazoles. 3,101,343, 8-20-63, Cl. 260-304.
- Clark, Charles A., N. J. Doorebos, and L. Horwitz, to General Aniline & Film Corp. Process for the preparation of substituted aminophenols. 3,102,141, 8-27-63, Cl. 260-575.
- Clark, Charles J. Toilet tank flushing mechanism. 3,095,577, 7-2-63, Cl. 4-19.
- Clark, Charles W., Jr., to Sweden Freezer Mfg. Co. Safety lid for pressure tank. 3,086,675, 4-23-63, Cl. 220-24.5.
- Clark, Chester A., to United States of America, Navy. Hydraulic underwater sound transducer. 3,100,022, 8-6-63, Cl. 181-5.
- Clark, Chester A., to United States of America, Navy. Internal rotary valve-fluid pressure transducer. 3,109,408, 11-5-63, Cl. 116-27.
- Clark, Clayton F., and R. W. Hill, to Spencer Chemical Co. Polyethylene compositions containing N-allyl fatty acid amides. 3,104,232, 9-17-63, Cl. 260-32.6.
- Clark, Clayton F., and R. W. Hill, to Spencer Chemical Co. Polyethylene compositions. 3,108,981, 10-29-63, Cl. 260-32.6.
- Clark, Clayton H.: *See*—  
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- Clark Controller Co., The: *See*—  
Landow, Walter, and Carlisle. 3,076,074.  
Saba, Richard T. 3,108,262.
- Clark, Cyrus V. Fishing keel. 3,090,153, 5-21-63, Cl. 43-43.13.
- Clark, David Co. Inc.: *See*—  
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Wadsworth, William B. 3,098,121.
- Clark, David M., to David Clark Co. Inc. Pressure suit. 3,081,459, 3-19-63, Cl. 2-2.1.
- Clark, Dennis E., A. C. Ritchie, and T. Walker, to Glaxo Group Ltd. Process for producing emetine and analogues thereof. 3,102,118, 8-27-63, Cl. 260-288.
- Clark, Don B., to United States of America, Navy. Fluorescent discharge lamp and electrode therefor. 3,079,521, 2-26-63, Cl. 313-161.
- Clark, Donald E., to General Electric Co. VTO inlet. 3,088,695, 5-7-63, Cl. 244-12.
- Clark, Earnest H., Jr., to Baker Oil Tools, Inc. Well bore milling apparatus. 3,091,290, 5-28-63, Cl. 166-55.
- Clark, Earnest H., Jr., to Baker Oil Tools, Inc. Control valve apparatus for drill pipes. 3,096,825, 7-9-63, Cl. 166-224.
- Clark, Edgar W., Jr., P. W. Reynolds, and W. F. Root, to Phillips Petroleum Co. Suspension hanger for deep well tubing. 3,095,042, 6-25-63, Cl. 166-243.
- Clark, Edward B., to General Electric Co. Duct end marker. 3,083,735, 4-2-63, Cl. 138-89.
- Clark, Edward B., to General Electric Co. Floor outlet for underfloor duct. 3,083,857, 4-2-63, Cl. 220-3.94.
- Clark, Edwin W., to John Thompson (Australia) Pty. Ltd. Sootblower. 3,089,468, 5-14-63, Cl. 122-392.
- Clark Equipment Co.: *See*—  
Ayers, Edgar H. 3,112,380.  
Backofen, Elmer R. 3,111,856.  
Berquist, Leonard G. Millious, and Newhouse. 3,076,558.  
Burgess, Glen W. 3,084,951.  
Christensen, Bruce V. 3,085,483.  
Cook, Fred H. 3,084,765.  
Dence, Donald S. 3,115,204.  
DeRoshia, Garland D. 3,102,738.  
Eaton, Ernest E. 3,078,975.  
Ellis, Charles L. 3,082,834.  
Ellis, Charles L., and Kramer. 3,103,984.  
Gordon, Richard O. 3,106,938.  
Gustine, Charles W. 3,079,020.
- Clark Equipment Co.: *See*—Continued  
Hasbany, Woodrow A. 3,072,149.  
Hasbany, Woodrow A. 3,083,731.  
Hastings, Russell, Jr. 3,072,169.  
Hastings, Russell, Jr. 3,080,019.  
Hastings, Russell, Jr. 3,083,853.  
Hastings, Russell, Jr. 3,098,543.  
Henyon, Lewis E. 3,071,079.  
Howard, Wayne R. 3,089,574.  
Howard, Wayne R. 3,109,524.  
Lapsley, Robert. 3,111,040.  
McAdams, Paul F. 3,099,327.  
McAdams, Paul F., Ellis, and Christensen. 3,085,484.  
McIntosh, Richard F. 3,088,757.  
Meads, Marshall M., and Shuttlesworth. 3,078,736.  
Peet, William H. 3,104,616.  
Repke, Edward P. 3,075,665.  
Rogers, Cyril B. 3,086,669.  
Schenkelberger, Frank J. 3,083,533.  
Schenkelberger, Frank J. 3,114,871.  
Severson, Gordon W. 3,086,742.  
Shealy, Noah A. 3,102,435.  
Shealy, Noah A., and Howard. 3,103,997.  
Stille, Herschel H. 3,071,254.  
Stille, Herschel H. 3,104,771.  
Whitmore, Milton P., and Maddalena. 3,101,152.  
Williamson, William A. 3,105,673.
- Clark, Ezekail L., to The North American Coal Corp. Process for the recovery of sulfuric acid from metallic sulfates. 3,086,846, 4-23-63, Cl. 23-167.
- Clark-Feather Mfg. Co.: *See*—  
Clark, James T. 3,083,004.
- Clark, Frederick G., to Eastman Machine Co. Punching machine. 3,099,087, 7-30-63, Cl. 30-362.
- Clark, George F., and J. J. Pauer. Ink composition. 3,073,707, 1-15-63, Cl. 106-22.
- Clark, George H., and E. M. Dodds, to Esso Research and Engineering Co. Greases. 3,083,159, 3-26-63, Cl. 252-29.
- Clark, George, to The American Agricultural Chemical Co. Preparation and recovery of ammonium bifluoride. 3,089,752, 5-14-63, Cl. 23-88.
- Clark, George L.: *See*—  
Hickey, John J., and Clark. 3,100,872.
- Clark, George L., to Thompson Ramo Wooldridge Inc. High speed pulse control circuit for image converter tubes. 3,096,484, 7-2-63, Cl. 328-63.
- Clark, George L., and J. J. Hickey, to Space Technology Laboratories, Inc. Trigger circuit. 3,084,282, 4-2-63, Cl. 315-168.
- Clark, George L., and J. J. Hickey, to Space Technology Laboratories, Inc. Pulse forming circuit. 3,088,052, 4-30-63, Cl. 315-168.
- Clark, George L., and J. J. Hickey, to Space Technology Laboratories, Inc. Control arrangement. 3,105,168, 9-24-63, Cl. 315-22.
- Clark, George V., Co., Inc.: *See*—  
Hirschland, Richard S., Cohen, A. A. and S. R. 3,080,129.
- Clark, Gerald A., and C. B. Havens, to The Dow Chemical Co. Thermoplastic compositions having improved light stability. 3,072,602, 1-8-63, Cl. 260-45.85.
- Clark, Gerald I.: *See*—  
Pearson, Eugene W., Richardson, and Clark. 3,115,801.
- Clark, Gordon W., to General Electric Co. System for preventing overheating of a steam turbine. 3,097,487, 7-16-63, Cl. 60-73.
- Clark, Hadden, to Esso Research and Engineering Co. Laminated articles of reinforced plastics and methods of making same. 3,085,919, 4-16-63, Cl. 154-43.
- Clark, Hadden, J. M. Throne, and O. C. Slotterbeck, to Esso Research and Engineering Co. Chemically modified polydiolefin resin as an adhesive. 3,090,715, 5-21-63, Cl. 154-43.
- Clark, Harold A.: *See*—  
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- Clark, Harold V., J. Roizen, and J. F. Varnell, Jr., to Ampex Corp. Tape recording and/or reproducing system and method. 3,097,267, 7-9-63, Cl. 179-100.2.
- Clark, Harry F., to General Motors Corp. Thermally responsive control device for a surface cooking unit. 3,116,397, 12-31-63, Cl. 219-20.
- Clark, Harry L. 100 inch radiometer. 3,087,062, 4-23-63, Cl. 250-83.3.
- Clark, Harry L. Thermo-electric detecting device. 3,098,930, 7-23-63, Cl. 250-83.3.
- Clark, Harry S. Apparatus for feeding work pieces. 3,114,476, 12-17-63, Cl. 221-225.
- Clark, Henry B. Spring-closed swinging shock absorbing door. 3,091,818, 6-4-63, Cl. 20-16.
- Clark, Herbert H., to Appleton Wire Works Corp. Art of separating water from aqueous liquids. 3,098,735, 7-23-63, Cl. 62-58.
- Clark, Homer E., Jr., to Alcan Co., Inc. Plastic cartridge case. 3,088,405, 5-7-63, Cl. 102-43.
- Clark, Homer E., Jr., to Alcan Co., Inc. Wad column. 3,095,817, 7-2-63, Cl. 102-95.
- Clark, Howard G., III: *See*—  
Black, William B., and Clark. 3,076,774.
- Clark, Howard T., to Arkla Industries, Inc. Fluid regulating valve. 3,092,133, 6-4-63, Cl. 137-220.



- Clark, Hubert M.: See—  
Drutchas, Gilbert H., and Clark. 3,079,864.  
Drutchas, Gilbert H., and Clark. 3,081,706.
- Clark, Hubert M., and G. H. Drutchas, to Thompson Ramo Wooldridge Inc. Implement and power steering pump. 3,101,673, 8-27-63, Cl. 103-126.
- Clark, J. L., Mfg. Co.: See—  
Foster, John A. 3,095,995.
- Clark, J. R., Co., The: See—  
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Munson, Donald J., and Ridge. 3,074,734.
- Clark, Jack W.: See—  
Chang, Winston H., and Clark. 3,113,863.
- Clark, James, to The Garrett Corp. Method of, and apparatus for, determining characteristics of flowing fluids. 3,078,709, 2-26-63, Cl. 73-53.
- Clark, James A., to Bausch & Lomb Inc. Slide projector. 3,070,912, 1-1-63, Cl. 40-79.
- Clark, James A., to Bausch & Lomb Inc. Pressure responsive switch for a slide projector. 3,114,806, 12-17-63, Cl. 200-83.
- Clark, James A. M., to Charles Brand & Son Ltd. Apparatus for the erection of tunnel linings. 3,075,359, 1-29-63, Cl. 61-85.
- Clark, James L., to Mark-Clark, Inc. Thermoplastic gauntlet and electronic welding method for uniting thermoplastic film or sheeting. 3,088,118, 5-7-63, Cl. 2-169.
- Clark, James O., to Westinghouse Electric Corp. Vector resolver computer apparatus. 3,093,732, 6-11-63, Cl. 235-189.
- Clark, James R.: See—  
Moore, David L., and Clark. 3,105,579.
- Clark, James T., to Clark-Feather Mfg. Co. Cylinder head supporting fixtures. 3,083,004, 3-26-63, Cl. 269-51.
- Clark, James U.: See—  
Reuvers, John F., and Clark. 3,108,237.  
Reuvers, John F., Clark, and Lockhart. 3,084,296.
- Clark, James W., to Lake Shore, Inc. Skip loading and weighing apparatus. 3,097,711, 7-16-63, Cl. 177-108.
- Clark, Jared W.: See—  
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- Clark, Jesse K., to National Distillers and Chemical Corp. Probe socket assembly. 3,097,289, 7-9-63, Cl. 219-44.
- Clark, John B.: See—  
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- Clark, John D.: See—  
Witt, Robert H., and Clark. 3,107,472.
- Clark, John D., to International Harvester Co. Means for shifting the axis of boom means or the like. 3,099,358, 7-30-63, Cl. 212-67.
- Clark, John D., to International Harvester Co. Mower having reciprocating counterbalanced elements. 3,104,511, 9-24-63, Cl. 56-296.
- Clark, John D., to United States of America, Navy. Composition for the ignition of rocket monopropellants. 3,115,005, 12-24-63, Cl. 60-35.4.
- Clark, John D., and M. E. Walsh, to United States of America, Navy. Rocket propellants containing tetraethylenepentamine. 3,110,639, 11-12-63, Cl. 149-47.
- Clark, John F.: See—  
Fisher, James C., Clark, and Lee. 3,081,871.
- Clark, John F., and J. McIntosh, to Imperial Chemical Industries Ltd. Process of drawing melt spun polyester yarns. 3,103,407, 9-10-63, Cl. 18-48.
- Clark, John G.: See—  
Brown, Julian, Jr., and Clark. 3,101,456.
- Clark, John G., and D. E. Tribby, to Sperry Rand Corp. Tunable circulator. 3,085,212, 4-9-63, Cl. 333-1.1.
- Clark, John V., to B. M. Bailey. Automatically shielded scraping devices. 3,097,384, 7-16-63, Cl. 15-111.
- Clark, Joseph C., to True Temper Corp. Spin cast fishing reel. 3,092,351, 6-4-63, Cl. 242-84.2.
- Clark, Joseph C., to True Temper Corp. Spin-cast fishing reel. 3,114,514, 12-17-63, Cl. 242-84.21.
- Clark, Joseph H., Jr., to General Electric Co. Hair dryer bonnet. 3,113,848, 12-10-63, Cl. 34-99.
- Clark, Joseph R.: See—  
Cowden, Lewis M., and Clark. 3,084,064.
- Clark, Leland C., Jr., to Selas Corp. of America. Blood oxygenating apparatus. 3,075,524, 1-29-63, Cl. 128-214.
- Clark Mfg. Co.: See—  
Clark, Otho A. 3,106,254.
- Clark, Melville, Jr. Dynamically keyed musical instrument. 3,090,272, 5-21-63, Cl. 84-1.26.
- Clark, Melville, Jr. Intensity rate of change control for musical instruments. 3,109,047, 10-29-63, Cl. 84-1.27.
- Clark, Melvin E. Toy comprising two hand held rods freely rotatable in a manner so as to converge. 3,104,494, 9-24-63, Cl. 46-1.
- Clark Metal Products, Inc.: See—  
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Sisson, Earl L. 3,109,527.
- Clark, Milton B.: See—  
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- Clark, Milton B., and G. R. Drengler, to Union Carbide Corp. Dendritic zinc electrodes. 3,071,638, 1-1-63, Cl. 136-125.
- Clark, Orville O., and J. F. Phelps, to United States Steel Corp. Securement for a round-side load in a transport vehicle. 3,103,898, 9-17-63, Cl. 105-369.
- Clark, Otho A., to Clark Mfg. Co. Implement hitch for tractors. 3,106,254, 10-8-63, Cl. 172-474.
- Clark, Paul W. Identification of automatic business machine cards. 3,081,735, 3-19-63, Cl. 118-236.
- Clark, Philip B.: See—  
Harling, Donald W., and Clark. 3,092,336.
- Clark, Ralph O.: See—  
Ballou, Edward V., Barth, and Clark. 3,084,030.
- Clark, Ray D., to California Research Corp. Control system. 3,088,592, 5-7-63, Cl. 210-114.
- Clark, Ray D., to California Research Corp. Electrode probe. 3,089,015, 5-7-63, Cl. 200-152.
- Clark, Raymond D., to Eastman Kodak Co. Preparation of enolates of 2,2,4,4-tetra-alkylacetoacetic esters. 3,089,896, 5-14-63, Cl. 260-483.
- Clark, Richard B., to The Bendix Corporation. Electrical apparatus. 3,076,875, 2-5-63, Cl. 200-30.
- Clark, Richard B., and H. P. Meyer, to The Bendix Corp. Hydraulic engine governor. 3,100,422, 8-13-63, Cl. 121-42.
- Clark, Robert A., to Caloric Appliance Corp. Burner bowl and burner grate mounting for cooking stove. 3,078,836, 2-26-63, Cl. 126-39.
- Clark, Robert A., Jr., J. H. Starr, K. M. Watson, and T. A. Banning, Jr.; said Banning assor. to said Clark. Apparatus for analyzing the production and drainage of petroleum reservoirs, and the like. 3,079,085, 2-26-63, Cl. 235-185.
- Clark, Robert B., to General Electric Co. Thermocouple. 3,071,636, 1-1-63, Cl. 136-4.
- Clark, Robert C. Premium stamp-dispensing mechanism for cash registers. 3,077,299, 2-12-63, Cl. 235-7.
- Clark, Robert L.: See—  
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- Clark, Robert O. Air shock closure valve. 3,115,155, 12-24-63, Cl. 137-512.3.
- Clark, Roland R., and H. D. Kaiser, Jr., to Medical Supply Co. Tablet dispenser. 3,079,051, 2-26-63, Cl. 222-337.
- Clark, Samuel S., to Keystone Valve Corp. Milling machine. 3,106,869, 10-15-63, Cl. 90-13.
- Clark, Sheldon L., and D. J. Mangold, to Olin Mathieson Chemical Corp. Alkylated decaborane-acetylenic hydrocarbon reaction products and method for their preparation. 3,092,664, 6-4-63, Cl. 260-606.5.
- Clark, Sheldon L., J. T. Duke, T. B. Larchar, and W. K. Taft to Olin Mathieson Chemical Corp. Organoboron copolymers. 3,093,687, 6-11-63, Cl. 260-606.5.
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- Clark, Theodore W. Rebound board for table tennis. 3,088,735, 5-7-63, Cl. 273-30.
- Clark, Thomas L., to Laucks Laboratories Inc. Rotary grading table. 3,110,389, 11-12-63, Cl. 198-103.
- Clark, Victor, M., T. Walker, and G. B. Webb, to Glaxo Group Ltd. Analogues of griseofulvin and process by which they are prepared. 3,102,123, 8-27-63, Cl. 260-346.2.
- Clark, Wallace, and A. S. Goldstein, Jr. Well drilling apparatus. 3,112,801, 12-3-63, Cl. 175-107.
- Clark, Walter V. Spark plug. 3,079,453, 2-26-63, Cl. 123-169.
- Clark, William B., and A. R. Welding apparatus. 3,091,685, 5-28-63, Cl. 219-125.
- Clark, William E., to Carrier Corp. Anti-surge control for fluid compressor. 3,095,710, 7-2-63, Cl. 62-117.
- Clark, William F., Jr., to United States Steel Corp. Scarfing burner torch tip. 3,091,281, 5-28-63, Cl. 158-27.4.
- Clark, William G., to The International Silver Co. Cosmetic container. 3,083,822, 4-2-63, Cl. 206-56.
- Clark, William H.: See—  
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- Clark, William H. R., to C.F.K. Mfg. Co. Adjustable target holder. 3,080,166, 3-5-63, Cl. 273-102.
- Clark, Winslow B. M., to Douglas Aircraft Co., Inc. Temperature indicator. 3,103,657, 9-10-63, Cl. 340-317.
- Clarke, Bruce P., to Ibis Enterprises Ltd. Safety device for hoisting mechanisms. 3,090,651, 5-21-63, Cl. 303-6.
- Clarke, Daniel J., to The Stalker Corp. Bladed rotors. 3,077,297, 2-12-63, Cl. 230-134.
- Clarke, Daniel J., and O. Oetiker, to The Stalker Corp. Blades for compressors, turbines and the like. 3,095,180, 6-25-63, Cl. 253-77.
- Clarke, Daniel J., and E. A. Stalker, to The Stalker Corp. Rotor for radial flow pumping means. 3,107,627, 10-22-63, Cl. 103-115.
- Clarke, Eric F. S.: See—  
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- Clarke, Frederick. Submersible pipeline caisson. 3,111,812, 11-26-63, Cl. 61-81.
- Clarke, Henry R., to International Business Machines Corp. Programming apparatus. 3,088,666, 5-7-63, Cl. 235-61.11.
- Clarke, Herbert: See—  
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- Clarke, Houghton W., and F. A. Blashfield, 99% to Meal-pack Corp. and 1% to H. W. Clarke. Cart washing apparatus. 3,096,775, 7-9-63, Cl. 134-123.
- Clarke, James A., to The Dow Chemical Co. Method of bonding cellulosic materials. 3,079,294, 2-26-63, Cl. 156-332.
- Clarke, James P., and F. Boulanger. Cigarette dispensing device. 3,080,999, 3-12-63, Cl. 221-266.
- Clarke, James R.: See—  
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- Clarke, John V., Jr.: *See*—  
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- Clarke, Joseph V., to Prestige, Inc. Stocking. Re. 25,331, 2-19-63, Cl. 66—172.
- Clarke, Michael R., and C. E. H. Bawn, to Monsanto Chemicals Ltd. Polymerization with the aid of a catalyst containing aluminum halide and an organo-mercury compound in a halogenated liquid medium. 3,080,349, 3-5-63, Cl. 260—88.2.
- Clarke, Patrick W., to Bell Telephone Laboratories, Inc. Controlled rectifier regulating system utilizing a linear relaxation trigger circuit. 3,114,097, 12-10-63, Cl. 321—18.
- Clarke, Ray A., to E. I. du Pont de Nemours and Co. Process for producing quinoline yellow dyes. 3,108,109, 10-22-63, Cl. 260—289.
- Clarke, Robert E. Toy vehicle starter and timer. 3,115,724, 12-31-63, Cl. 46—243.
- Clarke, Robert E. and J. C. Rider propelled vehicle. 3,096,100, 7-2-63, Cl. 280—261.
- Clarke, Robert L., to Sterling Drug Inc. Process for preparing 1,4-androstadiene-2,17 $\beta$ -diol-3-one. 3,081,317, 3-12-63, Cl. 260—397.4.
- Clarke, Robert L., to Sterling Drug Inc. 4-androstene-2 $\alpha$ ,3,17 $\beta$ -triols and preparation thereof. 3,081,318, 3-12-63, Cl. 260—397.5.
- Clarke, Robert L., to Sterling Drug Inc. Alpha-aryl or aralkyl tetrahydrofurfurylamines. 3,091,621, 5-28-63, Cl. 260—347.7.
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- Clarkson, Alick P. S.: *See*—  
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- Clarkson, John R., to J. R. Clarkson Co. Flow control valve. 3,090,591, 5-21-63, Cl. 251—5.
- Clarkson, Robert J., to United States Rubber Co. Process and apparatus for treating strands. 3,108,355, 10-29-63, Cl. 28—71.3.
- Clarkson, Robert J., and R. E. Hilton, to United States Rubber Co. Apparatus and method for producing a plurality of ply yarns. 3,108,427, 10-29-63, Cl. 57—58.3.
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- Clary Corp.: *See*—  
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- Clary, Harry E., to Thompson Ramo Wooldridge Inc. Hydraulic brake system. 3,080,718, 3-12-63, Cl. 60—52.
- Clary, Harry E., to Thompson Ramo Wooldridge Inc. Pressure control device. 3,102,488, 9-3-63, Cl. 103—42.
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- Clary, Paul D., Jr.: *See*—  
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- Clary, William L., 25% to R. G. Wooden. Luggage carriers for automobiles. 3,103,289, 9-10-63, Cl. 214—450.
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- Clason, Bertil H., to General Motors Corp. Magnetically operated electric switch. 3,109,908, 11-5-63, Cl. 200—83.
- Class, Reinhold. Threshing mechanism, particularly for combine harvesters. 3,109,433, 11-5-63, Cl. 130—24.
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- Claus, Carl J., to Xerox Corp. Self-tackifying xerographic toner. 3,080,250, 3-5-63, Cl. 117—17.5.
- Claus, Carl J., to Xerox Corp. Method of xerographic development. 3,080,251, 3-5-63, Cl. 117—17.5.
- Claus, Carl J., to Xerox Corp. Three-component xerographic toner. 3,080,318, 3-5-63, Cl. 252—62.1.
- Claus, Karl M.: *See*—  
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- Clauser, Milton U., R. X. Meyer, R. H. Huddleston, and B. D. Fried, to Space Technology Laboratories, Inc. Apparatus for heating gaseous materials. 3,102,088, 8-27-63, Cl. 204—193.2.
- Clauss, Harry, to Ries G.m.b.H. Bekleidungsverschluss-Fabrik. Sliding clasp fastener. 3,089,328, 5-14-63, Cl. 70—68.
- Clauss, Karl, and H. Bestian, to Hercules Powder Co. Organo-titanium compounds and a process of preparing them. 3,104,249, 9-17-63, Cl. 260—429.5.
- Clauss, Raymond E., E. R. Humbert, and W. F. Jorch, to Sperry Rand Corp. Precision fluid flow measuring and controlling apparatus. 3,081,629, 3-19-63, Cl. 73—205.
- Clauss, Richard J., R. W. Klein, and L. J. Pianowski, to The Udyllite Corp. Slurry agitator mechanism. 3,081,239, 3-12-63, Cl. 204—49.
- Clavel, Jean, to l'Electro-Commutation. Electric switches. 3,098,130, 7-16-63, Cl. 200—11.
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- Clay, Arlis R.: *See*—  
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- Clay, Arthur T., to Hetherington & Berner, Inc. Dredge pump construction. 3,115,099, 12-24-63, Cl. 103—114.
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- Clay Equipment Corp.: *See*—  
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- Clay, Jeff C.: *See*—  
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- Clay, Richard, to Electronic Communications, Inc. Noise suppression technique for radio circuits. 3,084,329, 4-2-63, Cl. 325—65.
- Clay, Richard H., to H. H. Robertson Co. Building structures shielded against radio-frequency radiations and components thereof. 3,092,218, 6-4-63, Cl. 189—34.
- Clay, Robert L. Toy rocket and launcher. 3,088,450, 5-7-63, Cl. 124—26.
- Clayborne, Norman F., M. E. Kerns, and W. E. Hamlin, to Railway Automation Maintenance Specialties Co. Rail handler. 3,074,562, 1-22-63, Cl. 212—11.
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- Clayton, Erith T., to Peen Plate, Inc. Metal coating on non-metal body by tumbling. 3,093,501, 6-11-63, Cl. 117—29.
- Clayton, Fred L. Quick release restraining device. 3,074,378, 1-22-63, Cl. 119—111.
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- Clayton, Richard W., and A. E. Jackson, to Radio Corp. of America. Braking mechanisms. 3,092,345, 6-4-63, Cl. 242—55.12.
- Clayton, Robert G., L. J. Halberstadt, and B. Tarin, to Pro-Ply-Lac-Tic Brush Co. Toothbrushes. 3,072,944, 1-15-63, Cl. 15—167.
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- Claywell, Jack W., to Preway Inc. Gas dish washer. 3,104,669, 9-24-63, Cl. 134—57.
- Claywell, Jack W., to Preway Inc. Gas dishwasher venting and heating arrangement. 3,111,941, 11-26-63, Cl. 126—345.
- Claywell, Jack W., to Preway Inc. Gas-fired dishwasher. 3,111,953, 11-26-63, Cl. 134—107.
- Clean Home Products, Inc.: *See*—  
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- Clearfield, Abraham, to National Lead Co. Acetatozirconyl halides. 3,104,248, 9-17-63, Cl. 260—429.3.
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- Cleary, John R., to Cleary Mfg. Co. Wagon handle. 3,100,120, 8-6-63, Cl. 280—37.01.
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- Clegg, Frank G., to Curtis 1000, Inc. Envelope for initial and return mailing. 3,084,846, 4-9-63, Cl. 229-73.
- Clegg, William J. : *See*—  
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- Cleland, Aaron L., to Aircraft Radio Corp. Threshold trigger having regenerative feedback but maintaining conduction only during presence of input signal. 3,084,265, 4-2-63, Cl. 307-88.5.
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- Clelland, Charles M., and L. C. Aldrich, Jr. Toilet tissue storage and dispenser. 3,101,181, 8-20-63, Cl. 242-55.3.
- Clem, Arthur G., to American Colloid Co. Calcium base drilling fluid. 3,079,334, 2-26-63, Cl. 252-8.5.
- Clem, Arthur G., and T.-K. Lee, to American Colloid Co. Compositions useful in adjusting the viscosity and gel strength of aqueous drilling fluids. 3,079,335, 2-26-63, Cl. 252-8.5.
- Clem, Everett W., to Rice Barton Corp. Slitting apparatus. 3,073,198, 1-15-63, Cl. 83-504.
- Clemency, William F., to Bell Telephone Laboratories, Inc. Speakerphone. 3,075,045, 1-22-63, Cl. 179-1.
- Clemens, Fred K., to Continental Oil Co. Dispensing nozzle with grease fitting receiving means. 3,109,463, 11-5-63, Cl. 141-360.
- Clemens, George S. Toothbrush. 3,103,679, 9-17-63, Cl. 15-167.
- Clemens, Glen H., to Glen H. Clemens, Inc. Combined accelerator and brake assembly for vehicles. 3,101,822, 8-27-63, Cl. 192-1.
- Clemens, Glen H., Inc. : *See*—  
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- Clemens, John E., R. W. Harruff, B. B. Johnstone, J. D. Ray, M. D. Sobottke, and H. W. Weeks, to United Shoe Machinery Corp. Automatic work guidance mechanisms. 3,080,836, 3-12-63, Cl. 112-47.
- Clemens, John E., and B. B. Johnstone, to A. Kimball Co. Apparatus for feeding sheets. 3,108,799, 10-29-63, Cl. 271-41.
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- Clement, Carl H., Jr., to Bock Laundry Machine Co. Centrifugal braking mechanism for rotatable members. 3,077,965, 2-19-63, Cl. 192-18.
- Clement, Claude, F. Eschard, and M. Viguier, to Institut Français du Pétrole des Carburants et Lubrifiants. Process for reducing iron ores. 3,094,410, 6-18-63, Cl. 75-40.
- Clement, Clyde H. Set-up tent. 3,114,377, 12-17-63, Cl. 135-3.
- Clement, Frank L. Tag trailer. 3,082,039, 3-19-63, Cl. 298-17.
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- Clement, Hubert L., and J. McNutt, to James Lees and Sons Co. Circulating system for carpet dye becks. 3,091,109, 5-28-63, Cl. 68-177.
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- Clements, Forrest G., to Bell Intercontinental Corp., Wheelabrator Division. Vibratory device and amplitude adjustment means. 3,078,730, 2-26-63, Cl. 74-87.
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- Clements, Francis J., to General Electric Co. Rotatable assembly for food waste disposers and the like. 3,113,735, 12-10-63, Cl. 241-275.
- Clements, Francis S., and E. V. Nutt, to The International Nickel Co., Inc. Production of tetrachloropalladates. 3,088,802, 5-7-63, Cl. 23-51.
- Clements, Herbert A. : *See*—  
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- Clements, Herbert A., to S.S.S. Gears Ltd. Power transmission systems incorporating variable speed gearing. 3,106,102, 10-8-63, Cl. 74-359.
- Clements, Herbert A., to S.S.S. Gears Ltd. Synchronous self-shifting clutches. 3,106,276, 10-8-63, Cl. 192-109.
- Clements, Jack W. : *See*—  
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- Clements, Ronald B., to T. & T. Vicars Ltd. Feeding machines for biscuits or the like laminar articles. 3,113,660, 12-10-63, Cl. 198-31.
- Clements, Roy J., to Texaco Inc. Means for determining the fluid level in a well. 3,100,023, 8-6-63, Cl. 181-5.
- Clements, Roy J., and R. B. Stelzer, to Texaco Inc. Abrasion resistant coating suitable for borehole drilling apparatus. 3,072,843, 1-8-63, Cl. 324-10.
- Clements, Roy J., B. D. Lee, B. H. Towell, W. R. McEvers, and J. J. Havlik, to Texaco Inc. Recording device. 3,109,693, 11-5-63, Cl. 346-109.
- Clements, Shannon K. : *See*—  
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- Clemetsen, Erling A., and J. A. Drive mechanism for an escalator. 3,107,773, 10-22-63, Cl. 198-16.
- Clemetsen, John A. : *See*—  
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- Clemmons, Ballard H. : *See*—  
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- Clemons, Maurice M. : *See*—  
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- Clenaglass Mechanical Washer Ltd. : *See*—  
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- Cleveland Controls, Inc. : *See*—  
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- Cleveland, Eric G. : *See*—  
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- Cleveland Pneumatic Industries, Inc. : *See*—  
Hartel, Erwin H. 3,073,586.  
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Westcott, William B., Jr. 3,079,764.
- Cleveland Product Co. Ltd. : *See*—  
Schellenberg, Clifford. 3,087,945.
- Cleveland Steel Products Corp. : *See*—  
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- Cleveland Technical Center, Inc. : *See*—  
Shackson, Richard H. 3,103,104.  
Simmons, Lawrence C. 3,071,420.  
Simmons, Lawrence C. 3,098,562.  
Tilden, Carleton D. 3,074,243.
- Cleveland, Thomas H., D. H. Chadwick, and E. E. Hardy, to Monsanto Chemical Co. Pyrolysis products of dimethyl hydrogen phosphite and method of producing same. 3,089,889, 5-14-63, Cl. 260-461.



- Cleveland Trench Co., The: *See*—  
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- Cleveland Trencher Co., The: *See*—  
Orton, Raymond E. 3,082,043.  
Penote, Vincent S., and Fetzner. 3,081,566.  
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- Cleveland Trust Co., The: *See*—  
Becks, Vernon C. 3,091,458.  
Brodie, George H. 3,091,456.  
Frohlich, Adolf H., and Harris. 3,093,531.  
Frohlich, Adolph, and Harris. 3,113,344.  
Mentzer, Everett K., and Webb. 3,091,457.
- Cleven, Ronald D.: *See*—  
McKnight, William B., McCluskey, and Cleven. 3,071,036.
- Clevenger, William B.: *See*—  
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- Clevers, Johannes A. N., to North American Philips Co., Inc.  
Stud welding. 3,079,488, 2-26-63, Cl. 219-99.
- Cleversey, Gerald W., to United Shoe Machinery Corp. Shoe holding jacks. 3,075,210, 1-29-63, Cl. 12-17.2.
- Cleversey, Gerald W., to United Shoe Machinery Corp. Rough rounding machines. 3,076,211, 2-5-63, Cl. 12-17.2.
- Clevett, Merton L., to Laconia Malleable Iron Co., Inc. Ground anchor. 3,080,024, 3-5-63, Cl. 189-90.
- Clevite Corp.: *See*—  
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Cerness, Joseph F., and Luce. 3,097,422.  
Cerness, Joseph F., and Strong. 3,096,565.  
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Meretsky, Paul L. 3,109,221.  
Miller, Harry B. 3,110,825.  
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Pearlman, Alan R. 3,097,309.  
Poisson, Arthur J. 3,092,245.  
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- Clevite Harris Products, Inc.: *See*—  
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- Clewell, Dayton H., to Socony Mobil Oil Co., Inc. Well drilling system. 3,074,492, 1-22-63, Cl. 175-56.
- Clewes, Anthony B., to United-Carr Fastener Corp. Electrical sockets. 3,077,523, 2-12-63, Cl. 200-51.12.
- Cliff, George J., B. B. Parshall, W. H. Braun, J. G. Feldkamp, and R. E. Hager; said Cliff, Parshall, and Braun, assors. to Link-Belt Co., and said Feldkamp and Hager, assors. to Acme Steel Co. Article stacking and strapping machine. 3,095,678, 7-2-63, Cl. 53-124.
- Clifford, Arthur F. 37½% to H. L. Hill, and 25% to J. Acosta. Air conditioning system and apparatus. 3,108,451, 10-29-63, Cl. 62-184.
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- Clifford, Frank, and C. M. White, to Whessoe Ltd. Coupling with plural lug in slot holding means and external sealing shell. 3,101,208, 8-20-63, Cl. 285-363.
- Clifford, Richard P., and A. Ambrosio, to Space Technology Laboratories, Inc. Electromagnetic radiation intensity measurement arrangement. 3,088,072, 4-30-63, Cl. 325-364.
- Clift & Co.: *See*—  
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- Clift, Eugene E., to Clift & Co. Publication dispenser. 3,104,781, 9-24-63, Cl. 221-227.
- Clifton, Ernest A. Throttle valve control mechanism. 3,111,210, 11-19-63, Cl. 192-3.
- Clifton, John R., C. H. Johnson, and F. S. Pearne, to Regent Jack Mfg. Co., Inc. Fluid actuators. 3,104,593, 9-24-63, Cl. 92-17.
- Clifton, Lloyd A.: *See*—  
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- Clifton, Richard N., and D. O. Lawless, to The Cincinnati Milling Machine Co. Milling cutter. 3,106,011, 10-8-63, Cl. 29-105.
- Clifton, Robert T. Mattress construction. 3,092,849, 6-11-63, Cl. 5-351.
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- Cline, Carl F.: *See*—  
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- Cline, Charles W.: *See*—  
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- Cline, Edward T., and D. Tanner, to E. I. du Pont de Nemours and Co. Graft polymerization of a vinyl monomer to a polymeric substrate by low temperature irradiation. 3,088,791, 5-7-63, Cl. 8-115.5.
- Cline, Edward T., and D. Tanner, to E. I. du Pont de Nemours and Co. Graft polymerizing an unsaturated organic acid or salt thereof onto a nitrogen containing polymer substrate. 3,090,664, 5-21-63, Cl. 8-115.5.
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- Cline, Ernest E., and T. E. Griner, to R. R. Donnelley & Sons Co. Inking apparatus for flat bed printing press. 3,114,314, 12-17-63, Cl. 101-321.
- Cline, Frederick B.: *See*—  
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Burgin, Kermit H. 3,094,965.
- Cline, Leon J. Heated immersion sterilizer for milking machine components. 3,106,445, 10-8-63, Cl. 21-86.
- Cline, Nathan R. Marking pen. 3,085,280, 4-16-63, Cl. 15-506.
- Cline, Nathan R. Marking pen. 3,088,160, 5-7-63, Cl. 15-563.
- Cline, Robert A.: *See*—  
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- Cline, Robert F., and S. J. Miller, to Gulton Industries, Inc. Electrostrictive barium titanate ceramic with linear temperature characteristics. 3,103,440, 9-10-63, Cl. 106-39.
- Cline, Robert F., and S. J. Miller, to Gulton Industries, Inc. Ceramic materials having flat temperature characteristics. 3,103,441, 9-10-63, Cl. 106-39.
- Cline, William H., Jr.: *See*—  
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- Cline, William M., and R. J. May, to Aeroquip Corp. Fitting. 3,073,628, 1-15-63, Cl. 285-243.
- Clinkenbeard Ivan L.: *See*—  
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- Clinton, Edwin T., and M. Kramcsak, Jr., to The Bassick Co. Removable caster lock. 3,070,828, 1-1-63, Cl. 16-35.
- Clinton Engines Corp.: *See*—  
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- Clinton, Raymond O., to Sterling Drug Inc. Androstano-[2,3-d]-2-aminothiazoles. 3,081,228, 3-12-63, Cl. 167-65.
- Clinton, Raymond O., to Sterling Drug Inc. Process for the production of 2-lower alkyl-17β-acyloxy-1,4-androstadienes. 3,092,644, 6-4-63, Cl. 260-397.4.
- Clinton, Raymond O., to Sterling Drug Inc. Esters of 17α-(3-hydroxy-1-propenyl)-androst-5-ene-3,17β-diol and their preparation. 3,113,953, 12-10-63, Cl. 260-397.5.
- Clinton, Raymond O., and R. G. Christiansen, to Sterling Drug Inc. 17α-(lower-alkyl)-19-nor-5(10)-androstene-3,17β-diols. 3,076,826, 2-5-63, Cl. 260-397.5.
- Clinton, Raymond O., and D. F. Page, to Sterling Drug Inc. Ring-tri-substituted-N-(lower-alkanoyl) aniline derivatives and preparation thereof. 3,076,845, 2-5-63, Cl. 260-562.
- Clinton, William C., J. E. Brophy, and T. C. Ku, to International Business Machines Corp. Method of lubricating. 3,077,242, 2-12-63, Cl. 184-1.
- Clinton, William P., and E. Pitchon, to General Foods Corp. Process for preparing an aromatized free-flowing soluble coffee. 3,077,405, 2-12-63, Cl. 99-71.
- Clippinger, Everett, to California Research Corp. Preparation of alkyl sulfonates. 3,084,186, 4-2-63, Cl. 260-513.
- Clisset, Harold C. Magnetic fluid transmission means. 3,106,850, 10-15-63, Cl. 74-190.
- Clive, Frederick B.: *See*—  
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- Clix Fastener Corp.: *See*—  
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- Clock, Donald P., and G. A. Lucchi, to Radio Corp. of America. Decoder and coder circuit. 3,092,830, 6-4-63, Cl. 343-6.8.
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- Clopay Corp.: *See*—  
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- Clore, William R., to Industrial Nucleonics Corp. Article distribution system. 3,087,598, 4-30-63, Cl. 198-38.
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- Close, Frank A., to Wyong Minerals Ltd. Spiral concentrators. 3,099,621, 7-30-63, Cl. 209-459.
- Close, Patrick B., J. A. Coulter, L. R. Dittmer, R. P. Fahnenbrück, F. R. Goldammer, L. J. Goodrick, E. V. Gulden, T. P. Holloran, C. S. Jenkins, L. D. Kilheffer, K. A. Kinker, J. D. Lyons, D. C. Manor, R. P. Marvin, W. L. Miller, P. L. O'Brien, J. H. Randall, E. M. Garner, R. O. Sather, R. L. Yost, and A. B. Braden, Jr., to The National Cash Register Co. Electronic computing machine. 3,112,394, 11-26-63, Cl. 235-61.9.
- Close, Richard N., to United States of America, Air Force. Sweep recovery and altitude compensation circuit. 3,072,856, 1-8-63, Cl. 328-185.



- Close, Sam, to Bower, Inc. Incinerator. 3,082,714, 3-26-63, Cl. 110-8.
- Close, Warren J., to Abbott Laboratories. Method for manufacture of 5-chloro-2,4-bis(methylsulfamyl)-aniline. 3,108,124, 10-22-63, Cl. 260-397.7.
- Close, Warren J., and L. R. Swett, to Abbott Laboratories. Derivatives of benzothiadiazine-1,1-dioxide. 3,078,270, 2-19-63, Cl. 260-243.
- Clossner, John J., R. Maroti, and L. Magers, Jr., to Preload Corp. Storage structure. 3,092,933, 6-11-63, Cl. 50-129.
- Closs, George M., and P. F. Dougherty, to Sun Oil Co. Subterranean storage of fluids. 3,089,309, 5-14-63, Cl. 61-5.
- Closson, Addison W., Jr., to Beckwith-Ardon Inc. Thermal back part conditioner for shoe uppers. 3,102,288, 9-3-63, Cl. 12-59.7.
- Closson, Rex D., to Ethyl Corp. Preparation of di(aromatic) group VIB metal compounds. 3,115,510, 12-24-63, Cl. 260-438.
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- Clough, Robert E.: See—  
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- Clouse, George S., to Triway Industries, Inc. Studio couch. 3,107,362, 10-22-63, Cl. 5-17.
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- Cloutier, Albert J.: See—  
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- Cloutier, Warren F. Portable seat. 3,115,213, 12-24-63, Cl. 182-187.
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- Clover, Henrietta. Brassiere. 3,075,531, 1-29-63, Cl. 128-491.
- Clow, Donald J. Knot tying device. 3,106,417, 10-8-63, Cl. 289-17.
- Clow, George F. Adjustable table supporting construction. 3,094,945, 6-25-63, Cl. 108-10.
- Clowers, Earl R., to Sunbeam Corp. Can lid retaining mechanism for can openers. 3,105,297, 10-1-63, Cl. 30-6.4.
- Cloyd, Harold S., to Union Carbide Corp. Beverage case. 3,080,087, 3-5-63, Cl. 220-31.
- Cluett, Peabody & Co., Inc.: See—  
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- Milligan, Rex V., and Weiner. 3,072,081.
- Pandell, Nestor W., and Bellinson. 3,072,012.
- Pfeffer, Edward C., Jr. 3,092,841.
- Cluff, Edward F., to E. I. du Pont de Nemours and Co. Process for curing vinylidene fluoride-hexafluoropropene copolymers. 3,088,938, 5-7-63, Cl. 260-87.7.
- Clune, Richard R., to P. R. Mallory & Co., Inc. Leak-proof electrochemical cell. 3,096,217, 7-2-63, Cl. 136-107.
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- Clute, Francis H. Forced air ventilating floor for poultry houses. 3,110,286, 11-12-63, Cl. 119-22.
- Clutton, Sam W. Oil well journal box dust guard. 3,074,720, 1-22-63, Cl. 277-26.
- Clymer, Joseph D., to Tokheim Corp. Electric drive unit and mounting. 3,074,347, 1-22-63, Cl. 103-87.
- Clynch, Frank, to Continental Oil Co. System for anchoring and transporting a seismic vibrator. Re. 25,401, 6-18-63, Cl. 181-5.
- Clyne, Joseph, to Apparel Patent Co. Inc. Shirt collar and support therefor. 3,076,198, 2-5-63, Cl. 2-132.
- Clynes, Manfred E., to Mnemotron Corp. Computer of average response transients. 3,087,487, 4-30-63, Cl. 128-2.1.
- Clynes, Manfred E., to Mnemotron Corp. Linear pulse frequency modulator. 3,100,285, 8-6-63, Cl. 332-14.
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- Coady-Farley, James T., and D. W. H. Hampshire, to Ferranti Ltd. Servo apparatus for adjusting the position of a movable member. 3,080,511, 3-5-63, Cl. 318-28.
- Coady-Farley, James T., D. W. H. Hampshire, and G. S. Walker, to Ferranti Ltd. Apparatus for positioning a movable member. 3,084,315, 4-2-63, Cl. 318-28.
- Coakley, Arthur J., to Jones and Lamson Machine Co. Optical projection contour inspection system. 3,077,815, 2-19-63, Cl. 88-24.
- Coal Bit Co.: See—  
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- Coal Industry (Patents) Ltd.: See—  
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- Madley, Daniel G. 3,093,463.
- Yarmak, Julius. 3,112,709.
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- Coale, Harold D., to Phillips Petroleum Co. Decoratively colored thermoplastic article and process for making the same. 3,096,146, 7-2-63, Cl. 18-61.
- Coale, Harold D., to Phillips Petroleum Co. Method of forming a double-walled container. 3,113,831, 12-10-63, Cl. 18-59.
- Coan, Richard L., to Cerro Corp. Draw carriage. 3,087,604, 4-30-63, Cl. 205-24.
- Coan, Stephen B., to Schering Corp. Fluorenyl and xanthrydryl ethers of 1-alkyl-3-piperidinols. 3,072,665, 1-8-63, Cl. 260-294.7.
- Coar, Ronald, to The Spooner Dryer & Engineering Co. Ltd. Apparatus for treating moving lengths of material. 3,078,592, 2-26-63, Cl. 34-122.
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- Coast Metals, Inc.: See—  
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- Snow, Floyd E., and York. 3,088,712.
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- Coates, Colin, and W. E. Lardner, to Westrex Co., Ltd. Selective signaling system. 3,090,838, 5-21-63, Cl. 179-84.
- Coates, Ellis W., and J. C. Conde, to Central Anejadora Guatemalteca. Fermentation of sugar to ethyl alcohol in the presence of proteolytic enzymes. 3,093,548, 6-11-63, Cl. 195-37.
- Coates, George A.: See—  
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- Coates, Harold, and B. Chalkley, to Albright & Wilson Ltd. Insolubilisation of further-polymerisable methylol-phosphorus polymeric materials. 3,096,201, 7-2-63, Cl. 117-62.2.
- Coates, Harold N., to International Computers and Tabulators Ltd. Magnetic core registers. 3,097,550, 7-9-63, Cl. 340-174.
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- Morin, Louis H. 3,077,727.
- Coats, George M.: See—  
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- Coats, John N. Pipe interconnection assembly. 3,115,157, 12-24-63, Cl. 137-561.
- Coats, Raymond E.: See—  
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- Cobb, Clifton A.: See—  
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- Cobb, Clifton A., to Whirlpool Corp. Fluent material dispenser for a washing machine. 3,107,512, 10-22-63, Cl. 65-17.
- Cobb, Clifton A., and J. T. Williams, to Whirlpool Corp. Method of determining the liquid level in a clothes washing machine. 3,093,841, 6-18-63, Cl. 8-158.
- Cobb, James L., to J. P. Stevens & Co., Inc. Fitted sheet. 3,114,156, 12-17-63, Cl. 5-334.
- Cobb, James S., Jr., to E. I. du Pont de Nemours and Co. Spinneret assembly. 3,095,607, 7-2-63, Cl. 18-8.
- Cobb, Jay T. Oil well cleaner. 3,089,544, 5-14-63, Cl. 166-162.
- Cobb, Phara L., Jr., and M. R. Hargrave, to Eastman Kodak Co. Process and apparatus for manufacturing filters. 3,079,930, 3-5-63, Cl. 131-208.
- Cobb, Phara L., Jr., and M. R. Hargrave, to Eastman Kodak Co. Apparatus for manufacturing filters. 3,079,978, 3-5-63, Cl. 156-441.
- Cobb, Phara L., Jr., and M. R. Hargrave, to Eastman Kodak Co. Process for manufacturing filters. 3,106,501, 10-8-63, Cl. 156-180.
- Cobb, Raymond L.: See—  
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- Cobb, Raymond L., and M. P. Marena, to Phillips Petroleum Co. Stabilization of 1-olefin polymers. 3,099,639, 7-30-63, Cl. 260-45.95.
- Cobb, Raymond L., P. S. Hudson, and L. M. Mayfield, to Phillips Petroleum Co. Easily castable polyurethane propellants containing highly halogenated compounds. 3,109,761, 11-5-63, Cl. 149-19.
- Cobb, Vincent J., to National Lead Co. Preparation of substantially pure titanium dioxide. 3,105,743, 10-1-63, Cl. 23-202.
- Cobb, William R.: See—  
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- Cobbett, Leonard C., to Albert & J. M. Anderson Mfg. Co. Drum type switch. 3,089,938, 5-14-63, Cl. 200-155.
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- Coberly, Clarence J., to Kobe, Inc. Fluid operated pump engine valve. 3,075,553, 1-29-63, Cl. 137-620.
- Coberly, Clarence J., to Kobe, Inc. Engine valve for fluid-operated pump. 3,075,554, 1-29-63, Cl. 137-622.
- Coberly, Clarence J., to Kobe, Inc. Fluid operated pump control system. 3,082,749, 3-26-63, Cl. 121-158.
- Coberly, Clarence J., to Kobe, Inc. Convertible fluid operated free pump system. 3,113,522, 12-10-63, Cl. 103-46.
- Coberly, Clarence J., F. B. Brown, and C. P. Williams, to Kobe, Inc. High speed triplex pump. 3,077,836, 2-19-63, Cl. 103-5.
- Coberly, Clarence J., and F. B. Brown, to Kobe, Inc. Shrink fit tubing joint. 3,114,566, 12-17-63, Cl. 285-14.
- Cobert, Arthur J., to La Fabrique Nationale d'Arms de Guerre. Needle press motion for straight knitting machines. 3,079,777, 3-5-63, Cl. 66-82.



- Cobine, James D., to General Electric Co. Gas generating electric discharge device. 3,093,766, 6-11-63, Cl. 313-174.
- Coburn Mfg. Co., Inc.: *See*—
- Suddarth, Jack M. 3,091,062.
- Coburn, Richard J.: *See*—
- Brose, Harlan F., and Coburn. 3,081,606.
- Coca-Cola Bottling Works, The: *See*—
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- Coca-Cola Co., The: *See*—
- Forbes, Horatio J., Jr. 3,078,013.
- Coceano, Domenico: *See*—
- Euler, Harold W., and Coceano. 3,080,521.
- Cocharadt, Alexander W., to Westinghouse Electric Corp. Ferrite magnets. 3,113,927, 12-10-63, Cl. 252-62.5.
- Cochinal, Roland, to Commissariat a l'Energie Atomique. Apparatus for monitoring a physical magnitude at a multiplicity of distinct points and in particular for detecting burst slugs in the channels of a heterogeneous nuclear reactor. 3,092,819, 6-4-63, Cl. 340-213.
- Cochinal, Roland, J. Goupil, and J. Megy, to Commissariat a l'Energie Atomique. Display device for use in installations for cyclically checking, by means of a limited number of apparatus the values of a magnitude at a multiplicity of points. 3,093,003, 6-11-63, Cl. 73-432.
- Cochinal, Roland, A. Roguin, and R. Donguy, to Commissariat a l'Energie Atomique. Arrangements for detecting radiation contamination of the coolant in an atomic reactor. 3,116,210, 12-31-63, Cl. 176-19.
- Cochran, Chudleigh B.: *See*—
- Brown, Joseph R., and Cochran. 3,092,135.
- Cochran, Chudleigh B., to C. C. Brown. Sleeve valve for well pipe strings with blind closure sleeve. 3,089,546, 5-14-63, Cl. 166-224.
- Cochran, Chudleigh B., and J. D. Mott, to Cicero O. Brown. Device for supporting a closure within a well pipe. 3,090,442, 5-21-63, Cl. 166-192.
- Cochran, Chudleigh B., and J. D. Mott, to C. C. Brown. Shifting tool for well apparatus. 3,115,188, 12-24-63, Cl. 166-224.
- Cochran, Clarence W., to United-Carr Fastener Corp. Wiring clip. 3,077,018, 2-12-63, Cl. 24-73.
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- Cochran, Douglas C. Tufted products. 3,075,865, 1-29-63, Cl. 154-49.
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- Cochran, James J.: *See*—
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- Cochran, Joe F., to General Dynamics Corp. Brazing apparatus. 3,091,684, 5-28-63, Cl. 219-85.
- Cochran, John K., to Pittsburgh Plate Glass Co. Textile bobbin. 3,079,104, 2-26-63, Cl. 242-118.7.
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- Cochran, Lois: *See*—
- Cochran, Clarence W. 3,077,019.
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- Cochran, Richard L.: *See*—
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- Cochran, Richard L., and W. N. Engel, to The Buehler Corp. Direction control. 3,093,965, 6-18-63, Cl. 60-35.54.
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- Cochran, William C., to Aluminum Co. of America. Anodized aluminum colored with water insoluble phthalocyanine and method. 3,114,660, 12-17-63, Cl. 148-6.1.
- Cochrane, Harry W., to International Business Machines Corp. Binary matrix multiplier utilizing coincident inputs and sequential read-out. 3,104,317, 9-17-63, Cl. 235-164.
- Cochrane, Richard H., to National Distillers and Chemical Corp. Combined bagging and packing machine. 3,083,513, 4-2-63, Cl. 53-182.
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- Wernig, James H., and Cockburn. 3,112,946.
- Cocker, John, III: *See*—
- Freeze, William L., Cocker, and Suggs. 3,076,724.
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- Lofgren, Karl R. 3,082,715.
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- Suggs, Thomas F. 3,070,898.
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- Cockerell, Christopher S., to Hovercraft Development Ltd. Vehicles for travelling over water. 3,077,174, 2-12-63, Cl. 114-67.
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- Cockrell, William D., to General Electric Co. Circuit for controlling energization of a direct current load. 3,095,534, 6-25-63, Cl. 321-19.2.
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- Schipper, Robert J., and Coddington. 3,097,261.
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- Degelman, John. 3,089,496.
- Codichini, Joseph J.: *See*—
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- Cerasani, Americo J., Codichini, Davis, and Lewis. 3,105,425.
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- Coffey, Charles F. Adjustable door control mechanism. 3,114,541, 12-17-63, Cl. 268-66.
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- Coffey, Jule H., and C. R. Sharp, to Anthony Mfg. Corp. Oscillating arm pop-up sprinkler. 3,088,677, 5-7-63, Cl. 239-205.
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- Ihrman, Kryn G., and Coffield. 3,093,671.
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- Coffield, Thomas H., to Ethyl Corp. Hydropentalenyl manganese tricarbonyl compounds and processes for same. 3,100,213, 8-6-63, Cl. 260-429.
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- Coffield, Thomas H., to Ethyl Corp. Stabilization of polyolefin polymers with a 4,4' thiobis-(2 alkoxy-6-alkyl phenol). 3,107,233, 10-15-63, Cl. 260-45.95.
- Coffield, Thomas H., to Ethyl Corp. Sulfur-containing phenolic compounds. 3,114,713, 12-17-63, Cl. 252-48.2.
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- Coffman, Donald D., and C. W. Tullock, to E. I. du Pont de Nemours and Co. Carbonylic compounds containing the SF<sub>6</sub> function. 3,102,903, 9-3-63, Cl. 260-481.
- Coffman, Frederick E., and W. R. Shaffer, to Wald Industries, Inc. Apparatus for marking a surface. 3,083,913, 4-2-63, Cl. 239-150.
- Coffman, Joe W., and R. F. Beliveau, to Technifax Corp. Method of making polarized slides. 3,089,802, 5-14-63, Cl. 156-108.
- Coffman, Kenneth G. Self-setting irrigation ditch dam. 3,084,516, 4-9-63, Cl. 61-29.
- Coffield, Eugene P., Jr., to Scripto, Inc. Writing instrument and ink therefor. 3,099,252, 7-30-63, Cl. 120-42.4.
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- Cohen, Abraham E. Nuclear electronic anemometer. 3,109,098, 10-29-63, Cl. 250-83.6.
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- Cohen, Charles L., to United States of America, Navy. Electrical magnitude selector. 3,096,446, 7-2-63, Cl. 307-88.5.
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- Cohen, Eli. Paint brush guide. 3,075,225, 1-29-63, Cl. 15-248.
- Cohen, Elie, and S. Roth, to L. Naiditch. Air-cooled eddy-current coupling and brake. 3,076,109, 1-29-63, Cl. 310-105.
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- Cohen, Jacob L., F. E. Cohen, administratrix of the estate, to Frank W. Horner, Ltd. Use of tolbutamide in the treatment of acne. 3,072,527, 1-8-63, Cl. 167-51.5.
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- Cohen, Martin J., and H. C. Gibson, Jr., to Franklin Systems, Inc. Missile scoring systems. 3,091,463, 5-28-63, Cl. 273-102.2.
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- Cohen, Robert J., to General Precision, Inc. Single axis integrating accelerometer. 3,096,657, 7-9-63, Cl. 73-517.
- Cohen, Samuel L. Dispensing container. 3,104,137, 9-17-63, Cl. 312-71.
- Cohen, Saul G.: See—  
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- Cohen, William. Telescopic form containers and dispensers. 3,105,592, 10-1-63, Cl. 206-56.
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- Cohn, Hugo, and J. L. Bonanno, to Dan Golenpaul Associates. Accessory apparatus for use with phonograph record player. 3,104,110, 9-17-63, Cl. 274-1.
- Cohn, Johann G. E., to Engelhard Industries, Inc. Catalytic decomposition of 1,1-dimethylhydrazine. 3,086,945, 4-23-63, Cl. 252-372.
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- Cohn, Johann G. E., and A. J. Haley, Jr., to Engelhard Industries, Inc. Process for removing acetylene from gases. 3,092,444, 6-4-63, Cl. 23-2.
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- Cohn, Maurice. Press control device. 3,077,966, 2-19-63, Cl. 192-125.
- Cohn, Nathan, to Leeds and Northrup Co. Multi-segment generation allocating systems. 3,076,898, 2-5-63, Cl. 307-57.
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- Cohn, Seymour B., to Sperry Rand Corp. Broadband transmit-receive device. 3,092,771, 6-4-63, Cl. 325-24.
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- Colarusso, Augustine L., to Van Brode Milling Co., Inc. Food packages. 3,079,057, 2-26-63, Cl. 229-3.5.
- Colautti, Albert J., and B. R. Wanlass, to General Motors Corp. Circuit controller. 3,090,847, 5-21-63, Cl. 200-68.
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- Colborne Mfg. Co.: *See*—  
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- Colby, Richard H., to United States of America, Army. Locking system for tilting firearm bolt. 3,112,675, 12-3-63, Cl. 89-184.
- Colclough, Glenn R.: *See*—  
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- Col-Cube, Inc.: *See*—  
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- Cole, Donald W., to General Dynamics Corp. Apparatus for braze-bonding metallic parts. 3,073,268, 1-15-63, Cl. 113-99.
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- Cole, Ernest A., Jr.: *See*—  
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- Cole, Gerald E., to Kleen-Stik Products, Inc. Pressure sensitive adhesive transfer tape. 3,087,850, 4-30-63, Cl. 156-324.
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- Cole, Leonard P. Waste incinerator. 3,111,684, 11-26-63, Cl. 4-131.
- Cole, Lloyd L.: See—  
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- Cole, Manny E. Holding device. 3,082,778, 3-26-63, Cl. 134-166.
- Cole, Michael. Methods and apparatus for machining metal. 3,109,086, 10-29-63, Cl. 219-69.
- Cole, Nelson E., to Dana Corp. Vehicle frame structure. 3,096,996, 7-9-63, Cl. 280-106.
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- Cole, Richard, to Imperial Chemical Industries Ltd. Liquid level controlling device. 3,104,678, 9-24-63, Cl. 137-403.
- Cole, Robert C.: See—  
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- Cole, Theodore H., to International Business Machines Corp. High speed pneumatic conveyor. 3,103,388, 9-10-63, Cl. 302-31.
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- Coleman, Bestor P.: See—  
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- Coleman, Charles H., Jr., and P. W. Jensen, to Ampex Corp. Timing control for signal reproducing systems. 3,100,816, 8-13-63, Cl. 178-54.
- Coleman, Clarence B. Dispensing bin. 3,083,879, 4-2-63, Cl. 222-143.
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Lucas, Harry W. 3,105,485.  
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- Coleman, Edward, to J. A. Crabtree & Co., Ltd. Electric circuit breakers. 3,105,131, 9-24-63, Cl. 200-106.
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- Coleman, Ivan V., to Automatic Electric Laboratories, Inc. Improvements in automatic toll ticketing arrangements for telephone systems. 3,109,895, 11-5-63, Cl. 179-7.
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- Coleman, John H., to Radiation Research Corp. Method for preparing sources of ionizing radiation. 3,074,811, 1-22-63, Cl. 117-67.
- Coleman, Joseph J., and M. E. Wilke, to Servel, Inc. Magnesium battery. 3,081,369, 3-12-63, Cl. 136-87.
- Coleman, Richard B., to General Motors Corp. Plastic housed level indicator sending units. 3,113,282, 12-3-63, Cl. 338-33.
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- Coleman, William H., and H. L. Malone, to Cornell-Dubilier Electric Corp. Multifunctional capacitor construction. 3,106,671, 10-8-63, Cl. 317-260.
- Coleman, William J., and D. F. De Santo, to Grumman Aircraft Engineering Corp. Electrostatic propulsion means. 3,071,705, 1-1-63, Cl. 313-63.
- Coleman, William R. Voting machine. 3,083,899, 4-2-63, Cl. 235-53.
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- Coles, Harold J., and J. M. Sutherland, to Mitchell Engineering Ltd. Heat exchanger. 3,076,443, 2-5-63, Cl. 122-34.
- Coles, Ralph V., to Robertshaw-Fulton Controls Co. Operator with thermoelectric control. 3,091,919, 6-4-63, Cl. 60-23.
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- Coles, Robert F., V. Tulagin, and R. A. Miller, to Minnesota Mining and Mfg. Co. Heat-sensitive copy-paper and method of making. 3,076,721, 2-5-63, Cl. 117-36.8.
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- Coless, Thomas L.: See—  
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- Colestock, William G.: See—  
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- Coletta, Vincent, and R. B. Warfield, to Bristol-Myers Co. Tablet disintegrants. 3,091,574, 5-28-63, Cl. 167-82.
- Coley, Henry E.: See—  
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- Colfer, James A., and J. J. Collins, to C & H Supply Co. Foil applique structure. 3,089,800, 5-14-63, Cl. 154-46.8.
- Colgan, George P., to Air Reduction Co., Inc. Paper coating apparatus. 3,083,685, 4-2-63, Cl. 118-410.
- Colgan, Joseph D., and H. E. Fife, to American Cyanamid Co. Devolatilization extrusion method for preparing a mono-vinyl aromatic resin-rubber blend. 3,090,767, 5-21-63, Cl. 260-45.5.
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- Colgate, Richard M.: See—  
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- Collar, Rolland W., to Lear Siegler, Inc. Quick connect coupling. 3,083,042, 3-26-63, Cl. 285-93.
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- Collett, Charles H. Split protector for well pipe. 3,094,360, 6-18-63, Cl. 308-4.
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- Collette, Gaston A., to Institut de Recherches de la Siderurgie Francaise. Arrangement for measuring the damping of the oscillations of a mechanical system. 3,105,381, 10-1-63, Cl. 73-99.
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- Colley, Russell S., to The B. F. Goodrich Co. Fluid-tight connector. 3,114,367, 12-17-63, Cl. 285-81.
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- Collier, Eugene L.,  $\frac{1}{2}$  each to B. B. Parker and J. B. Orrell. Confection with prize. 3,085,883, 4-16-63, Cl. 99-137.
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- Collins, G. L., Corp.: See—  
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- Collins, Russell E. Potassium nitrate and kelp composition for treating pinkeye. 3,088,864, 5-7-63, Cl. 167-53.
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- Colton, John W., to Scientific Design Co., Inc. Chemical process. 3,095,295, 6-25-63, Cl. 62-58.
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- Colwill, Herbert W., and J. H. Schenking, to Avco Corp. Fine material spreading attachment for a manure spreader. 3,076,654, 2-5-63, Cl. 275-6.
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- Combs, Jack L., and D. R. Strachan, to E. I. du Pont de Nemours and Co. Spinneret plate. 3,109,195, 11-5-63, Cl. 18-8.
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Gebele, Kurt. 3,071,057.

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- Vroom, Alan H., and Broadway. 3,086,717.
- Consolidated Thermoplastics Co.: *See*—
- Gonnella, Carmen J., and Marchant. 3,095,598.
- Marchant, Paul A. 3,075,230.
- Martin, Lawrence L. 3,100,910.
- Consolidated Trimming Corp.: *See*—
- Polkosnik, Bernard L. 3,072,179.
- Consolidated Vacuum Corp.: *See*—
- Brubaker, Wilson M., and Berry. 3,112,863.
- Brubaker, Wilson M., and Pickett. 3,107,044.
- Erhart, Francis J., and Davis. 3,075,688.
- Stevenson, Donald L. 3,075,689.
- Stevenson, Donald L. 3,113,717.
- Wishart, James. 3,108,780.
- Consolidation Coal Co.: *See*—
- Batchelor, James D., Curran, and Gorin. 3,101,303.
- Echtler, Joseph P., Jr. 3,115,782.
- Gorin, Everett, and Friedrick. 3,073,751.
- Gorin, Everett, and Retallick. 3,108,857.
- Gorin, Everett, and Rice. 3,115,394.
- Katlic, John E. 3,074,378.
- Kulik, Metro D. 3,076,657.
- Kulik, Metro D., Laufer, and Neuworth. 3,084,199.
- Kulik, Metro D., and Neuworth. 3,071,621.
- Kulik, Metro D., and Neuworth. 3,071,625.
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- Laufer, Robert J. 3,071,623.
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- Laufer, Robert J. 3,084,196.
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- Lee, Arthur L., and Coval. 3,080,773.
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- Lee, Arthur L., and Coval. 3,100,647.
- Lee, Arthur L., and Coval. 3,100,648.
- Neworth, Martin B. 3,076,850.
- Neworth, Martin B. 3,076,851.
- Neworth, Martin B. 3,079,326.
- Neworth, Martin B., and Hotelling. 3,076,849.
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- Poundstone, William N. 3,072,242.
- Poundstone, William N. 3,101,934.
- Price, Stanley J., Jr. 3,080,767.
- Price, Stanley J., Jr. 3,103,985.
- Regan, Thomas J. 3,085,757.
- Reichl, Eric H. 3,073,652.
- Reichl, Eric H. 3,116,143.
- Werner, David G. 3,111,294.



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- Smidt, Jürgen, Hafner, and Jira. 3,080,425.
- Smidt, Jürgen, Hafner, Jira, Sedlmeier, and Maier. 3,086,994.
- Smidt, Jürgen, Jira, Hafner, Sedlmeier, and Maier. 3,086,052.
- Constabel, Christa: *See*—  
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- Constant, René: *See*—  
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- Constantines, George J., to Phillips Petroleum Co. Heat exchanger flow control. 3,081,823, 3-19-63, Cl. 165-32.
- Constantin, James M., T. W. Humphreys, H. B. Lange, D. Shew, and J. R. Wagner, to Merck & Co., Inc. Method for preventing the growth of fungi in leathers, paints, foods and fabrics. 3,080,279, 3-5-63, Cl. 167-33.
- Constantine, Thomas T., and R. D. Wells, to Crompton & Knowles Corp. Method of producing discontinuous fibers from continuous filaments incident to forming a nonwoven web. 3,071,821, 1-8-63, Cl. 19-155.
- Constantino, Constantine S., to Curtiss-Wright Corp. Engine lubrication and cooling system. 3,090,365, 5-21-63, Cl. 123-41.8.
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- Fougea, Edouard. 3,112,544.
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- Consumers Cooperative Association: *See*—  
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- Contadina Foods, Inc.: *See*—  
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- Blackburn, Richard E. 3,106,331.
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- Desmond, John D. 3,103,080.
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- D'Esposito, Julian C., and Vizcarrondo. 3,116,007.
- Dorofachuk, Gus J. 3,090,539.
- Drnec, Harry F., Bell, and Jaeger. 3,115,813.
- Drnec, Harry F., Bell, and Jaeger. 3,116,006.
- Eisman, Larry, and Walter. 3,071,882.
- Greenwell, Robert H., Kadleck, Richards, and Van Dyke. 3,082,931.
- Hennel, Anthony. 3,075,734.
- Krieps, Frank J., and Mattheis. 3,090,065.
- Masi, Joseph J. 3,097,781.
- McLaughlin, Frank L. 3,077,284.
- Reynolds, Clifford E. 3,095,137.
- Skaggs, Boyd T. 3,116,005.
- Thyen, Eberhard H. 3,111,254.
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- Warner, Joseph A. 3,116,003.
- Container Corp. of America, Sefton Fibre Can Co. Division: *See*—  
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- Van Dyke, Bruce E., Richards, and Kadleck. 3,096,918.
- Container Service Co.: *See*—  
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- Contaldo, Joseph V., to United Engineering and Foundry Co. Apparatus for slitting and handling of strip in a rolling mill. 3,106,359, 10-8-63, Cl. 242-56.5.
- Contant, Peter R., V. H. Hardy, and E. E. Reese, to General Motors Corp. Squeegee and wiper blade assembly embodying same. 3,097,389, 7-16-63, Cl. 15-250.42.
- Conte, Louis B., Jr., and F. N. Apel, to Union Carbide Corp. Bisphenols and process therefor. 3,081,313, 3-12-63, Cl. 260-395.
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- Conti, Alfred R., and D. J. Menter. Cutting tool. 3,102,326, 9-3-63, Cl. 29-96.
- Conti, Girard N., to Holley Carburetor Co. Method of classifying and matching bellows units. Re. 25,392, 5-28-63, Cl. 73-4.
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- Marsh, Francis X. 3,098,357.
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- Bechtold, Rudolph F., and Vincent. 3,107,794.
- Brick, Robert M., and Maier. 3,106,014.
- Brick, Robert M., Maier, and Ripling. 3,105,296.
- Brick, Robert M., Maier, and Ripling. 3,116,121.
- Chaplin, George F. 3,110,409.
- Curtiss, Floyd P., and Relth. 3,100,595.
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- Galitz, Raymond F. 3,095,028.
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- Jones, Walter C., and Brown. 3,071,257.
- Kizer, Austin J., Klopfer, and Burke. 3,074,924.
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- Long, Florren E. 3,075,868.
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- Miller, William L. 3,071,812.
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- Roop, Robert E. 3,079,066.
- Royce, Mark B. 3,108,731.
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- Seigh, Joseph W., and Behrendt. 3,071,258.
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- Weiss, Arthur J. 3,075,799.
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- Swenson, Armand E. 3,075,595.
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- Continental Copper & Steel Industries, Inc. (Hanover Wire Cloth Division): *See*—  
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- Continental Copper & Steel Industries, Inc., Welin Davit & Boat Division: *See*—  
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- Browning, John E. 3,103,021.
- Chance, Walter R. 3,101,489.
- Hickson, William F. 3,081,067.
- Hickson, William F. 3,094,720.
- Jacobi, Henry C. 3,101,490.
- Wallace, Robert H., and Bromfield. 3,092,856.
- Continental Elektroindustrie A.G., Askania-Werke: *See*—  
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- Frish, Eberhard. 3,099,090.
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- Lotzgesell, Rudolf. 3,092,911.
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- Von Mathes, Peter. 3,098,152.
- Continental Freezers of Illinois: *See*—  
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- Continental Furniture Mfg. Co.: *See*—  
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- Grage, Casper R. 3,105,330.
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- Reynolds, Jack J., and Shock. 3,108,439.
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- Beckadolph, Richard, Eckelmann, and Beissner. 3,081,811.
- Beckadolph, Richard, Menell, and Niclas. 3,081,814.
- Beckadolph, Richard, and Niclas. 3,109,202.
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- Continental Illinois National Bank and Trust Co. of Chicago : See—  
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- Continental Industries, Inc. : See—  
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- Continental Titanium Corp. : See—  
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- Continental Vending Machine Corp. : See—  
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- Conval Corp. : See—  
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- Convey, Robert N., and E. F. Jaworowicz. Fish landing net. 3,082,561, 3-26-63, Cl. 43—11.
- Conveyor Co., The : See—  
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- Conveyor Systems, Inc. : See—  
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- Conviser, Arthur R., to Creative Research Corp. Apparatus and method for positioning, arranging and coupling components. 3,104,458, 9-24-63, Cl. 29—208.
- Conway, Kells A. Coating materials. 3,093,505, 6-11-63, Cl. 117—104.
- Conway, Leon F., to Bloom Engineering Co., Inc. Metal heating furnace apparatus. 3,081,073, 3-12-63, Cl. 263—6.
- Conway, William E., E. Dionne, and W. N. Thompson, to Nashua Corp. Peelable gummed tape. 3,076,588, 2-5-63, Cl. 229—3.5.
- Conyne, Richard F. : See—  
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- Cook, Albert N., to The Singer Mfg. Co. Lighting fixtures. 3,082,320, 3-19-63, Cl. 240—41.55.
- Cook, Albert N., to The Singer Co. Electric motor with adjustable field structure. 3,114,852, 12-17-63, Cl. 310—191.
- Cook, Alton A. : See—  
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- Cook, Arthur K. : See—  
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- Cook, Burton E. Hand truck. 3,081,892, 3-19-63, Cl. 214—371.
- Cook, Carl C., to Arthur J. Brow, Jr. Lubricating seal for shotgun shells. 3,102,478, 9-3-63, Cl. 102—42.
- Cook, Charles C., to Vitro Corp. of America. Process for concentrating beryllium minerals. 3,112,260, 11-26-63, Cl. 209—12.
- Cook, Charles E., and J. E. Chin, to Sperry Rand Corp. Velocity measuring radar apparatus for high speed vehicles. 3,105,967, 10-1-63, Cl. 343—17.2.
- Cook, Charles R., Jr., and G. Luecke, to Texas Instruments Inc. Ring counter utilizing bipolar field-effect devices. 3,112,411, 11-26-63, Cl. 307—88.5.
- Cook Chemical Co. : See—  
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- Cook, Clayton M., and C. E. Moser, to Johnson & Johnson. Fluorinated toothbrush bristle and method of making same. 3,076,218, 2-5-63, Cl. 15—159.
- Cook, Curtiss L. Bark hack with chip lip. 3,086,287, 4-23-63, Cl. 30—121.
- Cook, Daniel. Device for supplying moisture-laden air to the intake manifold of an internal combustion engine. 3,107,657, 10-22-63, Cl. 123—25.
- Cook, De Orr. Combination stabilizing and reaming apparatus. 3,075,590, 1-29-63, Cl. 175—295.
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- Cook Electric Co. : See—  
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- Cook, Elton S. : See—  
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- Cook, Ernest E. : See—  
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- Cook, Ernest E., and H. J. Sadler. Method of making fluid pump structures. 3,096,569, 7-9-63, Cl. 29—156.4.
- Cook, Eugene A., Jr. : See—  
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- Cook, Evin L., to Socony Mobil Oil Co., Inc. Percussion drill. 3,094,176, 6-18-63, Cl. 175—92.
- Cook, Frank E. : See—  
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- Cook, Frank M., and J. Bordenave, to Le Fiehl Co. Carcass head splitting device. 3,105,993, 10-8-63, Cl. 17—23.
- Cook, Fred H., to Clark Equipment Co. Expandable conduit for industrial truck. 3,084,765, 4-9-63, Cl. 187—9.
- Cook, George W. Angular accelerometer. 3,098,393, 7-23-63, Cl. 73—516.
- Cook, Glenn : See—  
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- Cook, Gordon H., to Rank Precision Industries Ltd., trading as Taylor, Taylor & Hobson. Optical objectives of variable focal length. 3,081,671, 3-19-63, Cl. 88—57.



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- Cook, Harmon A.: *See*—  
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- Cook, Harold G., to United States of America, Navy. Electrical connector for boost sustained rocket motor. 3,112,615, 12-3-63, Cl. 60—35.6.
- Cook, Harry C.: *See*—  
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- Cook, Harry R. Safety-type, rotary vegetation cutting blade. 3,103,094, 9-10-63, Cl. 56—295.
- Cook, Henry, to Rolls-Royce Ltd. Gas turbine engine with air-cooling means and means to control the temperature of cooling air by liquid injection. 3,083,532, 4-2-63, Cl. 60—39.66.
- Cook, Herbert A., Jr., to The Schlegel Mfg. Co. Beading for finishing structural edges. 3,091,821, 6-4-63, Cl. 20—74.
- Cook, Hulet H., to Indiana University Foundation. Booth structure. 3,083,417, 4-2-63, Cl. 20—5.
- Cook, Hurley D.: *See*—  
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- Cook, Irving L. and D. L. Separable plaster cast. 3,085,569, 4-16-63, Cl. 128—91.
- Cook, James A. Proportional measuring and mixing tank. 3,100,000, 8-6-63, Cl. 137—571.
- Cook, James A., Jr., to Westinghouse Air Brake Co. Validity detector. 3,091,688, 5-28-63, Cl. 246—182.
- Cook, John B., and W. T. Fraser, to The Whitney Blake Co. Telephone cable construction. 3,102,160, 8-27-63, Cl. 174—105.
- Cook, John E.: *See*—  
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- Cook, John H.: *See*—  
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- Cook, John S., to Bell Telephone Laboratories, Inc. Noise reduction in parametric amplifier. 3,072,861, 1-8-63, Cl. 330—43.
- Cook, John S., and W. H. Louisell, to Bell Telephone Laboratories, Inc. Noise elimination system for parametric amplifiers. 3,086,176, 4-16-63, Cl. 330—47.
- Cook, John S., W. H. Louisell, and C. F. Quate, to Bell Telephone Laboratories, Inc. Noise reduction system for parametric amplifiers. 3,087,119, 4-23-63, Cl. 330—47.
- Cook, Julian L., 90% to H. A. Cook, and 5% each to J. H. Boutwell and I. Fannin. Portable life preserver. 3,113,327, 12-10-63, Cl. 9—316.
- Cook, Kenneth A.: *See*—  
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- Cool, Kenneth A., and S. K. Taylor, to The Service Recorder Co. Recording device. 3,104,146, 9-17-63, Cl. 346—18.
- Cool, Kenneth L. Holder for paint cans and the like. 3,108,776, 10-29-63, Cl. 248—210.
- Cool, Leonard W., to General Electric Co. Welding machine and method. 3,072,778, 1-8-63, Cl. 219—78.
- Cool, Leonard W., to General Electric Co. Thermal switch. 3,098,137, 7-16-63, Cl. 200—113.5.
- Cook, Loren, Co.: *See*—  
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- Cook, Lucien H., and R. K. Fidler, to Chemical Construction Corp. Dual cycle urea synthesis process. 3,091,637, 5-28-63, Cl. 260—555.
- Cook, Lyman, to The Foxboro Co. Gas specific gravity measure. 3,107,518, 10-22-63, Cl. 73—30.
- Cook, Melvin A., and T. K. Collins, to Intermountain Research and Engineering Co., Inc. Slurry blasting explosives containing inorganic perchlorate or chlorate. 3,096,223, 7-2-63, Cl. 149—76.
- Cook, Paul M., and R. W. Muchmore, to Raychem Corp. Process and apparatus for producing materials having plastic memory. 3,086,242, 4-23-63, Cl. 18—1.
- Cook, Paul R. Masonry guide apparatus. 3,096,588, 7-9-63, Cl. 33—85.
- Cook, Ralph L., to Olin Mathieson Chemical Corp. Method of producing unitary nitrocellulose grains capable of fragmentation under primer blast to original granules. 3,092,525, 6-4-63, Cl. 149—2.
- Cook, Ralph L., and E. A. Andrew, to Olin Mathieson Chemical Corp. Apparatus for manufacturing propellant powder. 3,094,741, 6-25-63, Cl. 18—1.
- Cook, Reginald M.: *See*—  
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- Cook, Richard L., to Goodyear Aircraft Corp. Method of polishing methyl methacrylate sheets. 3,107,464, 10-22-63, Cl. 51—323.
- Cook, Richard W.: *See*—  
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- Cook, Robert S., to Bell Telephone Laboratories, Inc. Apparatus for applying a dispersion coating to a surface, such as a tape. 3,077,859, 2-19-63, Cl. 118—326.
- Cook, Robert Y. Pouring spout for cans. 3,106,318, 10-8-63, Cl. 222—90.
- Cook, Shirl E.: *See*—  
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Thomas, Wilford H., and Cook. 3,098,090.
- Cook, Shirl E., to Ethyl Corp. Stabilizing alkyllead compounds. 3,081,326, 3-12-63, Cl. 260—437.
- Cook, Shirl E., and E. M. Marlett, to Ethyl Corp. Preparation of organo group 11-B metal compounds. 3,080,409, 3-5-63, Cl. 260—429.9.
- Cook, Shirl E., and W. H. Thomas, to Ethyl Corp. Stable lead alkyl compositions and a method for preparing the same. 3,098,089, 7-16-63, Cl. 260—437.
- Cook, Thomas L. Carton extractor and opener. 3,080,797, 3-12-63, Cl. 93—53.
- Cook, Thomas L.,  $\frac{1}{2}$  each to K. H. Norberg, W. V. Glass, and L. Tellefsen. Method for orienting cylindrical objects and securing the same together. 3,096,575, 7-9-63, Cl. 29—407.
- Cook, Walter L., to The Boeing Co. Fairlead for electrical cables. 3,092,361, 6-4-63, Cl. 248—56.
- Cook, Walter L., to The Boeing Co. Self-retaining fasteners. 3,099,057, 7-30-63, Cl. 24—141.
- Cook, Walter L., and R. B. McKelvey, to The Boeing Co. Positive locking fairlead for electrical cables. 3,092,360, 6-4-63, Cl. 248—56.
- Cook, William W., R. Gibson, G. Roberts, and M. W. Scott. Warp slewing machine. 3,072,999, 1-15-63, Cl. 28—45.
- Cooke, Charles C., and J. C. Hamilton, to Owens-Illinois Glass Co. Method of forming glass articles. 3,075,371, 1-29-63, Cl. 65—35.
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- Cooke, Courtney H., to The Upjohn Co. Soft elastic capsules and process for producing. 3,081,234, 3-12-63, Cl. 167—83.
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- Cooke, Giles B., and W. C. Rainer, to Crown Cork & Seal Co., Inc. Method for making caps. 3,101,992, 8-27-63, Cl. 18—59.
- Cooke, Theodore C. Water skiing apparatus. 3,079,885, 3-5-63, Cl. 115—61.
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Scott-Maxwell, Peter D. 3,101,412.
- Cookson, Harold: *See*—  
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- Coombs, Robert S., by decree of distribution to N. M. Coombs. Automatic signaling system for motor vehicles. 3,109,158, 10-29-63, Cl. 340—66.
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- Coonradt, Harry L., and J. W. Schick, to Socony Mobil Oil Co., Inc. Method of desalting oil solutions of oil soluble salts. 3,082,248, 3-19-63, Cl. 260—504.
- Coonradt, Harry L., W. K. Leaman, and J. N. Miale, to Socony Mobil Oil Co., Inc. Catalytic hydrocracking with a platinum composite catalyst. 3,098,030, 7-16-63, Cl. 208—111.
- Coons, William C., to Curtiss-Wright Corp. Automatic polishing device for metallographic specimens. 3,077,706, 2-19-63, Cl. 51—124.
- Coons, William R., Jr., W. R. Hencke, and G. S. Bright, to Texaco Inc. Rheopectic lithium soap grease and method of preparation therefor. 3,079,341, 2-26-63, Cl. 252—41.
- Coop, Jesse J., to United States of America, Navy. Apparatus and method for measuring relative rates of water currents. 3,082,400, 3-19-63, Cl. 340—4.
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- Cooper, Albert H., to United Technical Industries, Inc. Production of ammonium fluoride from gaseous compounds of silicon and fluorine. 3,094,381, 6-18-63, Cl. 23-88.
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- Ballash, Clarence J. 3,099,186.
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- Crooks, William R. 3,100,478.
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- Van Sittert, Paul R. 3,102,621.
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- Cooper, Donald J., 49% to A. C. Bergener. Seed potato and produce cutter. 3,086,571, 4-23-63, Cl. 146-155.
- Cooper, Franklin D., to Bituminous Coal Research, Inc. Solids flow system. 3,081,009, 3-12-63, Cl. 222-459.
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- Cooper, George B. Holder for fish while cleaning same. 3,093,859, 6-18-63, Cl. 17-8.
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- Cooper, Irving B., Jr., to The Bendix Corp. Fuel flow measuring device. 3,071,000, 1-1-63, Cl. 73-194.
- Cooper, Jack A. Corner strip for wallboard construction. 3,109,207, 11-5-63, Cl. 20-92.
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- Cooper, Leon M., and D. E. Sims, to International Business Machines Corp. Sequential typewriter magnetic tape recording and checking apparatus. 3,115,620, 12-24-63, Cl. 340-174.1.
- Cooper, Martin, to Motorola, Inc. Selective calling apparatus. 3,080,547, 3-5-63, Cl. 340-164.
- Cooper, Murray S., A. S. Taylor, and V. A. Place, to American Cyanamid Co. Intracutaneous injector with capillary gap. 3,074,403, 1-22-63, Cl. 128-253.
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- Cooper, Ralph F., to The B. F. Goodrich Co. Tire sidewall grinder and cleaner machine. 3,077,060, 2-12-63, Cl. 51-105.
- Cooper, Robert S., to Stauffer Chemical Co. Method for the preparation of diphenylphosphine chloride. 3,094,559, 6-18-63, Cl. 260-543.
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- Coover, Harry W., Jr., and N. H. Shearer, Jr., to Eastman Kodak Co. Aluminum alkyl-transition metal halide catalyst modified with an arsine or stibine compound. 3,072,629, 1-8-63, Cl. 260-93.7.
- Coover, Harry W., Jr., F. B. Joyner, and N. H. Shearer, Jr., to Eastman Kodak Co. Solid phase process for linear superpolyesters. 3,075,952, 1-29-63, Cl. 260-75.
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- Coover, Harry W., Jr., and F. B. Joyner, to Eastman Kodak Co. Dyeable polypropylene fibers containing polyvinyl acetal resins. 3,090,769, 5-21-63, Cl. 260-45.5.
- Coover, Harry W., Jr., and F. B. Joyner, to Eastman Kodak Co. Dyeable poly- $\alpha$ -olefin fibers containing polyvinyl acetal resins. 3,102,869, 9-3-63, Cl. 260-45.5.
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- Cope, Robert G., to The International Nickel Co., Inc. Ruthenium fabrication. 3,108,000, 10-22-63, Cl. 75-214.
- Cope, William V. Rotatable sealing valve means with friction reducing means for faucets. 3,103,340, 9-10-63, Cl. 251-88.
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- Corbett, Marshall J., to Thompson Ramo Wooldridge Inc. Turbine. 3,098,387, 7-23-63, Cl. 73—357.
- Corbett, Marshall J., to Thompson Ramo Wooldridge, Inc. Thrust control for rocket engines. 3,105,352, 10-1-63, Cl. 60—35.6.
- Corbett, Robert L., and R. L. Corbett, Jr. Hood-type annealing furnace. 3,071,500, 1-1-63, Cl. 148—13.
- Corbett, Robert L., Jr.: *See*—  
Corbett, Robert L. and R. L. Corbett, Jr. 3,071,500.
- Corbett, William H., to The De Vilbiss Co. Atomizer for preparing microscopic slides. 3,107,058, 10-15-63, Cl. 239—346.
- Corbin, Joseph D. Inclinator. 3,070,895, 1-1-63, Cl. 33—215.
- Corbin, Vernon L., and A. M. Crain, to The Orville Simpson Co. Screen tensioning device. 3,081,874, 3-19-63, Cl. 209—408.
- Corbin, Wesley S., L. A. Moore, and C. M. Pearson, to The Black-Clawson Co. Paper machinery. 3,074,476, 1-22-63, Cl. 162—342.
- Corcoran, George F.: *See*—  
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- Corcoran, Lyle S. Turret type reloading press. 3,090,276, 5-21-63, Cl. 86—33.
- Corcoran, Lyle S. Shot and powder measuring dispenser. 3,090,524, 5-21-63, Cl. 222—46.
- Corcoran, Thomas J., to Miami Herald Publishing Co. Spill-out prevention attachment for stereotyped plate-casting machines. 3,071,829, 1-8-63, Cl. 22—2.
- Cordero, Fidel, and R. W. Armstrong, to United States of America, Navy. Airplane cabin pressure error or deviation indicator. 3,078,719, 2-26-63, Cl. 73—407.
- Cordero, Fidel, and R. W. Armstrong, to United States of America, Navy. Aircraft cabin pressure error indicator. 3,084,549, 4-9-63, Cl. 73—407.
- Cordes, Harry: *See*—  
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- Cordier, Jean, to Institut de Recherches de la Sederurgie Francaise Hydrocarbon injector for blast-furnaces. 3,076,607, 2-5-63, Cl. 239—132.
- Cordis Corp.: *See*—  
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- Murphy, William P., Jr. 3,105,511.
- Cordis, Helmut. Cleaning device for drawing frames of spinning machines. 3,086,255, 4-23-63, Cl. 19—265.
- Cordis, Nat. Variable-delivery blade-type conveyor. 3,100,043, 8-6-63, Cl. 198—224.
- Cordis, Nat. Poultry feeder having a band type conveyor. 3,101,070, 8-20-63, Cl. 119—52.
- Cordis, Nat. Automatic fluid supply actuated motor and piston additive device. 3,114,379, 12-17-63, Cl. 137—98.
- Cordova, Inc.: *See*—  
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- Cordray, Richard A., and S. R. Crooks, to Republic Steel Corp. Method of texturing metal sheets. 3,109,331, 11-5-63, Cl. 80—60.
- Cordrey, James M., S. T. Druckenmiller, and J. E. Lufkin, to E. I. du Pont de Nemours and Co. Process for making alkali metal salt of carboxymethylcellulose. 3,088,943, 5-7-63, Cl. 260—231.
- Cordrey, Richard N., to Armco Steel Corp. Power plant for drilling rig. 3,109,322, 11-5-63, Cl. 74—661.
- Cords, Helmut, D. W. Grant, and E. M. Butterworth, to Olin Mathieson Chemical Corp. Cyanocobalt and cyanoniron complexes of cobalamin. 3,115,489, 12-24-63, Cl. 260—211.5.
- Cordt, Werner: *See*—  
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- Cordua, Fred R., to J. M. Huber Corp. Atomizing wheel. 3,080,122, 3-5-63, Cl. 239—224.
- Corduroy Rubber Co.: *See*—  
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- Corella, Arthur P.: *See*—  
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- Schneider, William S., and Corella. 3,082,586.
- Corey, Arthur M., and L. W. Webb. Boat and trundling mechanism. 3,098,245, 7-23-63, Cl. 9—1.
- Corey, Charles E., to Lapp Insulator Co., Inc. Electrical bus support. 3,076,867, 2-5-63, Cl. 174—169.
- Corey, Donald W., to Buxton, Inc. Cigarette case. 3,081,867, 3-19-63, Cl. 206—41.
- Corey, Ronald D. Heating method, means and control. 3,115,302, 12-24-63, Cl. 237—2.
- Corey, Thomas M., and C. A. Wakefield, to Creative Packaging, Inc. Phonograph record portfolio. 3,107,783, 10-22-63, Cl. 206—62.
- Corken, Charles M.: *See*—  
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- Corken's Inc.: *See*—  
Kennedy, Garth P., Corken, and Heim. 3,072,066.
- Corlett, Ewan C. B., to Wm. Cory & Son Ltd. Marine tankers. 3,094,963, 6-25-63, Cl. 114—74.
- Corlew, Charles D. Internal combustion motor fuel injection system. 3,090,369, 5-21-63, Cl. 123—138.



- Corley, Charles B., Jr., G. C. Terrel, and S. E. Loy III, to Jersey Production Research Co. Wire line cementing tool. 3,097,698, 7-16-63, Cl. 166-162.
- Corley, Clifton. Dispensing container and apparatus. 3,096,913, 7-9-63, Cl. 222-183.
- Corley, Richard S., to Polaroid Corp. Process for oxidizing hydroquinonyl radicals present in dyes to quinonyl radicals. 3,116,279, 12-31-63, Cl. 260-197.
- Corliss, Robert F., to Monogram Precision Industries, Inc. Sewage handling apparatus. 3,079,612, 3-5-63, Cl. 4-10.
- Corn Products Co.: See—
- Bond, Robert W. 3,100,740.
- Dawson, Richard B. 3,087,820.
- Gooding, Chester M. 3,099,564.
- Gooding, Chester M., and Cravens. 3,085,882.
- Harris, Richard C. 3,087,819.
- Inglett, George E. 3,101,302.
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- Meisel, Harry. 3,072,501.
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- Opila, Robert L. 3,114,656.
- Opila, Robert L., and Oleson. 3,086,008.
- Paschall, Eugene F., Thayer, and Minkema. 3,101,330.
- Reiners, Robert A., and Morgan. 3,081,171.
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- Wadsworth, Daniel V. 3,112,202.
- Wadsworth, Daniel V., Marino, and Ho. 3,085,879.
- Wadsworth, Daniel V., Rosenberg, and Marino. 3,085,914.
- Cornberg, Sol. Movable live audience auditorium. 3,092,876, 6-11-63, Cl. 20-112.
- Cornelison, Boyd, to Texas Instruments Inc. Method of making versatile transistor structure and article resulting therefrom. 3,082,131, 3-19-63, Cl. 148-33.
- Cornelison, Boyd, to Texas Instruments Inc. Strain gauge. 3,096,652, 7-9-63, Cl. 73-398.
- Cornelison, Boyd, to Texas Instruments Inc. Pressure sensitive gauge. 3,111,848, 11-26-63, Cl. 73-418.
- Cornelison, Boyd, M. E. Jones, J. T. Lineback, E. A. Wolff, Jr., S. W. Barcus, Jr., F. A. Horak, and N. S. Ince, to Texas Instruments Inc. Materials for and methods of manufacturing semi-conductor devices. 3,076,253, 2-5-63, Cl. 29-25.3.
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- Cornelissen, Bernardus H. J., to North American Philips Co., Inc. Direct-voltage stabilizing device. 3,112,436, 11-26-63, Cl. 323-22.
- Cornelius Co., The: See—
- Cornelius, Richard T. 3,076,576.
- Cornelius, Gail, to R. M. Wade & Co. Aligning means for sprinkler type irrigation systems. 3,071,327, 1-1-63, Cl. 239-212.
- Cornelius, Nelson F. Container handle construction. 3,077,286, 2-12-63, Cl. 220-94.
- Cornelius, Nelson F. Method of making insulated plastic containers. 3,094,448, 6-18-63, Cl. 156-78.
- Cornelius, Richard T., to Stewart-Warner Corp. Valves. 3,071,153, 1-1-63, Cl. 137-516.29.
- Cornelius, Richard T., to The Cornelius Co. Closure operator. 3,076,576, 2-5-63, Cl. 220-25.
- Cornelius, W. C. Structure for cooling water heated in cooling automobile engines. 3,070,975, 1-1-63, Cl. 62-238.
- Cornell Aeronautical Laboratory, Inc.: See—
- Beach, John B. 3,094,694.
- Dye, Edward R. 3,103,859.
- Hendrick, Roy W., Jr. 3,094,625.
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- Cornell, Archie R., to Westinghouse Electric Corp. Circuit arrangement with means for obtaining safety standards. 3,089,982, 5-14-63, Cl. 315-98.
- Cornell, Arthur A., and W. B. Godbold, to E. I. du Pont de Nemours and Co. Pipe rack. 3,087,634, 4-30-63, Cl. 214-164.
- Cornell-Dubilier Electric Corp.: See—
- Coleman, William H., and Malone. 3,106,671.
- Weiss, Felix S. 3,079,957.
- Weiss, Felix S. 3,080,908.
- Weiss, Felix S. 3,091,835.
- Cornell, Dudley E., III, to Teaching Machines, Inc. Portable teaching machines. 3,105,307, 10-1-63, Cl. 35-9.
- Cornell, Dudley E., III, and R. A. O'Connell, to Unicycle Corp. of America, a division of Push Button Container Corp. Occupant propelled unicycle. 3,083,036, 3-26-63, Cl. 280-205.
- Cornell, Edward S., Jr. Apparatus for purifying air. 3,071,828, 1-8-63, Cl. 21-74.
- Cornell, Edward S., Jr., to Burndy Corp. Flexible multiple connector. 3,097,036, 7-9-63, Cl. 339-176.
- Cornell, Edward S., Jr. Cabinet for treating limbs with radiation. 3,101,716, 8-27-63, Cl. 128-375.
- Cornell, George W., 1/2 to W. E. Cornell, Jr. All vinyl door, window or like seal assembly. 3,079,653, 3-5-63, Cl. 20-69.
- Cornell, Jacob, to Chrysler Corp. Engine crankcase ventilation systems. 3,111,120, 11-19-63, Cl. 123-119.
- Cornell, James R., to The National Cash Register Co. Cathode-coupled phantatron sweep circuit having transistor means for providing controllable premature sweep termination without "bottoming." 3,102,240, 8-27-63, Cl. 328-184.
- Cornell, James R., and D. B. Congleton, to The National Cash Register Co. Deflection amplifier. 3,109,122, 10-29-63, Cl. 315-27.
- Cornell, Lafayette. Soap cake holder. 3,104,490, 9-24-63, Cl. 45-28.
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- Cornell, Richard H.: See—
- Oliphant, William J., and Cornell. 3,085,588.
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- Cornell, George W. 3,079,653.
- Corner, Arthur C., to Automatic Telephone & Electric Co. Ltd. Automatic telephone systems. 3,115,553, 12-24-63, Cl. 179-22.
- Cornford, Arthur S., to Aerofall Mills Inc. Trunnion bearing. 3,093,426, 6-11-63, Cl. 308-73.
- Cornforth, Jack W., and C. H. Crooks, to Imperial Chemical Industries Ltd. Films and their production. 3,107,139, 10-15-63, Cl. 18-48.
- Cornia, William: See—
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- Davis, James K. 3,108,019.
- Domicone, Joseph J. 3,089,799.
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- Elmer, Thomas H. 3,113,008.
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- Kelm, Everett F. 3,113,731.
- Kimber, Ray L., Jr. 3,105,714.
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- Mouly, Raymond J. 3,071,967.
- Mouly, Raymond J., and Pabalan. 3,107,520.
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- Seck, Charles F. 3,094,029.
- Smith, Gail P. 3,114,319.
- Smith, Roy E. 3,113,012.
- Smith, Wendell C. 3,085,172.
- Stanton, Courtland C. 3,084,959.
- Udall, Gordon F. 3,113,842.
- Van Cott, Harrison C. 3,096,159.
- Wiker, Richard M. 3,077,414.
- Corning, Leon M., to Advance Chemical Co. Apparatus for sterilizing and descaling toilet bowls. 3,084,872, 4-9-63, Cl. 239-333.
- Cornish, Albert J., to Westinghouse Electric Corp. Thermoelements and devices embodying them. 3,110,629, 11-12-63, Cl. 136-4.
- Cornish, Robert F., and R. H. Logan, to The Timken Roller Bearing Co. Adjustable length differential thrust block or the like. 3,115,790, 12-31-63, Cl. 74-713.
- Corns, Edwin A.: See—
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- Cornwell, Carlyle S., and T. Bischoff, said Bischoff assor. to said Cornwell. Laundry invoicing machine. 3,095,781, 7-2-63, Cl. 93-88.
- Cornwell, Claude V. Over door hanger. 3,112,911, 12-3-63, Cl. 248-215.
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- Foster, Herbert G., Jr., and Cornwell. 3,079,263.
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- Newland, Arthur E., and Schultz. 3,086,513.
- Cornwell, Robert L. Shield for sanitary napkins. 3,096,765, 7-9-63, Cl. 128-287.
- Cornwell, Ross E.: See—
- Smith, Paul L., and Cornwell. 3,087,822.
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- Coro, Inc., of Rhode Island: See—
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- Coronado, Robert J., J. Y. Yamashiro, and S. C. Ward, to Hughes Aircraft Co. Card handling apparatus. 3,083,960, 4-2-63, Cl. 271-4.
- Corox Corp.: *See*—  
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- Correc, Henri, to Commissariat a l'Energie Atomique. Links for girdling a vertical stack of moderator units in a nuclear reactor. 3,071,528, 1-1-63, Cl. 204-193.2.
- Correc, Henri, to Commissariat a l'Energie Atomique. Girdles for vertically stacked solid moderator bars in a nuclear reactor. 3,085,960, 4-16-63, Cl. 204-193.2.
- Correct-Air Corp.: *See*—  
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- Correll, Curtis V. Aerial wire payout system and wire magazine therefor. 3,089,588, 5-14-63, Cl. 206-59.
- Correy, Thomas B., D. E. De Witt and I. V. Nelson, to United States of America, Atomic Energy Commission. Welding apparatus. 3,087,045, 4-23-63, Cl. 219-74.
- Corrigan Communications, Inc.: *See*—  
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- Corrigan, Harold A., to The Standard Products Co. Audible-visual communication systems. 3,094,589, 6-18-63, Cl. 179-40.
- Corrigan, Robert E., to Corrigan Communications, Inc. Method of testing the learning of persons. 3,095,653, 7-2-63, Cl. 35-9.
- Corrinet, Andrew L., to American Can Co. Tamperproof container. 3,080,088, 3-5-63, Cl. 220-38.5.
- Corrinet, Andrew L., to American Can Co. Container. 3,110,121, 11-12-63, Cl. 40-312.
- Corry, Thomas M.: *See*—  
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- Corrosion Reaction Consultants Inc.: *See*—  
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Larsen, Norman B. 3,093,492.
- Corrugated Container Co., The: *See*—  
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- Corry, Thomas M., to Westinghouse Electric Corp. Electro-luminescent and fluorescent lighting. 3,078,389, 2-19-63, Cl. 315-185.
- Corry, Thomas M., and L. L. Learn, to Westinghouse Electric Corp. Thermoelectric appliance. 3,082,276, 3-19-63, Cl. 136-4.
- Corsan, George W., to Walter Grafton & Son, Ltd. Spools for business machines. 3,092,348, 6-4-63, Cl. 242-74.
- Corsan, George W., to Walter Grafton & Son, Ltd. Spools for business machines. 3,092,349, 6-4-63, Cl. 242-74.
- Corsets Silhouette Ltd.: *See*—  
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- Corsette, Douglas F., to The Drackett Co. Liquid dispenser. 3,084,873, 4-9-63, Cl. 239-337.
- Corsette, Douglas F., and R. C. Coopridge, to The Drackett Co. Dispensing pump valve structure. 3,102,489, 9-3-63, Cl. 103-42.
- Corsette, Nancy N.: *See*—  
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- Corsette, William T., deceased; N. N. Corsette, executrix, to D. J. Ainsworth. Swivel pipe coupling having low friction seals. 3,088,759, 5-7-63, Cl. 285-190.
- Corsetti, Carlo: *See*—  
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- Corsi, George L.: *See*—  
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- Corson, Alan S., C. Beck, and L. S. Guarino; said Corson and said Guarino assors, to United States of America, Navy. Angle of attack computer. 3,091,962, 6-4-63, Cl. 73-178.
- Corson, Bolton L., to G. & W. H. Corson, Inc. Process for producing dry lime hydrate. 3,106,453, 10-8-63, Cl. 23-188.
- Corson, Carl R., and L. H. Gilligan, to United States of America, Air Force. System for automatic control of a PPI display for optimum photography. 3,078,454, 2-19-63, Cl. 343-5.
- Corson, G. & W. H., Inc.: *See*—  
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- Cortes, Beverly: *See*—  
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- Cortes, Ricardo, deceased; B. Cortes, administratrix, to Pittsburgh Plate Glass Co. Method of chlorinating an agglomerate-free fluid bed of titanium-bearing materials. 3,074,777, 1-22-63, Cl. 23-87.
- Cortez, Jose C., to Lamford Paper International Ltd. Auto copy paper and methods of making the same. 3,079,270, 2-26-63, Cl. 117-36.7.
- Corti, Ulrich A., F. Gassmann, and M. Weber. Motion measuring apparatus. 3,090,226, 5-21-63, Cl. 73-141.
- Cortright, Peggy. Convertible fumehood. 3,111,077, 11-19-63, Cl. 98-115.
- Corwin, Alfred W., to McGraw-Edison Co. Rotatable head for luminaires. 3,080,475, 3-5-63, Cl. 240-25.
- Corwin, Merton D.: *See*—  
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- Cory, Carleton D., Jr., and R. L. Jenkins, to General Motors Corp. Highway communication system. 3,105,119, 9-24-63, Cl. 179-82.
- Cory Corp.: *See*—  
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- Cory, Wm., & Son Ltd.: *See*—  
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- Corydon, Jeff L., to Hush Bumper Service, Inc. Bowling ball bump absorbers. 3,092,385, 6-4-63, Cl. 273-47.
- Cosby, John N., and C. J. Klassen, to Allied Chemical Corp. Recovery of chlorinated polyethylene wax from solution by spray drying. 3,074,923, 1-22-63, Cl. 260-94.9.
- Cosby, Kenneth W., to C. J. Philipps. Test apparatus and hydraulic systems. 3,090,221, 5-21-63, Cl. 73-40.
- Coscia, Anthony T., to American Cyanamid Co. Separation of xylene isomers with alkylidene-bis-benzamides. 3,114,784, 12-17-63, Cl. 260-674.
- Coscia, George A. Method of fabricating elongated underground conduits. 3,101,530, 8-27-63, Cl. 29-469.
- Coscia, George A. Apparatus for welding pipes. 3,102,187, 8-27-63, Cl. 219-60.
- Cosden Petroleum Corp.: *See*—  
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- Costentino, Anthony. Sheets feeding machine. 3,073,591, 1-15-63, Cl. 271-54.
- Cosgrove, Lee A., to Air Products and Chemicals, Inc. Method of preparing catalyst for hydrocarbon conversion. 3,109,823, 11-5-63, Cl. 252-442.
- Cosgrove, William J.: *See*—  
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- Coslowsky, Marion M. Spinning missile launcher. 3,084,598, 4-9-63, Cl. 89-1.7.
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- Cosmos Industries, Inc.: *See*—  
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- Cosmos, William J. High speed molded wheel and process therefor. 3,079,645, 3-5-63, Cl. 18-59.
- Cosner, Robert R., and T.-L. Weng, to Union Carbide Corp. High speed tensile testing. 3,102,421, 9-3-63, Cl. 73-97.
- Cosnuau, Bernard, to Fluotecnica. Fluorescent discharge lamp starting and operating circuit. 3,097,325, 7-9-63, Cl. 315-100.
- Cossor, A. C., Ltd.: *See*—  
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- Costa Font, Buenaventura. Power loom. 3,110,327, 11-12-63, Cl. 139-190.
- Costa, Italo. Well-drilling pipe. 3,077,358, 2-12-63, Cl. 285-133.
- Costakos, Theodore M. Valve mechanism for cream dispensers. 3,107,828, 10-22-63, Cl. 222-438.
- Costantini, Anthony R., and A. Di Angelus, to Victory Metal Mfg. Co., d.b.a. Victory Metal Mfg. Corp. Shelf mounting and securing means. 3,110,536, 11-12-63, Cl. 312-350.
- Costanzi, Nicolo, to Cantieri Riuniti Dell'Adriatico S.p.A. Ship's hull formation. 3,090,338, 5-21-63, Cl. 114-56.
- Costanzi, Nicolo, to Cantieri Riuniti Dell'Adriatico S.p.A. Ship form. 3,092,061, 6-4-63, Cl. 114-56.
- Costanzo, Raphael J., to Harvey Hubbell, Inc. Saturable reactor dimmer. 3,107,328, 10-15-63, Cl. 323-88.
- Costas, John P., to General Electric Co. Synchronous detector system. 3,101,448, 8-20-63, Cl. 329-50.
- Coste, Louis E. Digital computing apparatus utilizing algebraic-binary number representation. 3,079,081, 2-26-63, Cl. 235-152.
- Coste, Peter, to Rhonopack G.m.b.H. Method and apparatus for manufacture of hollow bodies. 3,114,172, 12-17-63, Cl. 18-19.
- Costello, Clifford T. Reaction motor driven generator. 3,072,799, 1-8-63, Cl. 290-52.
- Costello, Daniel R. Vehicle mounted hoist. 3,072,271, 1-8-63, Cl. 214-77.
- Costello, Daniel R. Self-loading flat-bed truck. 3,095,099, 6-25-63, Cl. 214-77.
- Costello, John G., to National Gypsum Co. Preassembled wall frame. 3,111,202, 11-19-63, Cl. 189-34.
- Costello, John J.: *See*—  
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- Costello, Otto A.: *See*—  
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- Costley, Vivian G.: *See*—  
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- Costley, Vivian G., C. W. Dovell, and L. V. C. Luh, to United States of America, Navy. Explosive release bolt and valve. 3,094,928, 6-25-63, Cl. 102-10.
- Costruzioni Meccaniche Riva S.p.A.: *See*—  
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- Cosway, Harry F.: *See*—  
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- Cota, John A., to Ford Motor Co. Power steering mechanism. 3,086,607, 4-23-63, Cl. 180-79.2.
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- Cote, Raymond A. : *See*—  
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- Cote, Raymond A., to Olin Mathieson Chemical Corp. Method of packaging articles. 3,107,465, 10-22-63, Cl. 53—29.
- Cotesworth, Harry A. : *See*—  
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- Cotman, Val, Jr., to Ric-Wil-Inc. Pipe support. 3,113,595, 12-10-63, Cl. 138—113.
- Cottell, Eric C., and J. E. Goodman, to Sonic Engineering Corp. Apparatus for the mechanical production of acoustic vibrations for use in emulsification, dispersion or like process. Re. 25,324, 1-29-63, Cl. 259—1.
- Cotter, Donald P., to Nashoba Engineering Corp. Drill guide means. 3,083,593, 4-2-63, Cl. 77—55.
- Cotter, George H. : *See*—  
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- Cotter, Perry G., and R. A. Potter, to United States of America, Interior. Method for producing zirconium diboride. 3,088,805, 5-7-63, Cl. 23—204.
- Cotter, Robert J. : *See*—  
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- Cotter, William. Telephone call priority indicator. 3,075,047, 1-22-63, Cl. 179—51.
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- Cottet, Emile C., and A. C. Ducros, to Societe des Usines Chimiques Rhone-Poulenc. Production of graft polymers. 3,107,206, 10-15-63, Cl. 204—154.
- Cottet, Emile C., and A. C. Ducros, to Societe des Usines Chimiques Rhone-Poulenc. Process for the production of shaped articles by irradiation. 3,107,207, 10-15-63, Cl. 204—154.
- Cotteta, Jerome E., to Philco Corp. Method and solution for selectively stripping electroless nickel from a substrate. 3,104,167, 9-17-63, Cl. 75—97.
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- Morway, Arnold J., Kelley, Seelbach, and Cottle. 3,098,042.
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- Smith, Paul V., Jr., Young, and Cottle. 3,085,104.
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- Cottle, Delmer L., and L. S. Minckler, Jr., to Esso Research and Engineering Co. Composition comprising halogenated butyl rubber and a thioaldehyde trimer. 3,097,182, 7-9-63, Cl. 260—43.
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- Cottle, John E., to Phillips Petroleum Co. Monomer recovery process. 3,081,290, 3-12-63, Cl. 260—94.9.
- Cottle, John E., to Phillips Petroleum Co. Purification of gases by absorption. 3,106,462, 10-8-63, Cl. 55—20.
- Cotton, Beryl W., and T. L. Thomas. Nurse call and utility unit. 3,112,968, 12-3-63, Cl. 312—248.
- Cotton, De Bennot, Michel, to Societe d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Combined permanent magnet and electromagnet. 3,089,064, 5-7-63, Cl. 317—123.
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- Cotton, Leon B., to I-T-E Circuit Breaker Co. Molded handle tie. 3,110,779, 11-12-63, Cl. 200—50.
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- Luehrs, Hans J. 3,099,210.
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- Coull, James, and D. E. Vierling. O-higher alkenylphenyl O,O-dialkyl thionophosphate triester compounds. 3,087,855, 4-30-63, Cl. 167—30.
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- Counsell, Raymond E., to G. D. Searle & Co. 20-[ω-(tertiary-amino) lower alkanoylamido]-pregn-5-en-3β-ols, esters corresponding, and intermediates thereto. 3,076,802, 2-5-63, Cl. 260—239.5.
- Counsell, Raymond E., to G. D. Searle & Co. Process and intermediates for the manufacture of 17-oxygenated 2α-methylandrostan-3-ones. 3,105,841, 10-1-63, Cl. 260—397.4.
- Counsell, Raymond E., to G. D. Searle & Co. 17α-(2-alkenyl)-estra-1,3,5(10)-triene-3,17β-diols and esters thereof. 3,107,257, 10-15-63, Cl. 260—397.5.
- Counsell, Raymond E., and P. D. Klimstra, to G. D. Searle & Co. 2-halo-5α-androst-1-ene-3,17-diols and derivatives thereof. 3,078,284, 2-19-63, Cl. 260—397.5.
- Counsell, Raymond E., and P. D. Klimstra, to G. D. Searle & Co. 17β-[N-(aminoalkyl)amino]androstan-3-ols, 5-dehydro derivatives corresponding, and esters thereof. 3,084,156, 4-2-63, Cl. 260—239.5.
- Counsell, Raymond E., and P. D. Klimstra, to G. D. Searle & Co. 17α-alkynyl-2β-halo-5α-androstane-3α, 17β-diols, esters thereof, and intermediates thereto. 3,098,851, 7-23-63, Cl. 260—239.55.
- Counsell, Raymond E., and P. D. Klimstra, to G. D. Searle & Co. 17-oxygenated 2β-fluoro-5α-androstan-3-ones and intermediates thereto. 3,104,244, 9-17-63, Cl. 260—397.3.
- Counsell, Raymond E., and P. D. Klimstra, to G. D. Searle & Co. N-(dialkylaminoalkyl)androstan-17β-amines, N-alkyl derivatives thereof, and 2,3-dehydro compounds corresponding. 3,107,255, 10-15-63, Cl. 260—397.3.
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- Courter, Martin L., and G. J. Carlson, to Shell Oil Co. Ethylene oxide production. 3,091,622, 5-28-63, Cl. 260—348.5.
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- Courvoisier, Jean, to North American Philips Co., Inc. Method of manufacturing semiconductor bodies. 3,102,828, 9-3-63, Cl. 117—227.
- Cousino, Walter F., to Hydro-Coin, Inc. Method and apparatus for cutting off elongated materials. 3,089,368, 5-14-63, Cl. 83—1.
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- Covington, Robert A., Jr., B. K. Daubenspeck, R. E. Dickey, and E. M. Yacko, to Remington Arms Co., Inc. Tubing for cartridge casings and the like and method of making the same. 3,103,170, 9-10-63, Cl. 102—43.
- Covington, William Z. Frame and plastic comb foundation for beehives. 3,088,135, 5-7-63, Cl. 6—10.
- Covini, Lorenzo, to Cober. Heel safety device for ski binding. 3,093,209, 6-25-63, Cl. 280—11.35.
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- Cowan, Willard R., and C. W. White, to Aeroquip Corp. Power-operated, multistage, predetermined torque release wrench. 3,088,349, 5-7-63, Cl. 81—52.4.
- Coward, Richard W. Blades for centrifugal fans and the like. 3,104,050, 9-17-63, Cl. 230—128.
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- Cowden, Richard C., to International Business Machines Corp. Magnetic recording method. 3,085,246, 4-9-63, Cl. 346—74.
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- Cowles, Warren H., and D. F. Wheeler, to Holley Carburetor Co. Fuel control for a twin spool gas turbine engine. 3,073,115, 1-15-63, Cl. 60—39.16.
- Cowles, Warren H., and R. L. Ensinger, to Holley Carburetor Co. Turbine engine maximum speed limiter. 3,115,750, 12-31-63, Cl. 60—39.16.
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- Cox, Bradley G., to Baker Perkins Inc. Closure for pressurized vessels. 3,092,285, 6-4-63, Cl. 220—46.
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- Cox, Clarence E., and R. L. Nash. Machine for compressing fluids. 3,072,319, 1-8-63, Cl. 230-207.
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- Cox, Harry A., to The General Electric Co. Ltd. Moderator core structures for nuclear reactors. 3,093,568, 6-11-63, Cl. 204-193.2.
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- Cox, Herbert F., Jr., to Inland Container Corp. Pouring type fluid container. 3,100,587, 8-13-63, Cl. 222-105.
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- Cox, Ivan E. Can opener. 3,096,580, 7-9-63, Cl. 30-6.1.
- Cox, John E., to International Telephone and Telegraph Corp. Four-wire transistorized conference call telephone system. 3,116,369, 12-31-63, Cl. 179-1.
- Cox, John E., and W. Gibbon. Spacers for bundled overhead line conductors. 3,111,552, 11-19-63, Cl. 174-40.
- Cox, Lewis J.: *See*—
- Starr, Louis, Kaplan, Greenberg, and Cox. 3,100,986.
- Cox, Marvin E.: *See*—
- Chen, Ming C., and Cox. 3,103,408.
- Cox, Mason C.: *See*—
- Sarakauskas, Raymond V., Cox, and Thielke. 3,096,288.
- Cox, Norman L., to E. I. du Pont de Nemours and Co. Process for producing ferromagnetic chromium oxide. 3,074,778, 1-22-63, Cl. 23-145.
- Cox, Norman L., to E. I. du Pont de Nemours and Co. Ferromagnetic chromium oxide and preparation. 3,078,147, 2-19-63, Cl. 23-145.
- Cox, Numan E. Boat trailer. 3,082,892, 3-26-63, Cl. 214-505.
- Cox, Orville P.: *See*—
- Stanulis, Joseph S., Cox, and Zapolski. 3,109,627.
- Cox, Paul R., Jr.: *See*—
- Woodard, William R., and Cox. 3,088,838.
- Cox, Paul R., Jr., and P. A. Ucci, to Monsanto Chemical Co. Solutions of polyolefins and an alkoxyalkyl ester of an aliphatic monocarboxylic acid and a process for spinning same. 3,093,612, 6-11-63, Cl. 260-31.4.
- Cox, Ralph E., and A. J. Cavanaugh, to Raytheon Co. Filling system including filling and relief valves. 3,074,423, 1-22-63, Cl. 137-205.
- Cox, Robert J.: *See*—
- Moore, Ralph G. D., and Cox. 3,082,200.
- Cox, Robert M., and R. L. Burton, to Weston Hydraulics, Ltd. Pressure regulating valve. 3,111,962, 11-26-63, Cl. 137-505.18.
- Cox, Robert O.: *See*—
- Sanner, Medford D., and Cox. 3,091,755.
- Cox, Robert P.: *See*—
- Buetow, Ralph W., and Cox. 3,096,197.
- Cox, Ronald T.: *See*—
- Ryan, Genevieve, and Cox. 3,093,093.
- Cox, Rupert F., to Therm-O-Disc, Inc. Thermostatic controls. 3,081,388, 3-12-63, Cl. 200-138.
- Cox, Thomas G.: *See*—
- Polk, Ralph, Jr., Belk, and Cox. 3,073,365.
- Cox, Walter W. Disposable sinker device. 3,077,694, 2-19-63, Cl. 43-43.12.
- Cox, Wilbur C. S. Meyers, and E. F. Keon, to United States of America, Army. Explosive composition stabilized by nitro-nitroso-triphenyl amine. 3,097,122, 7-9-63, Cl. 149-92.
- Cox, William L., to Universal Oil Products Co. Stabilization of synthetic lubricants. 3,078,229, 2-19-63, Cl. 252-40.7.
- Cox, William L., to Universal Oil Products Co. Sweetening of sour hydrocarbon distillates. 3,114,700, 12-17-63, Cl. 208-206.
- Cox, William L., and A. Gaydasch, to Universal Oil Products Co. Preparation of thiuram disulfides. 3,116,328, 12-31-63, Cl. 260-567.
- Cox, William T., to Cox Industries, Inc. Fence structure. 3,084,913, 4-9-63, Cl. 256-11.
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- Sistare, George H., and Coxe. 3,114,631.
- Coy, Calvin L.: *See*—
- Keller, Ralph E., and Coy. 3,080,665.
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- Silbereis, Charles H., and Coy. 3,111,871.
- Coy, Homer E., to Ace Tool Engineering Co., Inc. Clamp manipulating device. 3,091,143, 5-28-63, Cl. 81-9.3.
- Coy, J. Almond: *See*—
- Nicholls, Burwood P., Coy, and Kelsey. 3,103,556.
- Coyne, John B. Apparatus for smoothing a coating on a surface of leather or the like. 3,090,351, 5-21-63, Cl. 118-223.
- Coyner, Herbert N., to Phillips Petroleum Co. Production of foamed polyolefins in a high shear zone. 3,108,148, 10-22-63, Cl. 261-141.
- Cozard, Lawrence H., C. W. Didde, and D. A. Glaser, to Didde-Glaser, Inc. Pile lift assembly. 3,072,398, 1-8-63, Cl. 271-62.
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- Halvorsen, Trygve, and Cozza. 3,103,206.
- Cozzoli, Joseph M., and H. F. Scribner, to Cozzoli Machine Co. Multiple line-filler. 3,100,513, 8-13-63, Cl. 141-102.
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- Cozzoli, Joseph M., and Scribner. 3,100,513.
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- Crabbe, Pierre, to Syntex Corp. Androstane-16,17-dicarboxylic acid imides. 3,071,578, 1-1-63, Cl. 260-239.5.
- Crabbe, Pierre, to Syntex Corp. 17-aminomethyl androstanes. 3,102,126, 8-27-63, Cl. 260-397.4.
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- Crabtree, J. A., & Co., Ltd.: *See*—
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- Stevenson, Derek A. 3,071,372.
- Crabtree, Russel S. Safety tablet dispenser. 3,102,662, 9-3-63, Cl. 221-151.
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- Crabtree, Willie A., to Texas Instruments Inc. Transponder. 3,079,557, 2-26-63, Cl. 325-9.
- Cracknell, John and J. C., and D. N. Cooper. Apparatus for thinning growing seedlings, and hoeing between plants, growing in rows. 3,097,702, 7-16-63, Cl. 172-6.
- Cracknell, John C.: *See*—
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- Craddock, Donald L., and A. S. Wasserman, to The B. F. Goodrich Co. Tapered collapsible container. 3,079,062, 2-26-63, Cl. 229-16.
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- Crafa, Arthur S., to American Home Products Corp. Display support. 3,091,875, 6-4-63, Cl. 40-11.
- Craft, Donald W., to General Electric Co. Gas pump with liquid removal means. 3,104,964, 9-24-63, Cl. 55-406.
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- Crafts, Cecil A., and P. H. Goodwin, Jr., to Robertshaw-Fulton Controls Co. Phase demodulation of keyed carrier by use of synchronous gating, with phased lock driven stepwise in response to forbidden output. 3,078,344, 2-19-63, Cl. 178-88.
- Crafts, Curtis S., to Miehle-Goss-Dexter, Inc. Mechanism for locating two printing plates on stereotype plate finishing machine. 3,075,276, 1-29-63, Cl. 29-21.
- Crafts, Dermont B. Paste dispenser having collapsible tube supply and fluid pressure discharge. 3,081,914, 3-19-63, Cl. 222-252.
- Cragg, Hoyt J., to Ethyl Corp. Hydrocarbon metal catalyst in preparation of formamides. 3,099,689, 7-30-63, Cl. 260-561.
- Cragg, Richard E., and W. A. Raczyński, to Ditto, Inc. Duplicating machine with automatic controls. 3,102,470, 9-3-63, Cl. 101-144.
- Craggs, Joseph, and K. McCann, to Goodman Mfg. Co. Flexible sideframe conveyor for spanning long unsupported distances. 3,106,284, 10-8-63, Cl. 198-192.
- Craig, Albert S.: *See*—
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- Craig, Burnie M.: *See*—
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- Craig, Burnie M., and A. Brandes, to Ekco Products Co. Combined handle and latch actuating unit. 3,074,750, 1-22-63, Cl. 292-336.3.
- Craig, Carroll C. Film holder. 3,091,168, 5-28-63, Cl. 95-66.



- Craig, David J., and W. B. Moen, to Air Reduction Co., Inc. Hypergolic fuel-oxidizer system. 3,086,356, 4-23-63, Cl. 60-35.4.
- Craig, Donald E.: *See*—  
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- Craig, Donald E., to The Magnavox Co. Centrifugal fuze. 3,075,465, 1-29-63, Cl. 102-70.2.
- Craig, Dwin R., to Logetronics, Inc. Photographic printing method. 3,096,176, 7-2-63, Cl. 96-27.
- Craig, Dwin R., and J. N. Street, to Logetronics, Inc. Electronic masking. 3,115,807, 12-31-63, Cl. 88-24.
- Craig, Edward A., J. E. McRae, and P. D. Davison. Automobile coat hanger support. 3,104,041, 9-17-63, Cl. 224-29.
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- Craig, Francis A., and F. Hollenton, to International Cigar Machinery Co. Cigar accumulator. 3,089,297, 5-14-63, Cl. 53-26.
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- Craig, Glenn D.: *See*—  
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- Craig, Paul N., and C. L. Zirkle, to Smith, Kline & French Laboratories. Trifluoromethylphenylalkylamine derivatives. 3,078,307, 2-19-63, Cl. 260-570.8.
- Craig, Ralph P., to Red Point Corp. Quick-release closure for pressure vessels. 3,076,577, 2-5-63, Cl. 220-40.
- Craig, Richard W.: *See*—  
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- Craig, Robert G.: *See*—  
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- Craig, Robert G., to Air Products and Chemicals, Inc. Recovery of Cs diolefins. 3,077,744, 2-19-63, Cl. 62-24.
- Craig, Robert G., and W. J. Cresson, Jr., to Air Products and Chemicals, Inc. Quench tower. 3,080,153, 3-5-63, Cl. 261-22.
- Craig, Robert P., and L. E. Weinert, to Crown Zellerbach Corp. Bag packer and weigher. 3,092,194, 6-4-63, Cl. 177-154.
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- Crain, Lee J., to Superior Industries, Inc. Retractable rope hook. 3,102,708, 9-3-63, Cl. 248-361.
- Crain, Norman R., J. G. Levinthal, W. G. Facenda, and T. H. Vea, to General Electric Co. System for collating documents in response to indicia appearing thereon. 3,108,694, 10-29-63, Cl. 209-111.5.
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- Crain, Robert E. Illuminated ash tray. 3,097,797, 7-16-63, Cl. 240-2.
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- Crain, Roy I., & Associates, Inc.: *See*—  
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- Crain, Roy I., and J. D. Karnath, to Roy I. Crain & Associates, Inc. Poultry loading device. 3,103,915, 9-17-63, Cl. 119-32.
- Cralle, James M., and C. B. Faison, to Little Giant Corp. Liquid pump. 3,072,062, 1-8-63, Cl. 103-87.
- Cram, Milton E., and D. D. Dodge, to Ford Motor Co. Ultrasonic inspection method. 3,115,770, 12-31-63, Cl. 73-67.5.
- Cramer, Henry G., to Milco Mfg. Co. Film processing reel. 3,080,130, 3-5-63, Cl. 242-77.1.
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- Cramer, Leonard L. Method of electrically fabricating a hair piece. 3,081,780, 3-19-63, Cl. 132-5.
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- Cramer, Roy A., Jr. 3,086,744.
- Cramer, Robert H., and A. B. Schwartz, to Socony Mobil Oil Co., Inc. Process for preparing alumina hydrosol and gel. 3,105,053, 9-24-63, Cl. 252-313.
- Cramer, Robert, Jr., to Murphy Diesel Co. Automatic control of output reversal in slippable drives for transmitting torque. 3,102,434, 9-3-63, Cl. 74-472.
- Cramer, Robert L., to The Bendix Corp. Pressure control valve. 3,071,128, 1-1-63, Cl. 128-1.
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- Cramer, Roy A., Jr., to Cramer Posture Chair Co., Inc. Cast base for chair legs and method of making same. 3,086,741, 4-23-63, Cl. 248-194.
- Cramer, Roy A., Jr., to Cramer Posture Chair Co., Inc. Floating locking device for chairs. 3,086,744, 4-23-63, Cl. 248-406.
- Cramer, Stanley S. Means for providing variable lighting effects. 3,111,057, 11-19-63, Cl. 84-464.
- Cramer, Thomas F., to Holley Carburetor Co. Diaphragm controlled air flow limiting valve for engine governing. 3,071,124, 1-1-63, Cl. 123-103.
- Cramer, Thomas F., to Holley Carburetor Co. Engine speed governing means. 3,072,110, 1-8-63, Cl. 123-103.
- Cramer, Thomas F., to Holley Carburetor Co. Pressure responsive valve. 3,072,111, 1-8-63, Cl. 123-103.
- Cramer, Thomas F., to Holley Carburetor Co. Automobile speed control system. 3,072,210, 1-8-63, Cl. 180-82.1.
- Cramer, Thomas F., to Holley Carburetor Co. Multi-stage governed fuel device. 3,081,757, 3-19-63, Cl. 123-103.
- Cramer, Walter J.: *See*—  
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- Crampton, Leslie: *See*—  
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- Crance, Harry W., Jr. Gauge for printed sheet register marks. 3,099,092, 7-30-63, Cl. 33-174.
- Cranch, Edward J., E. T. Davis, and E. W. Voorhoeve, to Leeds and Northrup Co. Automatic control system of the current-summing type. 3,092,321, 6-4-63, Cl. 236-15.
- Crandell, Francis J. Vibration isolators. 3,115,323, 12-24-63, Cl. 248-20.
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- Crane Co.: *See*—  
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- Bredtschneider, Kurt B., Englert, and Doelger. 3,115,786.
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- Croft, William, and Shaw. 3,075,138.
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- Crane, Gordon R., to Laycock Engineering Ltd. Flexible couplings. 3,115,759, 12-31-63, Cl. 64-11.
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- Crane, Harvey J., Jr. Non-rotatable valve tappet. 3,108,580, 10-29-63, Cl. 123-90.
- Crane, Jack W., A. M. Best, W. J. Dwyer, and W. G. Searles, to Sperry Rand Corp. Harvester. 3,090,295, 5-21-63, Cl. 100-97.
- Crane, James E., and E. J. Richards, to Foster Grant Co., Inc. Molding apparatus for forming an undercut. 3,104,425, 9-24-63, Cl. 18-42.
- Crane, John J. Static discharge device. 3,099,774, 7-30-63, Cl. 317-2.
- Crane, Lawrence S., and I. M. Starr, to The Bendix Corp. Sonic altimeter. 3,093,807, 6-11-63, Cl. 340-1.
- Crane, Milton, and D. J. Grace, to United States of America, Army. Magnetically tunable constant-width band-reject corrugated ferrite waveguide filter. 3,082,384, 3-19-63, Cl. 333-73.



- Crane Packing Co.: See—  
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- Crane, Robert R., to Flexible Plumbertools Inc. Power driven snake canister. 3,086,234, 4-23-63, Cl. 15—104.3.
- Crane, Samuel P.: See—  
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- Crane, Samuel P. Electrically insulated fringe fingers for making Christmas tree branches and method. 3,090,147, 5-21-63, Cl. 41—15.
- Crane, Samuel P., and S. D. Kent. Ventilating spacer. 3,107,368, 10-22-63, Cl. 5—347.
- Crane, Walton B. Fresh fruit and vegetable container. 3,101,881, 8-27-63, Cl. 229—34.
- Crane, Walton B., to Allied Plastics Co. Slit wrapper for use in packaging produce in baskets. 3,109,579, 11-5-63, Cl. 229—87.
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- Crankshaw, John H., to Dynetics, Inc. High speed synchronizing clutch. 3,071,224, 1-1-63, Cl. 192—53.
- Crankshaw, John H., to Baldwin-Lima-Hamilton Corp. Sound isolating misalignment coupling. 3,080,732, 3-12-63, Cl. 64—9.
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- Crankshaw, John H., to Baldwin-Lima-Hamilton Corp. Misalignment coupling with flexible force transmitting assemblies. 3,080,734, 3-12-63, Cl. 64—15.
- Crankshaw, John H., to American Sterilizer Co. Support for hospital tables. 3,096,991, 7-9-63, Cl. 280—43.24.
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- Cranston, Hoy A., to Universal Oil Products Co. Method of masking a surface with a salt of a carboxylic acid and an aminoalkane prior to dyeing. 3,083,149, 3-26-63, Cl. 204—38.
- Crapuchettes, Paul W., to Litton Electron Tube Corp. Microwave frequency heating apparatus. 3,104,303, 9-17-63, Cl. 219—10.55.
- Crapuchettes, Paul W., to Litton Electron Tube Corp. Microwave frequency heating apparatus. 3,104,305, 9-17-63, Cl. 219—10.55.
- Crapuchettes, Paul W., and J. F. Hull, to Litton Electron Tube Corp. Broadband klystron. 3,104,340, 9-17-63, Cl. 315—5.39.
- Crass, Rosa A.: See—  
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- Crater, Alton F.,  $\frac{1}{2}$  to T. C. Hollingsworth, and  $\frac{1}{2}$  to H. M. Routh. Sinkers operating mechanism and method of knitting. 3,071,947, 1-8-63, Cl. 66—107.
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- Crathern, Charles F. H., III, J. B. Bradicich, and J. S. Reen, to FMC Corp. Box making machine. 3,096,692, 7-9-63, Cl. 93—49.
- Crauc, Robert: See—  
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- Crauland, Marc J., to Compagnie de Saint-Gobain. Process of making polybutyl tin sulfides. 3,108,126, 10-22-63, Cl. 260—429.7.
- Craven, Herman R.: See—  
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- Craven, Wilbur J., to The Capewell Mfg. Co. Container for band saws and the like. 3,087,608, 4-30-63, Cl. 206—52.
- Craven, Wilbur J., to The Capewell Mfg. Co. Method for making a router bit or the like. 3,089,353, 5-14-63, Cl. 76—108.
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- Craver Industries, Inc.: See—  
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Day, John E., Jr., and Craver. 3,082,656.
- Craveri, Renato, and G. Giolitti, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Antibiotic, flavonomeycin, and process for preparing it. 3,093,543, 6-11-63, Cl. 167—65.
- Cravotta Brothers, Inc.: See—  
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- Cravotta, Cosimo V., to Cravotta Brothers, Inc. Water skis. 3,094,721, 6-25-63, Cl. 9—310.
- Crawford, Archibald M., K. M. Lockerby, and R. H. Brown. Automatic retarder system for a railroad classification yard. 3,100,098, 8-6-63, Cl. 246—182.
- Crawford, Arthur R., to International Research & Development Corp. Engine balance classifier. 3,098,379, 7-23-63, Cl. 73—116.
- Crawford, Charles P. Valve having self-cleaning seat. 3,089,504, 5-14-63, Cl. 137—242.
- Crawford, Cullen B. Tube coupling. 3,112,940, 12-3-63, Cl. 285—341.
- Crawford, David J., deceased (by M. B. Sadler, executrix),  $\frac{1}{2}$  to International Bank. Wood treating apparatus and process. 3,098,799, 7-23-63, Cl. 202—93.
- Crawford Door Co.: See—  
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- Crawford, Duffer B., to Air Products and Chemicals, Inc. Hydrogen liquefaction and conversion systems. 3,095,274, 6-25-63, Cl. 23—210.
- Crawford, Duncan J., and V. Arslanian, to Ex-Cell-O Corp. Container with pouring lip. 3,116,002, 12-31-63, Cl. 229—17.
- Crawford Fitting Co.: See—  
Cator, Edward J. 3,104,088.
- Cator, Edward J. 3,112,767.
- Lennon, Fred A., and Cator. 3,075,793.
- Lennon, Fred A., and Zahuranc. 3,103,373.
- Crawford, Francis W., to Phillips Petroleum Co. Enlargement of boreholes in carbonaceous strata for in situ combustion. 3,076,506, 2-5-63, Cl. 166—11.
- Crawford, George D., R. R. Fontaine, and P. M. Roberts, to ACF Industries, Inc. Doppler radar simulator including frequency lock-on apparatus. 3,077,039, 2-12-63, Cl. 35—10.4.
- Crawford, George H., Jr., to Minnesota Mining and Mfg. Co. Process for polymerization of fluorinated nitrosoalkane and solution of resulting polymer in fluorinated organic solvent. 3,072,592, 1-8-63, Cl. 260—32.6.
- Crawford, George H., Jr., to Minnesota Mining and Mfg. Co. Process for polymerization of fluorine-containing organic compounds. 3,084,144, 4-2-63, Cl. 260—87.7.
- Crawford, George H., Jr., to Minnesota Mining and Mfg. Co. Process for the preparation of fluorine-containing polymers. 3,089,866, 5-14-63, Cl. 260—92.1.
- Crawford, Guy W. Compressing and shaping device. 3,104,609, 9-24-63, Cl. 100—296.
- Crawford, H. E., Co., Inc.: See—  
Johnson, Roy D. 3,078,697.
- Crawford, Hugh B. Scribing tool for timber. 3,074,171, 1-22-63, Cl. 33—27.
- Crawford, Lois K. Cat sanitary container enclosure. 3,085,550, 4-16-63, Cl. 119—1.
- Crawford, Paul D. Attachment for flat irons. 3,101,562, 8-27-63, Cl. 38—78.
- Crawford, Ralph W., and L. W. Sly, to Fisher-Price Toys, Inc. Sound and picture toy. 3,114,216, 12-17-63, Cl. 46—175.
- Crawford, Robert D.: See—  
Zebarth, Ralph S., and Crawford. 3,083,810.
- Zebarth, Ralph S., and Crawford. 3,103,694.
- Zebarth, Ralph S., and Crawford. 3,103,695.
- Zebarth, Ralph S., and Crawford. 3,107,391.
- Crawford, Russ: See—  
Rasmussen, Donald E. 3,096,010.
- Crawford, Thomas J. Apparatus for induction brazing of metal tubing. 3,076,884, 2-5-63, Cl. 219—10.79.
- Crawford, Wayland H., to Modern Village Stores, Inc. Automatic checkstand. 3,090,467, 5-21-63, Cl. 186—1.
- Crawford, Wilbur L. Supporting bracket for outlet boxes. 3,088,620, 5-7-63, Cl. 220—3.9.
- Crawford, William B.: See—  
Nourse, Jess H., and Crawford. 3,109,473.
- Crawford, William B., D. V. Hitzfield, and B. H. Scott, to United States Rubber Co. Destructible mandrel for hollow vessels. 3,083,409, 4-2-63, Cl. 18—45.
- Crawford, William B., W. C. Timmerman, Sr., W. C. Timmerman, Jr., C. B. Pekor, and F. K. Hanna, to United States Rubber Co. Underwater liquid storage system. 3,113,699, 12-10-63, Cl. 222—23.
- Crawford, William R., and J. W. Lannert, to Whirlpool Corp. Incinerator. 3,104,629, 9-24-63, Cl. 110—8.
- Crawley, William P.: See—  
Inderfurth, Karl H., and Crawley. 3,075,794.
- Crawley, William P., to The Carborundum Co. Heat resistant fibrous products containing ceramic fibers and method of making the same. 3,090,103, 5-21-63, Cl. 23—78.
- Cray, Seymour R., to Control Data Corp. Bi-level amplifier and control device. 3,092,729, 6-4-63, Cl. 307—88.5.
- Craycraft, Donald D., deceased; by D. S. Craycraft, administratrix, to Minnesota Mining & Mfg. Co. Reinforced rigid plastic pipe. 3,080,893, 3-12-63, Cl. 138—141.
- Craycraft, Donna S.: See—  
Craycraft Donald D. 3,080,893.
- Crayton, Frank H.: See—  
Hind, John D., and Crayton. 3,095,882.
- Creager, Earl F., to The Anderson Co. Metal straightening apparatus and method. 3,072,173, 1-8-63, Cl. 153—39.
- Creamer, Edgar M., Jr.: See—  
Boothroyd, Wilson P., and Creamer. 3,087,011.
- Creamer, Edgar M., Jr., to Philco Corp. Remote control system with pulse duration responsive means. 3,098,212, 7-16-63, Cl. 340—15.
- Creamer, Vincent A., to United-Carr Fastener Corp. Method of assembling a threaded nut in non-rotatable engagement with a support. 3,091,842, 6-4-63, Cl. 29—432.
- Creamery Package Mfg. Co., The: See—  
McCabe, John B., and Schmid. 3,099,906.
- Wakeman, Alden H. 3,093,358.
- Creasey, Raymond F., and J. T. Froud, to The English Electric Co. Ltd. Vertical take-off aircraft. 3,110,456, 11-12-63, Cl. 244—12.
- Creath, Roy E., and A. K. Cook; said Cook assor. to said Creath. Composite seal with resilient expansion member. 3,114,561, 12-17-63, Cl. 277—152.
- Creative Advisers, Inc.: See—  
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- Creative Displays Inc.: *See*—  
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- Creative Packaging, Inc.: *See*—  
Corey, Thomas M., and Wakefield. 3,107,783.
- Creative Research Corp.: *See*—  
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- Creavey, William G., to North American Aviation, Inc. Spring seal. 3,083,023, 3-26-63, Cl. 277-206.
- Crecelius, Samuel B., and T. E. Brunelle, to Economics Laboratory, Inc. Organic compounds and process of producing them. 3,098,065, 7-16-63, Cl. 260-234.
- Cree, Charles M. Garment cover. 3,110,428, 11-12-63, Cl. 223-98.
- Creech, Barnard, and E. R. Vierk, to Sinclair Research Inc. Production of foam inhibitor. 3,078,237, 2-19-63, Cl. 252-358.
- Creech, Larry C. Portable washing apparatus for light fixture panels and the like. 3,098,250, 7-23-63, Cl. 15-77.
- Creed & Co. Ltd.: *See*—  
Mason, Frederick P. 3,110,765.  
Wallens, Anthony W. 3,110,766.
- Creed, Sherman H.: *See*—  
Anderson, Gerald R., and Creed. 3,072,163.  
Anderson, Gerald R., Creed, and Gardiner. 3,111,972.
- Creed, Sherman H., to FMC Corp. Rotatable coring knife. 3,072,162, 1-8-63, Cl. 146-52.
- Creed, Sherman H., and S. Csimma, to FMC Corp. Pear peeling machine. 3,088,508, 5-7-63, Cl. 146-43.
- Creed, Sherman H., and S. Csimma, to FMC Corp. Pear bobber. 3,088,509, 5-7-63, Cl. 146-81.
- Creed, Sherman H., and J. L. Reimers, to FMC Corp. Fruit orientator, cover and trimmer. 3,096,800, 7-9-63, Cl. 146-52.
- Creed, Sherman H., and S. Csimma, to FMC Corp. Fruit feeding mechanism. 3,096,869, 7-9-63, Cl. 198-33.
- Creedon, John E., S. Schneider, and N. L. Yeamans, to United States of America, Army. Reservoir container material for hydrogen filled devices. 3,095,518, 6-25-63, Cl. 313-180.
- Creegan, Robert M., to General Foods Corp. Evacuated coffee package. 3,105,765, 10-1-63, Cl. 99-152.
- Creel, Ernest S., to L. F. Howard. Self-locking renewable wing drilling bit. 3,075,594, 1-29-63, Cl. 175-412.
- Crehore, Robert: *See*—  
Korrell, Melvin H., and Crehore. 3,090,181.
- Creighton, John E., and R. S. Short, to The Aero Corp. Torque release clutch. 3,115,230, 12-24-63, Cl. 192-56.
- Creighton, John P.: *See*—  
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- Creighton, John P., to Ford Motor Co. Ltd. Hydraulic pumps or motors. 3,092,036, 6-4-63, Cl. 103-162.
- Creighton, Martha, and W. Leingruber, to Hoffmann-La Roche Inc. Synthesis of aminomethylene malononitrile. 3,116,319, 12-31-63, Cl. 260-465.5.
- Creme, Michael M. Precoiled artificial lure. 3,100,360, 8-13-63, Cl. 43-42.02.
- Cremers, George D.: *See*—  
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- Cremers, George D., J. V. Long, F. P. Filippi, and E. T. Price, to Solar Aircraft Co. Honeycomb sandwich structure. 3,072,225, 1-8-63, Cl. 189-34.
- Cremers, Gottfried, and H. Behrens. Construction of the cooling zone of tunnel kilns, and especially though not essentially to such kilns, for firing ceramic goods. 3,104,442, 9-24-63, Cl. 25-142.
- Cremers, Joseph: *See*—  
Rodis, Franz, and Cremers. 3,110,564.
- Cremers, Norman C. Receptacle plug to protect appliance theft. 3,090,948, 5-21-63, Cl. 340-280.
- Cremion, John D., to Bell Telephone Laboratories, Inc. Microwave switching circuit. 3,292,789, 6-4-63, Cl. 333-1.1.
- Crenshaw, William F., to United States of America, Air Force. Collapsible bearing puller. 3,103,740, 9-17-63, Cl. 29-261.
- Creo-Dipt Co., Inc.: *See*—  
Fink, Carl J., and Heintz. 3,095,671.
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- Cresap, John. Single ram press. 3,113,540, 12-10-63, Cl. 113-38.
- Crescent, Henri. Safety lock mechanism, notably for convertible seats. 3,100,125, 8-6-63, Cl. 297-26.
- Crescent Machine & Nipple Co.: *See*—  
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- Crescenzo, Francis C.: *See*—  
Schoppee, Lawrence W., and Crescenzo. 3,099,375.  
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- Crescenzo, Frank G.: *See*—  
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- Cresci, Anthony L. and P. A. Load carrying vehicle. 3,103,291, 9-10-63, Cl. 214-512.
- Cresci, Paul A.: *See*—  
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- Creskoff, Jacob J.: *See*—  
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- Creskoff, Jacob J., to Vacuum Concrete Corp. of America. Portable vacuum implement. 3,089,722, 5-14-63, Cl. 294-65.
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- Crestmont Consolidated Corp.: *See*—  
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- Creuziger, Albert H. Mouthpiece for tobacco-containing products. 3,113,575, 12-10-63, Cl. 131-10.
- Creveling, Cyrus J., to United States of America, Navy. "Exclusive or" logical circuit. 3,106,683, 10-8-63, Cl. 328-93.
- Crews, Cary: *See*—  
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- Crick, Howard G., to Holcomb & Hoke Mfg. Co., Inc. Power operated curved track folding door. 3,073,383, 1-15-63, Cl. 160-193.
- Crider, Thomas G., to Hupp Corp. Air conditioners and controls therefor. 3,073,132, 1-15-63, Cl. 62-183.
- Crider, William A. Traction device for vehicles. 3,087,527, 4-30-63, Cl. 152-226.
- Crile, Eugene E. Crane with tilt-up boom. 3,076,559, 2-5-63, Cl. 212-56.
- Crile, Eugene E. Crane. 3,113,681, 12-10-63, Cl. 212-63.
- Crile, Vaughn L. Grinder for shear blade. 3,099,903, 8-6-63, Cl. 51-94.
- Crim, Elmo P., to Acme Steel Co. Material handling device. 3,110,033, 11-12-63, Cl. 1-106.
- Crim, Hugh S., and R. D. Ransom, to United Aircraft Corp. Control system for afterburning gas turbine engine. 3,091,080, 5-28-63, Cl. 60-35.6.
- Crimmins, David J., to The Thomas & Betts Co. Connector for conductors. 3,088,086, 4-30-63, Cl. 339-17.
- Crimmins, David J., and M. C. Logan, to The Thomas & Betts Co. Connector for conductors. 3,079,579, 2-26-63, Cl. 339-49.
- Crimmins, David J., and H. B. Martin, to The Thomas & Betts Co. Insulated terminal connector. 3,098,688, 7-23-63, Cl. 339-223.
- Cripe, Maxwell L., to The Bendix Corp. Multi-position vacuum motor. 3,072,108, 1-8-63, Cl. 121-48.
- Cripe, Maxwell L., to The Bendix Corp. Fluid pressure motor construction. 3,078,677, 2-26-63, Cl. 60-54.6.
- Cripe, Maxwell L., to The Bendix Corp. Low cost fluid pressure servomotor. 3,106,873, 10-15-63, Cl. 91-369.
- Cripe, Maxwell L., to The Bendix Corp. Reaction valve construction. 3,108,615, 10-29-63, Cl. 137-625.66.
- Cripe, Maxwell L., to The Bendix Corp. Guide bearing for reciprocating structures. 3,113,806, 12-10-63, Cl. 308-3.5.
- Crisp, Douglas R., to Frederick Sage & Co. Ltd. Brackets. 3,074,679, 1-22-63, Cl. 248-223.
- Crissey, Jackson R., and W. A. Lansing, to Ling-Temco-Vought, Inc. Flow-control device. 3,112,765, 12-3-63, Cl. 137-565.
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- Crist, Meredith F. Retractable wing. 3,086,730, 4-23-63, Cl. 244-43.
- Criswell, Billie K., and H. W. Jones. Draft control mechanism. 3,096,830, 7-9-63, Cl. 172-9.
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- Croall, Clifford V. Process for preserving tomatoes and the like. 3,101,271, 8-20-63, Cl. 99-154.
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- Crocker, Norman J., to Associated Electrical Industries Ltd. Manufacture of transistors. 3,087,450, 4-30-63, Cl. 113-99.
- Crocker, William G., to Union Carbide Corp. Wave ring thermocouple. 3,099,922, 8-6-63, Cl. 373-341.
- Crockford, Jack A., F. A. Hayes, S. D. Feurt, J. H. Jenkins, and H. C. Palmer, to Palmer Chemical & Equipment Co., Inc. Method of slaughtering animals. 3,087,196, 4-30-63, Cl. 17-45.
- Croissant, Ronald C., and W. R. Pascoe, to Polymer Processes, Inc. Coating process. 3,085,034, 4-9-63, Cl. 148-6.11.
- Croft, Arthur, M. T. J. Goff, and F. O. Ackroyd, to Crofts (Engineers) Ltd. Hydraulic couplings. 3,107,492, 10-22-63, Cl. 60-54.



- Croft, Bernard D., to American Seal-Kap Corp. Railway brake beam reversible strut structure. 3,115,221, 12-24-63, Cl. 188—229.6.
- Croft, Charles P., to Pangborn Corp. Spring peening. 3,094,768, 6-25-63, Cl. 29—90.
- Croft, William, and B. C. Shaw, to Crane Co. Voltage regulator. 3,075,138, 1-22-63, Cl. 323—45.
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- Croll, Samuel W., Jr.: *See—*
- Hightower, John R. 3,108,448.
- Crom, John M. Wire spacing mechanism. 3,089,656, 5-14-63, Cl. 242—7.
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- Payne, Oscar V. 3,101,099.
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- Rust, Edgar C., Jr. 3,108,353.
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- Cronberger, Luther C., to The Dow Chemical Co. Induction heater. 3,071,675, 1-1-63, Cl. 219—10.51.
- Cronberger, Luther C., to The Dow Chemical Co. Casing heater. 3,097,282, 7-9-63, Cl. 219—10.49.
- Cronberger, Luther C., and J. M. Reid, to The Dow Chemical Co. Well logging method. 3,083,567, 4-2-63, Cl. 73—154.
- Crone, Alfred F., to Acme Highway Products Corp. Transverse joint for pavements. 3,089,395, 5-14-63, Cl. 94—17.
- Crone, James D. Method of electro magnetic prospecting by transmitting from two spaced points electromagnetic fields of the same shape. 3,090,911, 5-21-63, Cl. 324—6.
- Crone, John W., Jr., and C. O. Pike, to Shuford Mills, Inc. Color-changing pressure-sensitive adhesive indicator tapes. 3,078,182, 2-19-63, Cl. 117—68.5.
- Cronin, David I., to Star Surgical Instrument and Mfg. Co. Joint for tubular members. 3,071,399, 1-1-63, Cl. 287—54.
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- Cronin, Stephen J. Pavement roller attachment for grading vehicle. 3,072,025, 1-8-63, Cl. 94—50.
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- Cronkright, Russell. Stringing block apparatus. 3,077,337, 2-12-63, Cl. 254—134.3.
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- Crook, Kenneth J. Front wheel stabilizing device for motor vehicles. 3,075,785, 1-29-63, Cl. 280—94.
- Crook, Kenneth J. Shoe scraper for motor vehicles. 3,103,681, 9-17-63, Cl. 15—237.
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- Crooks, Marcius L., to Erie Resistor Corp. Trimmer condenser. 3,084,313, 4-2-63, Cl. 317—249.
- Crooks, Robert C., to Lockheed Aircraft Corp. Welded joint tester. 3,106,838, 10-15-63, Cl. 73—67.2.
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- Crooks, William R., to The Cooper-Bessemer Corp. Fuel control system for internal combustion engines. 3,100,478, 8-13-63, Cl. 123—21.
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- Crosby Electronics, Inc.: *See—*
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- Crosby, Gifford W.: *See—*
- Braunwarth, John B., and Crosby. 3,116,300.
- Hutchings, Le Roi E., and Crosby. 3,076,841.
- Millikan, Allen F., and Crosby. 3,073,857.
- Millikan, Allen F., and Crosby. 3,098,824.
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- Crosby, Hartzell L., and N. N. Coe, to Dorr-Oliver Inc. Wood pulp and process for producing same. 3,073,737, 1-15-63, Cl. 162—18.
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- Crosby, Ralph M., A. Kander, and R. J. Mortonson, to Ideal Toy Corp. Trick shot gun. 3,088,451, 5-7-63, Cl. 124—27.
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- Crosby, William F., and D. D. Sullivan, to Corning Glass Works. Reflector. 3,112,893, 12-3-63, Cl. 240—103.
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- Crosman Arms Co., Inc.: *See—*
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- Merz, Rudolf. 3,103,212.
- Cross, Carroll N. Well structure for display mounts. 3,079,715, 3-5-63, Cl. 40—159.
- Cross, Cedric B., to Package Machinery Co. Article feeding and separating device. 3,106,279, 10-8-63, Cl. 198—25.
- Cross Co., The: *See—*
- Bryant, John A., II, and Pierce. 3,097,724.
- Cross, Eason, Jr., and E. K. Mills, Jr. End structure and hinge for plastic containers. 3,072,283, 1-8-63, Cl. 220—31.
- Cross, Edward D., to Alden Research Foundation. Mask for facsimile scanner. Re. 25,468, 10-29-63, Cl. 178—7.1.
- Cross, Grosvenor M. Integrating mount for brushes and the like. 3,104,056, 9-17-63, Cl. 235—91.
- Cross, S. C.: *See—*
- Reeves, Willard D. 3,097,464.
- Cross, St. Elmo: *See—*
- Reeves, Willard D. 3,097,464.
- Cross, Willis J., Jr., to Air Products and Chemicals, Inc. Disengagement and elutriation of pneumatically elevated solids. 3,115,370, 12-24-63, Cl. 302—59.
- Crossen, William P., J. C. Howard, and H. A. Imhof, to United Shoe Machinery Corp. Insole molding machines. 3,102,285, 9-3-63, Cl. 12—21.
- Crossland, Edward J.: *See—*
- Wilcox, Stanley W., Crossland, and McCaskill. 3,092,311.
- Crossland, Edward J., to Seismograph Service Corp. Continuous wave hyperbolic system for landing aircraft. 3,082,419, 3-19-63, Cl. 343—108.
- Crossland, Edward J., M. P. Ragan, and J. E. Hawkins, to Seismograph Service Corp. Voting machine. 3,095,142, 6-25-63, Cl. 235—54.



- Crossland, Edward J., M. P. Ragan, H. H. Bright, and J. L. Hull, Jr., to Seismograph Service Corp. Counter type voting machine. 3,108,744, 10-29-63, Cl. 235-54.
- Crossley Bros. Ltd.: *See*—  
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- Crossley, Harry E., Jr., to Robertshaw-Fulton Controls Co. Electro-hydraulic actuator system. 3,101,031, 8-20-63, Cl. 91-364.
- Crossley Machine Co., Inc.: *See*—  
Kinney, Robert E. 3,112,895.  
Lamb, Harold W. 3,078,868.  
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Ulrich, Ray R. 3,089,286.
- Crossley, Thomas J.: *See*—  
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- Crossman, Robert F., to Carrier Corp. Air conditioning enclosure. 3,112,623, 12-3-63, Cl. 62-419.
- Crosswell, Play D., to Overhead Door Corp. Slidable closure lock. 3,103,805, 9-17-63, Cl. 70-142.
- Crost, Joseph G.: *See*—  
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- Croswell, William H.: *See*—  
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- Croteau, Lionel. Combination tool box and stand. 3,099,398, 7-30-63, Cl. 240-4.
- Croteau, Thomas H., and W. A. Grouten, to The Seeburg Corp. Automatic electric can opener. 3,097,427, 7-16-63, Cl. 30-4.
- Crotser, Frank P., to Revco, Inc. Refrigeration apparatus. 3,108,450, 10-29-63, Cl. 62-156.
- Crouch, Brockway. Candelabra. 3,091,106, 5-28-63, Cl. 67-25.
- Crouch, Eric A.: *See*—  
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- Crouch, Willie W., to Phillips Petroleum Co. Production of liquid polymers of controlled viscosity. 3,105,856, 10-1-63, Cl. 260-680.
- Croucher, Anthony H. Method of machining welded rail joints. 3,110,227, 11-12-63, Cl. 90-64.
- Croucher, Anthony H. Apparatus for the manufacture of sachets. 3,110,994, 11-19-63, Cl. 53-180.
- Crouse, Benjamin F., and W. W. Reynolds, to Shell Oil Co. Stable esters. 3,115,519, 12-24-63, Cl. 260-488.
- Crouse, George B.: *See*—  
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- Crouse-Hinds Co.: *See*—  
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Berry, Richard C. 3,078,436.  
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- Crouzet, Compagnie: *See*—  
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- Crouzet, Jean-Philippe. Head-protecting shells and the like articles obtained through deformation of sheets of synthetic material. 3,075,200, 1-29-63, Cl. 2-3.
- Crow, Leonard R.: *See*—  
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- Crow, William W. Automatic valve system for controlling fluid flow. 3,078,866, 2-26-63, Cl. 137-391.
- Crowder, Wylly K. Swimming accessory. 3,078,482, 2-26-63, Cl. 9-309.
- Crowdes, George J., Jr., to United States of America, Navy. Rigid helmet with shock-absorbing adjustable suspension for the head. 3,110,900, 11-19-63, Cl. 2-3.
- Crowe, James W., to International Business Machines Corp. Non-destructive readout system. 3,094,685, 6-18-63, Cl. 340-173.1.
- Crowe, James W., to International Business Machines Corp. Superconductive gating devices. 3,100,267, 8-6-63, Cl. 307-88.5.
- Crowe, Talmadge L., to Baker Oil Tools, Inc. Well bore testing and pressuring apparatus. 3,096,823, 7-9-63, Cl. 166-150.
- Crowe, Talmadge L., to Baker Oil Tools, Inc. Formation testing apparatus. 3,100,537, 8-13-63, Cl. 166-226.
- Crowe, Talmadge L., to Baker Oil Tools, Inc. Retrievable plug for subsurface well tool passage. 3,102,594, 9-3-63, Cl. 166-125.
- Crowe, Thomas J.: *See*—  
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- Crowe, Wylie W., and A. P. Livar; said Livar assor. to J. J. Perry, Sr. Electric heating and air circulating unit. 3,111,573, 11-19-63, Cl. 219-39.
- Crowell, Donald R.: *See*—  
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- Crowell, Ernest M., to United Shoe Machinery Corp. Resinous adhesive rods. 3,090,772, 5-21-63, Cl. 260-75.
- Crowell, Merton H., to Bell Telephone Laboratories, Inc. Electron beam tube for translating Gray code to binary code. 3,108,203, 10-22-63, Cl. 315-8.5.
- Crowley, Cornelius J.: *See*—  
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- Crowley, Delbert V., to Gulf Oil Corp. Foam or mist drilling process. 3,111,998, 11-26-63, Cl. 175-68.
- Crowley, Edgar L., J. S. Mackay, M. Manes, and F. J. Vancheri, to Pittsburg Chemical Co. Urea to melamine process. 3,095,416, 6-25-63, Cl. 260-249.7.
- Crowley, Francis X., to Crowley Hession Engineers. Foam insulated prestressed concrete wall. 3,106,227, 10-8-63, Cl. 138-176.
- Crowley, George W.: *See*—  
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- Crowley, James M.: *See*—  
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- Crowley, Richard P.: *See*—  
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- Crowley, Robert A.: *See*—  
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- Crowley, Robert A., R. E. Smith, and F. L. Le Bus, Sr., to Le Bus Royalty Co. Automatic oscillating angle and off-center compensator shaft and floating sheave combination apparatus. 3,083,932, 4-2-63, Cl. 242-157.1.
- Crowley, Robert A., and F. L. Le Bus, Sr., to Le Bus Royalty Co. Method of grooving a cable spooling drum. 3,110,096, 11-12-63, Cl. 29-416.
- Crowley, Walter A., to Carwil Enterprises, Inc. Hydro-air vehicle. 3,090,327, 5-21-63, Cl. 104-134.
- Crowley, Walter A., to Carwil Enterprises, Inc. Plenum chamber type ground effect machine with self-propulsion and steering means. 3,090,455, 5-21-63, Cl. 180-7.
- Crown Controls Corp.: *See*—  
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- Crown Cork & Seal Co., Inc.: *See*—  
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- Crown Industrial Products Co.: *See*—  
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Yetter, Dean B. 3,109,566.
- Crown Industries, Inc.: *See*—  
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- Crown, Richard E.: *See*—  
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- Crown Zellerbach Canada Ltd.: *See*—  
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Hamilton, Joseph P. 3,095,968.  
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Mugg, Jarrell B. 3,111,378.  
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Stupfel, Clifford L., and McClane. 3,101,755.  
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- Crownco of San Diego: *See*—  
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- Crownfield, William K., H. W. Sachs, and C. W. Fromm, to Sperry Rand Corp. Apparatus for automatic centering of strips. 3,078,021, 2-19-63, Cl. 226-21.
- Crownover, Joseph W.: *See*—  
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- Crownover, Joseph W., 25% to W. W. Haeffiger. Stereophonic transducer means. 3,073,915, 1-15-63, Cl. 179-100.41.
- Crownover, Joseph W., to Litton Systems, Inc. Disk resonator. 3,074,034, 1-15-63, Cl. 333-72.
- Crownover, Joseph W., to Litton Systems, Inc. Diodeless magnetic shift register. 3,088,100, 4-30-63, Cl. 340-174.
- Crownover, Joseph W., to Gulton Industries, Inc. Variable capacitance transducer with a radioactive battery. 3,095-476, 6-25-63, Cl. 179-1.
- Crowthier, Edmond C. Terminal block. 3,072,879, 1-8-63, Cl. 339-198.
- Crowthier, Edmond C. Electrical connector. 3,083,348, 3-26-63, Cl. 339-95.
- Crowthier, Joan: *See*—  
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- Crowthier, John, to Concrete Carrying Co. Ltd. Means for loading and discharging bulk loads. 3,090,515, 5-21-63, Cl. 214-522.
- Croxall, Willard J., and C. D. Burton, to Miles Laboratories, Inc. Para-phenoxy-acetylamino-phenol derivatives. 3,073-863, 1-15-63, Cl. 260-559.
- Croy, Fred E. Bellows contained within a composite ball in a socket. 3,089,714, 5-14-63, Cl. 285-165.
- Crozat, Donald F., and H. R. Hackbarth, to Auto-View Welding Helmet Co. Welding helmet. 3,086,213, 4-23-63, Cl. 2-8.



- Crozier, Robert N.: *See*—  
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- Crudgington, Cleveland B., and C. D. Murdoch: said Murdoch assor. to Crudgington. Vacancy indicator for motels and like establishments. 3,095,558, 6-25-63, Cl. 340-286.
- Cruger, Robert W.: *See*—  
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- Cruikshank, Philip A., and J. C. Sheehan, to Research Institute for Medicine and Chemistry, Inc. Cevanidane derivatives and process for the preparation thereof. 3,072,638, 1-8-63, Cl. 260-239.5.
- Cruise, Gary B., A. J. Detrie, and E. J. O'Neill, to Douglas Aircraft Co., Inc. Fuel tank drain system. 3,079,941, 3-5-63, Cl. 137-266.
- Crum, Eben J. Coiling strand material. Re. 25,477, 11-12-63, Cl. 242-174.
- Crum, Eben J. Wire handling apparatus. 3,103,237, 9-10-63, Cl. 140-2.
- Crum, Harry O., and E. G. Randall,  $\frac{1}{10}$  to V. B. Axnear. Grave digging machine. 3,107,444, 10-22-63, Cl. 37-80.
- Crumb, Charles F.: *See*—  
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- Crump, B. T., Co., Inc.: *See*—  
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- Crump, Craven H. Receptacle support and holder. 3,091,342, 5-28-63, Cl. 211-71.
- Crump, Eldon E.: *See*—  
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- Crump, Elmo E.: *See*—  
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- Crump, Jack G., to Industrial Nucleonics Corp. Tank level measurement system. 3,098,154, 7-16-63, Cl. 250-43.5.
- Crump, John W., to The Dow Chemical Co. Preparation of o-bromotoluene. 3,077,503, 2-12-63, Cl. 260-650.
- Crump, Owen De M. Windrow attachment for rotary mowers. 3,105,841, 10-1-63, Cl. 56-192.
- Crump, Ralph E.,  $\frac{1}{2}$  to Electrofilm, Inc., and  $\frac{1}{2}$  to Rohr Aircraft Corp. Method and apparatus for electrically brazing cellular structures. 3,088,019, 4-30-63, Cl. 219-85.
- Crump, Rayburn E. Distance measuring device. 3,104,632, 9-24-63, Cl. 111-1.
- Crumrine, Herbert E., and C. L. Huber, to Xerox Corp. Xerographic plate magazine and feeding apparatus. 3,083,869, 4-2-63, Cl. 221-293.
- Crumrine, Herbert E., and C. L. Huber, to Xerox Corp. Xerographic plate feeding and supporting apparatus. 3,091,160, 5-28-63, Cl. 95-1.7.
- Crumrine, Herbert E., and C. L. Huber, to Xerox Corp. Xerographic developing apparatus. 3,091,219, 5-28-63, Cl. 118-637.
- Crumrine, Kenneth C., to Jersey Production Research Co. Fluid entry analyzer. 3,088,026, 4-30-63, Cl. 250-43.5.
- Cruse, Oliver B., and C. B. Fites, to Wagner Electric Corp. Servo motor. 3,113,489, 12-10-63, Cl. 91-372.
- Cruse, Paul B., and D. R. Crowell. Washing machine overflow control unit. 3,091,111, 5-28-63, Cl. 68-208.
- Cruse, Philip M., to Santa Barbara Research Center. Apparatus for processing optically received electromagnetic radiation. 3,083,299, 3-26-63, Cl. 250-203.
- Cruson, Izaak P., to Cruson Patents N.V. Method for making a seating on a tube. 3,103,742, 9-17-63, Cl. 29-482.
- Cruson Patents N.V.: *See*—  
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- Crust, Trevor J.: *See*—  
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- Crutcher-Rolfs-Cummings, Inc.: *See*—  
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- Cruz, Mamerto M., Jr., and R. L. McDowell, to FMC Corp. Water-laid web. 3,116,199, 12-31-63, Cl. 162-146.
- Cruz, Paul L., to Ronson Corp. Tensioning apparatus for pliable material. 3,072,360, 1-8-63, Cl. 242-154.
- Cruzen, Larry L., to Burroughs Corp. Sheet stopping mechanism. 3,098,648, 7-23-63, Cl. 271-46.
- Cruzen, Larry L., to Burroughs Corp. Sheet stopping mechanism. 3,098,649, 7-23-63, Cl. 271-46.
- Cryogenic Engineering Co.: *See*—  
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- Cryogenics, Inc.: *See*—  
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- Csanady, Michael, Jr., to Westinghouse Electric Corp. Turbine apparatus. 3,073,964, 1-15-63, Cl. 290-4.
- Csermely, Gyorgy, G. Lugosi, E. Jeney, and T. Zsolnai, to Chinoín Gyógyszer- és Vegyszeti Termékek Gyára RT. Azo sulfonamide derivatives. 3,102,111, 8-27-63, Cl. 260-154.
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- Csizmanský, Alex., to Dura Corp. Power operated latch for convertible tops. 3,089,719, 5-14-63, Cl. 292-25.
- Cubberly, Walter E., Jr., to Schlumberger Well Surveying Corp. Borehole apparatus. 3,097,433, 7-16-63, Cl. 33-178.
- Cubbridge, James F., W. D. Drukker, R. G. Fernald, E. N. Lenk, F. W. Turner, J. G. Weeks, and Q. W. Wiest, to Western Electric Co., Inc. Automatic positioning servosystem. 3,080,512, 3-5-63, Cl. 318-28.
- Cubic Corp.: *See*—  
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Du Buis, Edwin O., and Cucksey. 3,077,725.
- Cucullu, Jose C. Process of preserving sugar juices. 3,108,907, 10-29-63, Cl. 127-46.
- Cudnohufsky, Sylvester R. Tracer control circuit for machine tools. 3,104,591, 9-24-63, Cl. 91-412.
- Cuendet, Jacques C., to Unitra S.A. Arrangement for the tilting of a load. 3,086,670, 4-23-63, Cl. 214-701.
- Cuiengnet, Alfred, to R. Dewas. Weaving looms. 3,095,015, 6-25-63, Cl. 139-1.
- Cukier, Samuel T., to General Aniline & Film Corp. Asbestos paper containing vinyl alkyl ether-maleic anhydride copolymer and method of forming same. 3,113,064, 12-3-63, Cl. 162-155.
- Culbertson, George T., to T. W. Hallenberg. Time delay circuit. 3,084,311, 4-2-63, Cl. 317-148.5.
- Culbertson, Warren E. Bearing adjustment device. 3,110,957, 11-19-63, Cl. 29-260.
- Cull, Neville L.: *See*—  
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- Cull, Neville L., and C. L. Aldridge, to Esso Research and Engineering Co. Removal of metal contaminants from polymers with chelating agents. 3,098,845, 7-23-63, Cl. 260-94.9.
- Cullen, Albert E., and E. T. Franzen, to Philco Corp. Cabinet structure. 3,114,364, 12-17-63, Cl. 126-191.
- Cullen, Charles C., and W. R. Duncan. Pneumatic splint. 3,075,522, 1-29-63, Cl. 128-87.
- Cullen-Friestedt Co.: *See*—  
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Kaplan, Louis G., and Moro. 3,076,673.
- Cullen, Glenn W.: *See*—  
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- Cullen, James J., R. P. Stokes, and R. Mackay, to W. R. Grace & Co. Nutating nozzle. 3,094,254, 6-18-63, Cl. 222-504.
- Cullen, Roy H., L. D. Richards, and H. H. Hodgeman: said Richards and Hodgeman assors. to said Cullen. Fluid-driven engine. 3,088,529, 5-7-63, Cl. 175-107.
- Culleton, John T., to Pacific Pumping Co. Submersible pump. 3,088,415, 5-7-63, Cl. 103-103.
- Culligan, Inc.: *See*—  
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- Cullinan, John C., W. M. Trowbridge, and O. T. Bergfeld, to Detecto Co. Soil gas detecting apparatus. 3,084,553, 4-9-63, Cl. 73-421.5.
- Cullinane, Alfred J. Bearings. 3,089,736, 5-14-63, Cl. 308-36.1.
- Cullis, John, Jr., to Burroughs Corp. Lamp and method of manufacture. 3,077,022, 2-12-63, Cl. 29-25.13.
- Culp, Charles R., to Armstrong Cork Co. Process for reducing aging period of cellular products formed with steam. 3,086,248, 4-23-63, Cl. 18-48.
- Culp, George K., to J. Manning. Supplemental traction device. 3,103,242, 9-10-63, Cl. 152-230.
- Culpepper, Arthur C., J. D. Orr, and L. C. Burk. Conveyor-wheeler for cotton bales. 3,082,884, 3-26-63, Cl. 214-2.
- Culver, Frederick H., J. A. Haebler, E. B. Lagucki, and R. F. Perner, to Shell Oil Co. Y-branched wellhead assembly. 3,101,118, 8-20-63, Cl. 166-75.
- Culver, Irven H., and D. E. Walters, to Lockheed Aircraft Corp. Helicopter. 3,080,001, 3-5-63, Cl. 170-160.13.
- Culver, Irven H., H. C. Danielson, and J. F. Johnston, to Lockheed Aircraft Corp. Helicopter rotor. 3,106,964, 10-15-63, Cl. 170-160.13.
- Culver, Paul C., and E. L. Copony, to Symington Wayne Corp. Selective blend indicator. 3,075,310, 1-29-63, Cl. 40-68.
- Culver, Perrin C., and O. P. Blake. Electronic therapeutic apparatus. 3,076,937, 2-5-63, Cl. 328-31.
- Cumberland Case Co.: *See*—  
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- Cumming, James C.: *See*—  
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- Cumming, John, to G. S. Blakeslee & Co. Dishwashing machine conveyor. 3,086,641, 4-23-63, Cl. 198-131.
- Cummings, Albert K. Slush pump valve with air cushioned valve. 3,086,550, 4-23-63, Cl. 137-514.
- Cummings, Francis M.: *See*—  
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- Cummings, Harold R., to General Electric Co. X-ray tube with gas gettering means. 3,081,413, 3-12-63, Cl. 313-60.
- Cummings, Harry B., J. W. Drenning, J. L. McKewen, and G. L. Morgett, to Koppers Co., Inc. Electrostatic precipitation. 3,109,720, 11-5-63, Cl. 55-13.
- Cummings, Jack E.: *See*—  
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- Cummings, James D., and C. E. Hatcher, to Crutcher-Rolfs-Cummings, Inc. Internal pipe coating apparatus. 3,078,823, 2-26-63, Cl. 118-306.
- Cummings, John R.: *See*—  
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- Cummings, Leslie L., to Otis Engineering Corp. Gas lift valve mechanism. 3,077,894, 2-19-63, Cl. 137-155.
- Cummings, Robert L., and G. M. Lance, to Thomson Ramo Wooldridge Inc. Engine lubricating oil cooling systems for turbojets or the like. 3,080,716, 3-12-63, Cl. 60-39.66.
- Cummings, Thomas F., to International Business Machines Corp. Educational device. 3,095,654, 7-2-63, Cl. 35-9.
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Duncan, James K., and Quinn. 3,087,612.  
Quinn, James L. 3,074,525.  
Snowdon, Donald R., and Jones. 3,087,724.
- Cummins, Clarence R., 40% to T. B. Dempsey. Cast cutter. 3,091,851, 6-4-63, Cl. 30-167.
- Cummins, Earl W., to E. I. du Pont de Nemours and Co. 3,3'-hydrocarbonsylene bis(tetrahydro-1,3,5-thiadiazine-2-thiones), unsymmetrical substituted corresponding compounds, fungicidal compositions, and methods. 3,085,046, 4-9-63, Cl. 167-33.
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- Cummins, Richard W., to FMC Corp. Process for production of phosphine and phosphite-free phosphates. 3,116,109, 12-31-63, Cl. 23-107.
- Cummins, Russell: *See*—  
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- Cundall, John H.: *See*—  
Chapman, John F., Cundall, and Partridge. 3,094,434.
- Cuneo, Carl J.: *See*—  
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- Cuneo, David K.: *See*—  
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- Cunetta, Joseph, and N. F. Lamantia. Sludge pumping systems. 3,073,453, 1-15-63, Cl. 210-167.
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- Cunningham, Arthur R., to Cunningham & Sons. Hay rake. 3,074,222, 1-22-63, Cl. 56-376.
- Cunningham, Arthur R., to Cunningham & Sons. Hub and tire assembly for tedder. 3,083,521, 4-2-63, Cl. 56-372.
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- Cunningham, Cecil R., to Owens-Corning Fiberglas Corp. Apparatus for traversing filamentary materials. 3,115,313, 12-24-63, Cl. 242-43.2.
- Cunningham, Cecil R., M. D. Weiss, and R. Z. Schreffler, to Owens-Corning Fiberglas Corp. Method and apparatus for forming and collecting filaments. 3,090,570, 5-21-63, Cl. 242-18.
- Cunningham, Clarence V., to General Electric Co. Motor operated cam contact assembly. 3,089,931, 5-14-63, Cl. 200-92.
- Cunningham, Francis V., to McGraw-Edison Co. Spark gap assembly. 3,106,662, 10-8-63, Cl. 315-36.
- Cunningham, Frederick C., to The M. W. Kellogg Co. Hydrocarbon separation. 3,111,402, 11-19-63, Cl. 62-27.
- Cunningham, George L., to W. R. Grace & Co. Production of silica free hydrogen fluoride. 3,101,254, 8-20-63, Cl. 23-153.
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Paprocki, Stanley J., and Cunningham. 3,074,153.
- Cunningham, Gerald A. Child carrier. 3,097,773, 7-16-63, Cl. 224-6.
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- Cunningham, James J. Automatic dialing attachment for telephones. 3,073,910, 1-15-63, Cl. 179-90.
- Cunningham, James L., Jr.: *See*—  
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- Cunningham, John A. Electromechanical oscillators. 3,091,151, 5-28-63, Cl. 84-457.
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- Cunningham, John H. Physiotherapy device for improving muscular coordination. 3,075,769, 1-29-63, Cl. 273-96.
- Cunningham, Joseph A.: *See*—  
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- Cunningham, Joseph H. Soil consolidator. 3,075,357, 1-29-63, Cl. 61-1.
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- Cunningham, Paul M., to Collins Radio Co. Voltage variable gain circuit with gate correction. 3,080,532, 3-5-63, Cl. 330-130.
- Cunningham, Paul M., and R. E. Muhm, to Collins Radio Co. Constant magnetron current regulator. 3,080,518, 3-5-63, Cl. 323-66.
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- Cunningham, Robert A.: *See*—  
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- Cupo, William J., to Norcross Inc. Carrier and display for rolled material. 3,115,376, 12-24-63, Cl. 312-35.
- Cupp, Victor: *See*—  
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- Curci, Alfred. Phonograph record-changing apparatus. 3,097,850, 7-16-63, Cl. 274-10.
- Curcio, Michael. Anti-splash gasoline pump nozzle adapter. 3,105,641, 10-1-63, Cl. 239-552.
- Curfman, Ronald L., to Standard Oil Co. Valve seat refacing apparatus. 3,071,902, 1-8-63, Cl. 51-241.
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- Curran, Robert J. Maze with a mechanical memory. 3,087,732, 4-30-63, Cl. 273-153.
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- Curran, William V., and R. B. Angier, to American Cyanamid Co. Cyanoethyl-pteridines. 3,071,587, 1-1-63, Cl. 260-251.5.
- Currie, Chester C., to The Dow Corning Corp. Solvent foamers. 3,115,472, 12-24-63, Cl. 252-358.
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- Currie, George D., to The Bendix Corp. Apparatus for photographic printing. 3,110,805, 11-12-63, Cl. 250-65.
- Currie, Grover C., to Fulbright Laboratories, Inc. Dispersing device. 3,094,134, 6-18-63, Cl. 137-132.
- Currie, Norman D. Undershoot wad for shotgun shells. 3,115,835, 12-31-63, Cl. 102-42.
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- Currie, Thomas E., to Foote Mineral Co. Single coat porcelain enamel. 3,114,646, 12-17-63, Cl. 106-48.
- Currier, Edwin L., Jr., and J. H. Nicklas, to United States of America, Atomic Energy Commission. Nuclear reactor fuel element. 3,093,566, 6-11-63, Cl. 204-193.2.
- Currier, Helen: *See*—  
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- Currier, Vernon A., and P. H. Moss, to Jefferson Chemical Co., Inc. Preparation of alkylcyclohexylamines. 3,087,966, 4-30-63, Cl. 260-563.
- Curran, Elbert E., and P. J. Davidson, to Bemis Bro. Bag Co. Method of making bags. 3,099,237, 7-30-63, Cl. 112-262.



- Currison, Loren E., to American Bosch Arma Corp. Gyroscope pickoff and torquer. 3,107,540, 10-22-63, Cl. 74—5.4.
- Curry, Arnet A., to Motorola, Inc. Transistor voltage regulator. 3,101,441, 8-20-63, Cl. 323—22.
- Curry, Charles D., Jr. Cooking utensil cover. 3,110,412, 11-12-63, Cl. 220—44.
- Curry, John L., to Rector Well Equipment Co., Inc. Method for attaching overlapped members. 3,095,644, 7-2-63, Cl. 29—527.
- Curry, Percy S. Paper-towel rack. 3,088,686, 5-7-63, Cl. 242—55.2.
- Curry, Robert C., to General Dynamics Corp. Binary code to analog converter. 3,102,258, 8-27-63, Cl. 340—347.
- Curry, Robert C., and C. B. Shook, to General Dynamics Corp. Inhibitor circuit. 3,102,255, 8-27-63, Cl. 340—146.2.
- Curtenius, Frederick B., to The Kalamazoo Paper Co. Paper sheet stacker. 3,090,503, 5-21-63, Cl. 214—6.
- Curtice, Jay S., A. I. Snow, and L. A. Baillie, to Sinclair Research, Inc. Detection of heat exchanger leaks. 3,087,064, 4-23-63, Cl. 250—106.
- Curtin, Kenneth M., to The Vanderburgh County Society For Crippled Children and Adults, Inc. Wick assembly. 3,091,396, 5-28-63, Cl. 239—47.
- Curtin, Leo P., deceased; L. V. Curtin, executor. Chronic phosphate bonding coats for metals. 3,094,441, 6-18-63, Cl. 148—6.16.
- Curtin, Leo P., deceased; L. V. Curtin, executor. Conditioning treatment for metal surfaces. 3,101,287, 8-20-63, Cl. 148—6.16.
- Curtin, Leo V.: See—  
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- Curtin, Paul J.: See—  
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- Curtin, W. H., and Co.: See—  
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- Curtis, Allen W.: See—  
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- Curtis, Arvel C., to Pipelife Corp. Method of conditioning transmission lines in situ. 3,108,012, 10-22-63, Cl. 117—95.
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- Curtis Automotive Devices, Inc.: See—  
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- Curtis, Charles H.: See—  
Atwood, George E., and Curtis. 3,102,854.  
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- Curtis, Charles R., and L. E. Roberts, to AMP Inc. Multi-contact electrical connector. 3,112,974, 12-3-63, Cl. 339—49.
- Curtis, Gerald R., G. Robinson, and R. W. Baugh, to Physical Sciences Corp. Key for connector. 3,077,571, 2-12-63, Cl. 339—186.
- Curtis, John M., to W. C. Calton. Outdoor table. 3,078,815, 2-26-63, Cl. 108—14.
- Curtis, Meador: See—  
Von Wranau, Guido, and Phillips. 3,095,311.
- Curtis, Nicholas, and J. R. Robertella, to Trans-Lux Corp. Data reproducing apparatus. 3,108,156, 10-22-63, Cl. 178—24.
- Curtis 1000, Inc.: See—  
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- Curtis, Richard A.: See—  
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- Curtis, Robert S.: See—  
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- Curtis, Russell R., to Curtis Automotive Devices, Inc. Resonant intermittent combustion devices. 3,101,768, 8-27-63, Cl. 158—4.
- Curtis, S., & Son, Inc.: See—  
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- Curtis-Scott Co.: See—  
Curtis, William B. 3,090,386.  
Curtis, William B. 3,109,257.
- Curtis, William B., to Curtis-Scott Co. Surgical suturing instrument. 3,090,386, 5-21-63, Cl. 128—334.
- Curtis, William B., to Curtis-Scott Co. Kite parachute. 3,109,257, 11-5-63, Cl. 46—86.
- Curtiss, Floyd P., and E. F. Relth, to Continental Can Co., Inc. Cantaloupe containers. 3,100,595, 8-13-63, Cl. 229—27.
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Bastian, Arthur L. 3,076,881.  
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- Curtiss-Wright Corp.: See—Continued  
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Gearhart, Walter S., and Hammond. 3,101,101.  
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Minkow, Morse. 3,116,412.  
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- Cusano, Dominic A., to General Electric Co. Method of preparing luminescent materials and luminescent screens prepared thereby. 3,108,904, 10-29-63, Cl. 117—211.
- Cusano, Dominic A., and R. L. Sormberger, to General Electric Co. Method for making electrically conducting films and article. 3,095,324, 6-25-63, Cl. 117—215.
- Cusden, Earl R. J. Honeycomb uncapping machine. 3,095,584, 7-2-63, Cl. 6—12.
- Cushing, Cyril A., and J. H. W. Speaight, to The English Electric Co. Ltd. Emergency shut-down gear for multi-cylinder compression ignition engines. 3,101,702, 8-27-63, Cl. 123—198.
- Cushing, Donald S.: See—  
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- Cushman, Walton W. Combined shelter and pneumatic jack. 3,086,753, 4-23-63, Cl. 254—93.
- Cushman, Walton W. Pneumatic tires and replaceable treads therefor. 3,107,713, 10-22-63, Cl. 152—187.
- Cushman, Walton W. Load-bearing and transporting means constituting wheel and endless track substitute. 3,107,924, 10-22-63, Cl. 280—28.5.
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- Cusic, John W., and E. Le Von, to G. D. Searle & Co. 1-benzhydryl substituted 4-(aminomethyl) piperidines and 4-(amidomethyl) piperidines. 3,101,341, 8-20-63, Cl. 260—293.
- Cusic, John W., and H. S. Lowrie, to G. D. Searle & Co. Amides of phenothiazinecarboxylic acids. 3,112,309, 11-26-63, Cl. 260—243.
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- Cusumano, Hector C. Rapid action seal-tight closure cover. 3,072,286, 1-8-63, Cl. 220-46.
- Cutforth, Howard G.: *See*—  
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- Cyr, Frank P.: *See*—  
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- Cyr, Gilman N.: *See*—  
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- Czaczkowski, Jerzy R., to North American Philips Co., Inc. Semi-conductor to provide a step current function with plural emitters which inject minority carriers. 3,113,222, 12-3-63, Cl. 307-88.5.
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- Czarnowski, Melvin S., to Illinois Tool Works, Inc. Insert fastener. 3,105,535, 10-1-63, Cl. 151-23.
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- Dowling, Robert W., and Del Riccio. 3,076,382.
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- Dabringhaus, Gustav H. Machine for deep drilling. 3,075,415, 1-29-63, Cl. 77—34.7.
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- D'Achille, Bernardo L. Vegetable peeling and slicing apparatus. 3,085,605, 4-16-63, Cl. 146—49.
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- Da Costa, Harry, to Motorola, Inc. Feeding and positioning apparatus. 3,102,331, 9-3-63, Cl. 29—203.
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- Daggett, Frederick K., M. A. Hall, and P. A. Roush, to Flexible Tubing Corp. Flexible conduit. 3,107,697, 10-22-63, Cl. 138—131.
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- Dahl, Carl B., to Beloit Iron Works. Suppression of objectionable noise in rotating machinery. 3,080,014, 3-5-63, Cl. 181—35.
- Dahl, Einar S., to Borg-Warner Corp. Fuel injection pump. 3,100,449, 8-13-63, Cl. 103—2.
- Dahl, Emily J. Nursing bottle holder. 3,110,407, 11-12-63, Cl. 215—12.
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- Dahl, Norman C. Automatic telephone timer. 3,089,303, 5-14-63, Cl. 58—145.
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- Dahlin, Robert K., to North American Aviation, Inc. Radar error signal memory circuit. 3,079,600, 2-26-63, Cl. 343—17.1.
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- Dahlquist, Emil F., and E. E. West, to Link-Belt Co. Apparatus for abrading by vibratory flowing of the abrading material. 3,108,408, 10-29-63, Cl. 51—163.
- Dahlquist, Robert L., to J. I. Case Co. Means for mounting spring fingers. 3,099,347, 7-30-63, Cl. 198—198.
- Dahlstrom, Arvid O. Pellet gun. 3,094,112, 6-18-63, Cl. 124—29.
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- Dailey, Leon E., to Dailey Ultrasonics, Inc. Transducer device. 3,102,535, 9-3-63, Cl. 128-24.
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- Fiala, Ernst J. H. 3,079,169.
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- Fiala, Ernst J. H., and Andros. 3,075,356.
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- Foerster, Hans-Joachim M. 3,080,772.
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- Uhlenhaut, Rudolf E., Mueller, and Rothweiler. 3,102,736.
- Van Winsen, Friedrich H. 3,111,183.
- Van Winsen, Friedrich H., and Drechsel. 3,102,573.
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- Wirsching, Robert J. 3,080,818.
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- Dale, Emmett O., to Airstream, Inc. Sewage disposal apparatus. 3,098,144, 7-16-63, Cl. 219-19.
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- D'Alelio, Gaetano F., and R. W. Voedisch, to Lawter Chemicals, Inc. Daylight fluorescent compositions. 3,116,256, 12-31-63, Cl. 252-301.2.
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- Daley, Horace S., and W. T. Fleming, to Specialties Development Corp. Winding machine. 3,111,279, 11-19-63, Cl. 242-2.
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- Daley, John L. S., R. M. Foecking, and W. J. Nagle, to Union Carbide Corp. Multi-plate galvanic cell. 3,094,438, 6-18-63, Cl. 136-6.
- Daley, William J., to Barnes Engineering Co. Polarized light autocollimator. 3,087,377, 4-30-63, Cl. 88-14.
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- Dalgleish, John E. Method and apparatus for gauging articles. 3,110,112, 11-12-63, Cl. 33-174.
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- Dalk, Antoine: *See—*  
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- Dall, Albert H., to The Cincinnati Milling Machine Co. Contour tracing apparatus. 3,106,046, 10-8-63, Cl. 51-100.
- Dalla Valle, Gustav, to Healthways. Mouthpiece regulator. 3,101,732, 8-27-63, Cl. 137-63.
- Dalle, Yves H., to Societe Norsom Tissage de Jute de la Lys et Societe Industrielle et Commerciale de la Catiche Reunis. Stretchable reinforced sheet material. 3,072,512, 1-8-63, Cl. 154-46.
- Dallemagne, Robert. Coded signal receiving and shaping circuit. 3,075,129, 1-22-63, Cl. 317-148.5.
- Dally, Roy: *See—*  
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- Dally, Roy, to General Electric Co. Phonograph cartridge and stylus. 3,088,000, 4-30-63, Cl. 179-100.41.
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- Dalpe, Raymond S. Scribing device for doors. 3,086,295, 4-23-63, Cl. 33-194.
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- Dalton, Henry L., to Invalid Walker & Wheel Chair Co. Invalid lifts. 3,104,399, 9-24-63, Cl. 4-185.
- Dalton, Joseph H., to Signode Steel Strapping Co. Pneumatic stapling tool. 3,084,672, 4-9-63, Cl. 121-21.
- Dalton, Thomas B., to West Michigan Steel Foundry. Landing gear leg structure. 3,073,572, 1-15-63, Cl. 254-86.
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- Daly, Edgar F., to Unicom Industries Ltd. Radiation detectors. 3,075,386, 1-29-63, Cl. 73-355.
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- Damblanc, Louis J., to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Controlled-jet-supported hovering platform chieffy for use in mine clearing. 3,112,669, 12-3-63, Cl. 89-1.
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- D'Amico, John J., to Monsanto Chemical Co. Process for making N-substituted thiazolesulfenamide. 3,075,990, 1-29-63, Cl. 260-306.6.
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- Damm, Carl A., to United States of America, Navy. Universal hoisting sling. 3,086,809, 4-23-63, Cl. 294-75.
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- Damon, Neil. Electrical controls. 3,102,173, 8-27-63, Cl. 200-11.
- Damon, Richard W., to General Electric Co. Ferromagnetic amplifier and frequency converter. 3,078,419, 2-19-63, Cl. 330-56.
- Damon, Richard W., to General Electric Co. Directional coupler between adjacent waveguide via a centrally displaced non-reciprocal gyromagnetic coupling rod. 3,116,467, 12-31-63, Cl. 333-1.1.
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- Danel, Pierre F., to Societe Grenobloise d'Etudes et d'Applications Hydrauliques. Hydraulic flow control apparatus. 3,080,879, 3-12-63, Cl. 137-101.25.
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- Danel, Pierre F., to Societe Grenobloise d'Etudes et d'Applications Hydrauliques. Artificial blocks for the protection of hydraulic structures. 3,096,621, 7-9-63, Cl. 61-4.
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- Dangler, Robert L., to Curtiss-Wright Corp. Windshield wiping mechanisms. 3,110,920, 11-19-63, Cl. 15-250.16.
- Daniel, David W., to National Broach & Machine Co. Method and apparatus for finishing gears. 3,092,934, 6-11-63, Cl. 51-105.
- Daniel, David W., to National Broach & Machine Co. Method and apparatus for finishing gears. 3,092,935, 6-11-63, Cl. 51-105.
- Daniel, David W., and Z. Kokorzycki, to National Broach & Machine Co. Involute checker. 3,071,862, 1-8-63, Cl. 33-179.5.
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- Daniels, Paul J., to Meterio Dispensers, Inc. Beverage dispensers. 3,094,154, 6-18-63, Cl. 141-88.
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- Danielson, Arthur C., to United States Rubber Co. Adhering textile materials to rubber. 3,097,110, 7-9-63, Cl. 117-162.
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- Daniotti, Mario, to G. Buehler. Take-off device for dried long food-paste products. 3,075,628, 1-29-63, Cl. 198-20.
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Darbie, Arthur M., C. W. Harrison, and D. J. Tighe, to Hewlett-Packard Co. Transistorized direct-voltage regulated power supply. 3,101,442, 8-20-63, Cl. 323-22.  
Darby & Darby: *See*—  
Dersch, Irwin F. 3,088,457.  
Darby, James W. Vehicle with retractable wheels. 3,080,196, 2-5-63, Cl. 298-1.  
Darby, Joseph B., Jr.: *See*—  
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D'Arcy, Donald F.: *See*—  
Hutchins, Roger W., and D'Arcy. 3,095,744.  
D'Arcy, James. Magnetically controlled switch. 3,076,877, 2-5-63, Cl. 200-87.  
Dard, Lucien. Apparatus for bending tubes, bars and metal sections. 3,112,787, 12-3-63, Cl. 153-38.  
Dardaine, Edgar J. M., and R. Malibaux, to E. P. Remy et Cie. Devices for gripping bottles and the like. 3,086,805, 4-23-63, Cl. 294-27.  
Dardaine, Edgar J. M., and R. Malibaux, to E. P. Remy & Cie. Device for grouping miscellaneous objects. 3,107,775, 10-22-63, Cl. 198-34.  
Darden, John A. Work holding clamp. 3,079,883, 3-5-63, Cl. 113-99.  
Dare, Earl J., to Columbian Bronze Corp. Anchor well. 3,106,181, 10-8-63, Cl. 114-210.  
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Dargene, Carl J., to Amerock Corp. Drawer guide. 3,090,662, 5-21-63, Cl. 312-343.  
Daria, Mary: *See*—  
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Darling, Alan S., to Johnson, Matthey & Co. Ltd. Production of powders of metal, alloy or other electrically conductive material. 3,115,569, 12-24-63, Cl. 219-69.  
Darling, George W.: *See*—  
Kimball, Richard H., and Darling. 3,112,339.  
Darling, Horace E., to The Foxboro Co. Electrical ratio control magnetic amplifier. 3,085,208, 4-9-63, Cl. 330-8.  
Darling, Horace E., to The Foxboro Co. Industrial process control apparatus employing magnetic amplification. 3,102,229, 8-27-63, Cl. 323-89.  
Darling, James L., G. K. Merdinian, and J. N. Georas, to Eitel-McCullough, Inc. Support device. 3,077,980, 2-19-63, Cl. 206-46.  
Darling, L. A., Co.: *See*—  
Nowicki, Edwin J. 3,110,531.  
Darling, Larry C. M., to Macro Development, Ltd. Apparatus for testing casing. 3,105,378, 10-1-63, Cl. 73-40.5.  
Darling, Marvin C.: *See*—  
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Darling, Ralph E., to Big Five Shoe Brake Corp. Brake mechanism. 3,085,660, 4-16-63, Cl. 188-78.  
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Darlington, Walter A., to Monsanto Chemical Co. Plant virus growth inhibitors. 3,085,931, 4-16-63, Cl. 167-33.  
Darlington, William H., A. Dean, and J. Fulton, to Associated Electrical Industries (Manchester) Ltd. Turbine power plants. 3,106,067, 10-8-63, Cl. 60-102.  
Darman, Joseph M., to Darman Mfg. Co., Inc. Towel roll winding machine. 3,097,806, 7-16-63, Cl. 242-57.  
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Darmstadt, Louis J., and G. W. Fuller, to King-Seely Thermos Co. Closure assembly for vacuum bottles. 3,115,981, 12-31-63, Cl. 215-13.  
Darnell, George, to Damac Tool Co. Mold registering and locking device. 3,081,494, 3-19-63, Cl. 18-44.  
Darnell, Walter T. Apparatus for spray drying pulverulent materials. 3,113,062, 12-3-63, Cl. 159-4.  
Darnier-Werke G.m.b.H.: *See*—  
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Da Rold, James: *See*—  
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Da Roza, Frank G., H. Nowawski, and A. J. Schenk, to Jervis B. Webb Co. Station selector apparatus for conveyor installations. 3,077,164, 2-12-63, Cl. 104-88.  
Darrell, George H. Target throwing trap. 3,108,582, 10-29-63, Cl. 124-6.  
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Darrow, Wendell L., and J. W. Kass, to FMC Corp. Process for the production of calcined phosphate agglomerates. 3,076,248, 2-5-63, Cl. 25-156.  
Dart, David M., to The Marley Co. Apparatus for conditioning air prior to passage over liquid condensing means. 3,112,621, 12-3-63, Cl. 62-303.  
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Darwin, Daniel P., D. K. Rex, and R. M. Kellogg, to International Business Machines Corp. Data storage apparatus. 3,107,346, 10-15-63, Cl. 340-174.1.  
Darwin, Lee E. Fueling mechanism for automobiles. 3,095,020, 6-25-63, Cl. 141-232.  
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Donaldson, Chase. 3,113,061.  
Das, Peter. Traction device. 3,108,587, 10-29-63, Cl. 128-75.  
Daschke, Arthur W., to J-B-T Instruments, Inc. Vibrating reed electro-responsive device. 3,079,555, 2-26-63, Cl. 324-80.  
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D'Ascoli, Ralph G., and L. C. Ebel, to Anaconda Wire and Cable Co. Method of making polyethylene-insulated power cables. 3,100,136, 8-6-63, Cl. 18-59.  
Dash, Carl S. Variable resistor. 3,085,218, 4-9-63, Cl. 338-163.  
Dash, Edward. Welding stud for electric arc welding. 3,114,031, 12-10-63, Cl. 219-99.  
Dashwood, George, Jr. Cap for vertical exhaust pipe of internal combustion engine. 3,110,239, 11-12-63, Cl. 98-59.  
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Dasipit, John I., and D. C. Thomas, to Tasker Instruments Corp. Air traffic control system. 3,096,433, 7-2-63, Cl. 235-151.  
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Date, Kazuo H., to McGraw-Edison Co. Arc extinguishing chambers. 3,080,467, 3-5-63, Cl. 200-150.  
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Spaulding, Carl P., and Wilson. 3,099,003.  
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Daubenspeck, Benjamin K., R. E. Dickey, D. S. Foote, and J. H. Whipple, to Remington Arms Co., Inc. Firearm cartridges. 3,099,958, 8-6-63, Cl. 102-42.  
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Daubman, Edward A., to Ametek, Inc. Centrifugal separators. 3,092,576, 6-4-63, Cl. 210-146.  
Dauenhauer, Florian F. Power trommel. 3,102,857, 9-3-63, Cl. 209-308.  
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Sebok, Albert L., and Daugherty. 3,096,929.  
Daugherty, Frank Z., and A. L. Sebok, to Ametek Inc. Electric motor assembly. 3,096,451, 7-2-63, Cl. 310-42.  
Daugherty, Phillip M., to Scripto, Inc. Flame-producing ignition device. 3,085,411, 4-16-63, Cl. 67-7.  
Daugherty, Ralph K.: *See*—  
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Daugherty, Robert L., to Robertshaw-Fulton Controls Co. Load control device. 3,077,542, 2-12-63, Cl. 307-34.  
Daugherty, Samuel S., to Burroughs Corp. Braille tape reader. 3,103,074, 9-10-63, Cl. 35-35.  
Daugherty, T. Stevens, to Reynolds Metals Co. Method of forming wrought aluminous metal. 3,076,706, 2-5-63, Cl. 75-211.  
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Daugirdas, Kristupas, to Vapor Corp. Door operator. 3,104,098, 9-17-63, Cl. 268-53.  
Daumy, Georges F. A. Gate-valve. 3,073,565, 1-15-63, Cl. 251-229.  
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Dauphinee, Thomas McC., and H. Preston-Thomas, to National Research Council. Direct reading resistance thermometer. 3,087,337, 4-30-63, Cl. 73-362.



- Dautremont, Joseph L., Jr., to Telautograph Corp. Tele-scriber communications system. 3,080,451, 3-5-63, Cl. 178-19.
- Da Valle, Bruno. Apparatus for starting gasoline engine powered air compressors. 3,071,978, 1-8-63, Cl. 74-4.
- Da Valle, Bruno. Pole gripping mechanism. 3,092,265, 6-4-63, Cl. 214-3.
- Davenport, Arthur N.: *See*—  
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- Davenport, Earl K., to Republic Aviation Corp. Proportional fluid control apparatus. 3,103,228, 9-10-63, Cl. 137-98.
- Davenport, Granger, to Norton Co. Machine tool lead screw. 3,113,488, 12-10-63, Cl. 90-4.
- Davenport, Granger, and J. E. Van Acker, to Norton Co. Automatic hob shifter. 3,096,686, 7-9-63, Cl. 90-4.
- Davenport Machine and Foundry Co.: *See*—  
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- Davenport, Philip A.: *See*—  
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- Davenport, Thomas I., to The Budd Co. Photoelastic transducers. 3,096,388, 7-2-63, Cl. 88-14.
- Davenport, William A., 25% to H. I. Jaffe, 25% to H. B. Lasting, and 25% to M. Forster. Putting cup. 3,074,722, 1-22-63, Cl. 273-177.
- Davenport, William G., and E. C. Addison, to Beaumont Birch Co. Drainage type coal bunker gate. 3,104,747, 9-24-63, Cl. 193-21.
- Daverman, Edward H.: *See*—  
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- Davey, Gerald F., to Riley Stoker Corp. Method of welding. 3,110,103, 11-12-63, Cl. 29-491.
- Davey, Hazel W. Combined cigarette package and ash tray. 3,112,029, 11-26-63, Cl. 206-41.
- Davey, James R., J. S. Engel, and M. A. Flavin, to Bell Telephone Laboratories, Inc. Linear automatic volume control system. 3,080,524, 3-5-63, Cl. 325-187.
- Davey, Paxman & Co. Ltd.: *See*—  
Walford, Alexander G. 3,083,697.
- Davey, Sidney M.: *See*—  
Branda, Robert W., Davey, Ebbert, and McBride. 3,076,548.
- Davey, Sidney M., R. J. Ebbert, and W. R. McBride; said Ebbert and McBride assigns to Davey. Packaging machine. 3,094,826, 6-25-63, Cl. 53-131.
- Davey, Thomas R. A.: *See*—  
Woods, Stephen E., and Davey. 3,080,227.
- Davey, Thomas R. A., and W. L. Linton, to Metallurgical Processes Ltd. and The National Smelting Co. Ltd., doing business together as Metallurgical Development Co. Cooling arrangements for molten metals. 3,098,110, 7-16-63, Cl. 266-15.
- David, Anthony: *See*—  
Blumenstein, Walter K., and David. 3,094,121.
- David, Charles E., to United States of America, Navy. Automatic gain control for transistor amplifier. 3,103,636, 9-10-63, Cl. 330-29.
- David, Clara W.: *See*—  
David, Edmonds and C. W. 3,082,759.
- David, Edmonds and C. W. Fireplace closure. 3,082,759, 3-26-63, Cl. 126-135.
- David, Edward E., Jr., to Bell Telephone Laboratories, Inc. Sound control system. 3,109,066, 10-29-63, Cl. 179-1.
- David, Edward E., Jr., and J. R. Pierce, to Bell Telephone Laboratories, Inc. Pitch synchronous autocorrelation vocoder. 3,109,070, 10-29-63, Cl. 179-15.55.
- David, Edward J., to Ivers-Lee Co. Method of and apparatus for making a suppository package. 3,092,940, 6-11-63, Cl. 53-29.
- David, Freddy, to General Dynamics Corp. Solid-state binary code multiplexing and demultiplexing device. 3,105,875, 10-1-63, Cl. 178-50.
- David, George J.: *See*—  
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- David Industries: *See*—  
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- David, Lawrence J., to E. I. du Pont de Nemours and Co. Lubricating device. 3,096,986, 7-9-63, Cl. 277-32.
- Davidon, Jack, to Merritt-Chapman & Scott Corp. Submergeable barge structure for off-shore operations. 3,081,600, 3-19-63, Cl. 61-46.5.
- Davidson, John H., to Desalination Plants (Developers of Zardin Process) Ltd. Means for freezing exposure of salt water in a salt water purification system. 3,103,792, 9-17-63, Cl. 62-123.
- Davidson, Alastair R., to A. B. Plastics Ltd. Access doors. 3,094,238, 6-18-63, Cl. 220-25.
- Davidson, Arthur R.: *See*—  
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- Davidson, Charles A., to Thermo-tank, Inc. Air distributor valve. 3,099,949, 8-6-63, Cl. 98-40.
- Davidson, Charles R., Jr., and W. P. Mitchell, to Pittsburgh Plate Glass Co. Handling rigid sheet articles. 3,084,969, 4-9-63, Cl. 294-118.
- Davidson, Charles R., Jr., to Pittsburgh Plate Glass Co. Apparatus for gripping and supporting glass sheets. 3,092,413, 6-4-63, Cl. 294-86.
- Davidson, Charles S.: *See*—  
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- Davidson, Donald E., to Davidson Optronics, Inc. Optical instrument for determining rotation of a remote object. 3,114,842, 12-17-63, Cl. 250-234.
- Davidson, Edward E., to Howard Smith Co. Rotary wash screen setting combination and rotary washing tool therefor. 3,101,784, 8-27-63, Cl. 166-158.
- Davidson, Emil: *See*—  
Hammond, Cleon, and Davidson. 3,112,825.
- Davidson, Emil, to Guild Molders, Inc. Decanter assembly. 3,073,473, 1-15-63, Cl. 215-48.
- Davidson, Emil, to Guild Molders, Inc. Sealing device. 3,092,281, 6-4-63, Cl. 215-40.
- Davidson, Emil, to Guild Molders, Inc. Dispenser. 3,109,427, 11-5-63, Cl. 128-261.
- Davidson, Frank H. Ornament for pierced ears having pendant attaching means. 3,071,938, 1-8-63, Cl. 63-13.
- Davidson, Glenn. Method of making a cylindrical filter element for cigarette tips. 3,094,450, 6-18-63, Cl. 156-209.
- Davidson, Howard M., to Paramount Fabricating Co. Rocker arm and method of making the same. 3,096,749, 7-9-63, Cl. 123-90.
- Davidson, Hugh W., to The General Electric Co. Ltd. Production of graphite. 3,104,159, 9-17-63, Cl. 23-209.1.
- Davidson, Hugh W., and J. W. Ryde, to The General Electric Co. Ltd. Methods of joining graphitic surfaces. 3,097,931, 7-16-63, Cl. 29-195.
- Davidson, Ian, and E. L. Jewett, to Florida Brace Corp. Surgical brace. 3,095,875, 7-2-63, Cl. 128-78.
- Davidson, Ivor M., and I. C. Cheeseman, to Power Jets (Research and Development) Ltd. Aerofol systems. 3,109,494, 11-5-63, Cl. 170-135.4.
- Davidson, James C., to Burroughs Corp. Blocking oscillator comprising cascaded transistor pair with impedance means to control output pulse width. 3,115,587, 12-24-63, Cl. 307-88.5.
- Davidson, James J., to Radio Corp. of America. Transistor amplifier circuits utilizing a Zener diode for stabilization. 3,080,528, 3-5-63, Cl. 330-22.
- Davidson, James P.: *See*—  
Renard, Roland E., and Davidson. 3,085,532.
- Davidson, James P., and E. A. Glassey. Density control apparatus. 3,089,502, 5-14-63, Cl. 137-90.
- Davidson, John D., to Westinghouse Electric Corp. Automatic synchronizing system. 3,073,965, 1-15-63, Cl. 307-87.
- Davidson, John K., to United States of America, Atomic Energy Commission. Fuel element for a nuclear reactor. 3,111,475, 11-19-63, Cl. 204-193.2.
- Davidson, Joseph W., to American Machine & Foundry Co. Thresher. 3,074,415, 1-22-63, Cl. 131-145.
- Davidson, Louis. Pallet for industry. 3,092,046, 6-4-63, Cl. 108-56.
- Davidson, Louis. Load bearing industrial pallet. 3,099,969, 8-6-63, Cl. 108-56.
- Davidson Optronics, Inc.: *See*—  
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- Davidson, Paul J.: *See*—  
Currin, Elbert E., and Davidson. 3,099,237.
- Davidson, Per, to Sandvikens Jernverks Aktiebolag. Hot top casing for casting molds. 3,072,981, 1-15-63, Cl. 22-147.
- Davidson, Per, to Sandvikens Jernverks Aktiebolag. Ingot mold hot top structure. 3,076,239, 2-5-63, Cl. 22-147.
- Davidson, Richard S., Jr., to Hughes Aircraft Co. Low pass filter. 3,076,947, 2-5-63, Cl. 333-79.
- Davidson, Robert W., to Vari-Typer Corp. Photocomposing machine. 3,079,146, 2-26-63, Cl. 271-5.
- Davidson Rubber Co., Inc.: *See*—  
Hood, Bruce G., and R. S., and Gardella. 3,101,244.
- Hood, Bruce G., and R. S., and Gardella. 3,111,365.
- Davidson, William L., P. E. Levesque, and H. K. Latourette, to FMC Corp. Vulcanizable rubber composition containing, as a reinforcing agent, a partial polyvalent metal salt of coal derived humic acids. 3,075,931, 1-29-63, Cl. 260-17.4.
- Davies, Alan Co.: *See*—  
Giddings, Ronald W., and Davies. 3,095,431.
- Davies, Ben, and A. L. Renkey, to Harbison Walker Refractories Co. Refractory compositions. 3,075,848, 1-29-63, Cl. 106-58.
- Davies, Ben, and E. P. Weaver, to Harbison-Walker Refractories Co. Burned refractory product. 3,106,475, 10-8-63, Cl. 106-58.
- Davies, Ben, and O. M. Wiken, to Harbison-Walker Refractories Co. Firing of dolomite and lime refractories. 3,108,860, 10-29-63, Cl. 25-156.
- Davies, David A.: *See*—  
Bland, Albert N., and Davies. 3,083,804.
- Davies, David E. N.: *See*—  
Tucker, David G., and Davies. 3,099,833.
- Davies, David K., and E. E. Schoessow, to The Babcock & Wilcox Co. Heat exchange apparatus. 3,084,742, 4-9-63, Cl. 165-133.
- Davies, David R., to Associated Electrical Industries (Manchester) Ltd. Mechanical handling apparatus for loading and unloading heterogeneous nuclear reactors. 3,071,529, 1-1-63, Cl. 204-193.2.
- Davies, Edward R., to Jered Industries, Inc. Torque responsive clutch disconnect mechanism. 3,107,765, 10-22-63, Cl. 192-56.
- Davies, Evan H., Jr. Fuel oil piping system with pressure responsive safety device. 3,094,162, 6-18-63, Cl. 158-42.1.
- Davies, Gail F., to Clevite Corp. Steering and speed control for jet propelled vehicles. 3,113,429, 12-10-63, Cl. 60-35.54.



- Davies, Gilbert E., and G. L. Gasparini, to Superior Ball Joint Corp. Joint having set screw with non-marring grooved engaging face. 3,095,222, 6-25-63, Cl. 287-52.08.
- Davies, Harry S., to Lever Brothers Co. Apparatus for preforming and preforming cartons. 3,104,598, 9-24-63, Cl. 93-53.
- Davies, Jack, to The Ever Ready Co. (Great Britain) Ltd. Galvanic cells. 3,095,331, 6-25-63, Cl. 136-107.
- Davies, James A., to Texaco Inc. Hydrocarbon conversion process. 3,097,250, 7-9-63, Cl. 260-683.62.
- Davies, James J.: See—
- Walles, Wilhelm E., Davies, and Gold. 3,086,865.
- Davies, John R.: See—
- Caldwell, Harry F., and Davies. 3,112,238.
- Davies, Leslie D., to Pittsburgh Plate Glass Co. Cylinder leak stopping device. 3,084,828, 4-9-63, Cl. 220-57.
- Davies, Mervin W.: See—
- Busby, Terence S., and Davies. 3,088,898.
- Davies, Raymond J., and P. D. Mills, to Dunlop Rubber Co. Ltd. Fluid-pressure suspension system for a tractor semitrailer assembly having a coupling controlled release. 3,081,109, 3-12-63, Cl. 280-423.
- Davies, Richard E., and L. J. Rosen, to Marco Chemical Corp. Composition comprising a polyester and a ring member containing two pairs of conjugated ethylenic linkages, method of cross linking same and cross-linked product. 3,078,253, 2-19-63, Cl. 260-45.4.
- Davies, Richard J.: See—
- Gregoire, Stephen E., Davies, and Schroeder. 3,084,303.
- Twaddell, Russell W., Davies, and Hanni. 3,086,070.
- Davies, Richard S., to Philco Corp. Object detecting system. 3,088,111, 4-30-63, Cl. 343-12.
- Davies, Robert R., and C. E. Vellins, to Imperial Chemical Industries Ltd. Metal-containing azo dyestuffs having sulphonyloxy-substituted alkyl sulphone groups. 3,086,967, 4-23-63, Cl. 266-145.
- Davies, Thomas J., to United Kingdom Atomic Energy Authority. Metal fabrication. 3,112,165, 11-26-63, Cl. 18-59.2.
- Davies, Trevor, N. Fletcher, and J. E. McIntyre, to Imperial Chemical Industries Ltd. Manufacture of filament and film-forming polyesters. 3,074,913, 1-22-63, Cl. 260-75.
- Davies, Will S.: See—
- Marshall, Edmund V., and Davies. 3,099,938.
- Davies, William, to The United Steel Companies Ltd. Production of sinter. 3,083,090, 3-26-63, Cl. 75-5.
- Davies, William R. Attachment for patio chaise lounge and combination. 3,107,941, 10-22-63, Cl. 297-170.
- Davin, Joseph, to American Brake Shoe Co. Pressure balanced vane. 3,102,493, 9-3-63, Cl. 103-135.
- Davino, Alphonso. Suspended rapid transit constructions. 3,081,711, 3-19-63, Cl. 104-95.
- Davis Aircraft Products Inc.: See—
- Higuchi, Nori. 3,081,506.
- Higuchi, Nori. 3,081,869.
- Higuchi, Nori. 3,110,071.
- Davis, Alice B. Diaper panty. 3,072,123, 1-8-63, Cl. 128-284.
- Davis, Ariel R. Spotlight. 3,116,022, 12-31-63, Cl. 240-3.
- Davis, Benjamin L., and W. C. Myberg, to United States of America, Navy. Tape capacitor. 3,098,955, 7-23-63, Cl. 317-242.
- Davis, Billy E., and L. E. Gormley, to Computers, Inc. Flow meter. 3,097,527, 7-16-63, Cl. 73-205.
- Davis, Calvin D.,  $\frac{1}{2}$  to G. Mohl. Apparatus for dispensing rolled paper. 3,101,913, 8-27-63, Cl. 242-55.53.
- Davis, Charles A., to W. J. Young Machinery Co., Inc. Nailing machine feed mechanism. 3,071,291, 1-1-63, Cl. 221-68.
- Davis, Charles J., to Massey-Ferguson Inc. Combination frame and stabilizer construction for tractor mounted equipment. 3,079,009, 2-26-63, Cl. 212-145.
- Davis, Charles J., to Davis Mfg., Inc. Two speed transmission. 3,091,975, 6-4-63, Cl. 74-330.
- Davis, Charles J. Crawler trencher with tiltable body. 3,099,098, 7-30-63, Cl. 37-86.
- Davis, Charles L.: See—
- Roper, Dean W., Davies, and Wingrove. 3,091,153.
- Davis, Charles L., J. R. Blanchard, and C. S. Shira, to North American Aviation, Inc. Brazing alloy application method. 3,091,029, 5-28-63, Cl. 29-496.
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- Davis, Charles S. Hook and lure protective device for fishing rods. 3,086,312, 4-23-63, Cl. 43-25.2.
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- Davis, Claude E., Jr. Method for attaching a fitting to a pipe. 3,070,874, 1-1-63, Cl. 29-157.
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- Davis, Clyde W.: See—
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- Davis, Curtis W., Jr., D. E. Carney, J. F. Kurick, and D. A. Schultz, to Libbey-Owens-Ford Glass Co. Polishing composition feed system. 3,107,463, 10-22-63, Cl. 51-283.
- Davis, David A., to Link-Belt Co. Screw conveyor coupling. 3,072,243, 1-8-63, Cl. 198-213.
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- Davis, Donald B., and A. B. Matthews. Stud bolt remover. 3,104,569, 9-24-63, Cl. 81-53.
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- Ptertyl, Sidney V., and Davis. 3,080,316.
- Davis, Donald W., to Lighting Products, Inc. Lighting diffuser. 3,096,032, 7-2-63, Cl. 240-106.
- Davis, Donna M.: See—
- Frye, Carl L., Jr., Orman, and Davis. 3,078,620.
- Davis, Donovan C., L. A. Ule, and J. R. Stoltz, to Gilfillan Bros., Inc. Frequency discriminator. 3,076,940, 2-5-63, Cl. 329-140.
- Davis, Donovan C., and B. Cutler, to Gilfillan Bros. Inc. Automatic video switching device. 3,080,557, 3-5-63, Cl. 343-7.7.
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- Davis, Edward J., to United States of America, Navy. Integral nozzle separator for a multi-stage reaction motor. 3,086,359, 4-23-63, Cl. 60-35.6.
- Davis, Edward J. A.: See—
- Davis, Frederick L. and E. J. A., and Berry. 3,073,089.
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- Davis, Edward W., to United States Forgecraft Corp. Snap hook. 3,105,280, 10-1-63, Cl. 24-234.
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- Plunkett, Gilman, and Davis. 3,107,852.
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- Cranch, Edward J., Davis, and Voorhoeve. 3,092,321.
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- Davis, Eugene L. Well pumps for abrasive fluids. 3,098,452, 7-23-63, Cl. 103-165.
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- Davis, Frank L. Lock pin with pivotable cam means and having substantially 360° holding effect. 3,081,663, 3-19-63, Cl. 85-5.
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- Davis, Frank L. Litter and stacking cot. 3,104,401, 9-24-63, Cl. 5-82.
- Davis, Frank L. Safety belt buckle. 3,104,440, 9-24-63, Cl. 24-230.
- Davis, Frederick B., 3rd, to Leeds and Northrup Co. Generation control system. 3,071,693, 1-1-63, Cl. 307-53.



- Davis, Frederick J. Impact tamping roller. 3,114,305, 12-17-63, Cl. 94-50.
- Davis, Frederick L. and E. J. A., and F. D. Berry, to London Rubber Co. Ltd. Packaging machines. 3,073,089, 1-15-63, Cl. 53-180.
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- Davis, Gordon A., G. P. Trost, and J. W. White, to Texas Instruments Inc. Method of bonding the abutted edges of metal members. 3,070,880, 1-1-63, Cl. 29-471.1.
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- Davis, Harold C., L. H. Jordan, and J. Arden, to D. & W. Truck Load Indicator Ltd. Load measuring apparatus for vehicles. 3,109,505, 11-5-63, Cl. 177-137.
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- Davis, John V., and L. J. Pianowski, to The Udylite Corp. Apparatus for liquid treating and conveying work. 3,078,859, 2-26-63, Cl. 134-66.
- Davis, Kenneth J., to National Broach & Machine Co. Gear finishing tool. 3,088,251, 5-7-63, Cl. 51-168.
- Davis, Kenneth J., to National Broach & Machine Co. Automatic loader. 3,095,980, 7-2-63, Cl. 214-1.
- Davis, Kenneth J., to National Broach & Machine Co. Gear finishing machine. 3,110,224, 11-12-63, Cl. 90-1.6.
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- Davis, Martin A., to American Home Products Corp. Phenothiazine derivatives and their preparation. 3,084,162, 4-2-63, Cl. 260-243.
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- Davis, Martin A., and S. O. Winthrop, to American Home Products Corp. 3,4-dihydro-6-sulfamyl-3-oxo-2H-1,4-benzothiazine and process for preparation. 3,071,584, 1-1-63, Cl. 260-243.
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- Davis, Marvin A., to Westinghouse Electric Corp. Digital position control servosystem. 3,099,777, 7-30-63, Cl. 318-28.
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- Wick, Edward J., and Day. 3,100,464.
- Day, James M.: See—
- Sloops, Charles E., and Day. 3,112,252.
- Day, James R., deceased; L. O. Day, executrix, to Radio Engineering Laboratories, Inc. Frequency modulated generators. 3,111,633, 11-19-63, Cl. 332-23.
- Day, John J., Jr., and W. E. Craver, Jr., to Craver Industries, Inc. Automatic contour die cut-off apparatus. 3,082,656, 3-26-63, Cl. 83-320.
- Day, Kelly B., Jr., and R. G. Rinadli, to International Business Machines Corp. Comparing circuit. 3,107,339, 10-15-63, Cl. 340-146.2.
- Day, Leslie A., to Imperial Chemical Industries Ltd. Ferrocene derivatives. 3,109,852, 11-5-63, Cl. 260-439.
- Day, Leslie R., to Monroe Calculating Machine Co. Flexible record transport apparatus. 3,098,617, 7-23-63, Cl. 242-55.11.
- Day, Louise O.: See—
- Day, James R. 3,111,633.
- Day, Maurice J.: See—
- Dulis, Edward J., and Day. 3,075,839.
- Day, Nancy, and M. Epstein, to American Cyanamid Co. Organophosphorus compounds and methods of preparing same. 3,116,314, 12-31-63, Cl. 260-465.
- Day, Raymond N. Vehicle carrying tractor-trailer. 3,084,970, 4-9-63, Cl. 296-1.
- Day, Richard J., to The Avon India Rubber Co. Ltd. Central buffing and draft gear. 3,082,882, 3-26-63, Cl. 213-49.
- Day, Robert H.: See—
- Day, William B. and R. H. 3,104,888.
- Day, Robert L., and H. L. Williams, to American Frame Co. Prefabricated door frame and molding structure. 3,107,759, 10-22-63, Cl. 189-46.
- Day, Roy. Water heating device for livestock tanks. 3,078,840, 2-26-63, Cl. 126-360.
- Day, William E. and R. H. Disassembleable ski. 3,104,888, 9-24-63, Cl. 280-11.13.
- Day, William M., to Landers, Frary & Clark. Coffee basket assembly. 3,081,693, 3-19-63, Cl. 99-312.
- Day, William M., to The C. A. Olsen Mfg. Co. Air cooled condenser. 3,115,757, 12-31-63, Cl. 62-507.
- Day, Winterton U., H. F. Donnelly, and H. L. Rohs, to Kimberly-Clark Corp. Manufacture of cellulosic product. 3,096,228, 7-2-63, Cl. 162-112.
- Day-Brite Lighting, Inc.: See—
- Garnett, Willard R. 3,077,536.
- Dayco Corp.: See—
- Rothermel, Edward M. 3,115,898.
- Waddell, Russell B., Jr. 3,091,261.
- Dayden William R., J. W. Harrison, and L. W. Keller, to W. R. Grace & Co. Method of decorating heat shrinkable, irradiated, biaxially oriented polyethylene. 3,081,571, 3-19-63, Cl. 41-26.
- Day's, Mrs., Ideal Baby Shoe Co., Inc.: See—
- McGinnity, James R. 3,077,621.



- Daystrom, Inc.: *See*—  
 Barber, Gene D. 3,105,154.  
 Barber, Gene D., and Waddell. 3,105,155.  
 Blanco, Elias. 3,100,883.  
 Cherundolo, Michael, and Wandel. 3,100,407.  
 Gilbert, Roswell W. 3,074,057.  
 Hageman, George F. 3,089,340.  
 Keogh, Howard G., Jr. 3,087,066.  
 King, Robert R. 3,073,283.  
 Langford, Robert C., and Sippach. 3,077,560.  
 Malaker, Stephen F. 3,086,471.  
 McConnell, James L. 3,090,005.  
 Nichols, Basil B. 3,105,158.  
 Norris, Bevitt J., Nichols, Gilbert, and Cohen. 3,087,147.  
 Pignone, Joseph. 3,077,368.  
 Rouy, Auguste L. M. A. 3,113,171.  
 Stolar, Gerard, Gropp, and Higley. 3,095,537.  
 Taylor, Elmer A., Jr. 3,077,043.  
 Weiss, Eric. 3,094,609.  
 Williams, David R. 3,112,693.  
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 Yonushka, Joseph V. 3,113,241.
- Dayton, Arthur B., Jr., to The Risdon Mfg. Co. Cosmetic container. 3,108,687, 10-29-63, Cl. 206-56.  
 Dayton, Charles A., and J. D. Kirby; said Kirby assor. to said Dayton. Work-actuated rotary brush. 3,106,732, 10-15-63, Cl. 15-28.
- Dayton, David R.: *See*—  
 Biggs, Orrick H., Wroblewski, and Dayton. 3,096,568.  
 Biggs, Orrick H., Wroblewski, and Dayton. 3,096,805.
- Dayton Machine Tool Co.: *See*—  
 Stults, John O. 3,087,366.
- Dayton Rogers Mfg. Co.: *See*—  
 Dulebohn, David H., and Gold. 3,084,576.  
 Gold, Robert M. 3,081,746.
- Dayton Steel Foundry Co., The: *See*—  
 Dotto, Gianni A., and Walther. 3,081,843.  
 Walther, Daniel A. 3,079,175.  
 Walther, George, Sr. 3,090,649.
- Dayton, Wilbur T., to W. W. Midrum Jewel Co. Manufacture of guide holders. 3,080,638, 3-12-63, Cl. 29-33.
- Daze, Harry D. Solicitation kit for fund raising drives. 3,115,351, 12-24-63, Cl. 282-22.
- Deacon, Albert H.: *See*—  
 Walker, Gordon K., and Deacon. 3,081,099.
- Deacon, George F. Electrical heating devices. 3,095,491, 6-25-63, Cl. 219-19.
- Deacon, James S. Methods and apparatus for mixing foundry sand. 3,070,858, 1-1-63, Cl. 22-89.
- Deady, Emmett F.: *See*—  
 Reed, Stanley F., Houghton, and Deady. 3,103,954.
- Deady, Emmett F., S. F. Reed, and D. E. Houghton, to Cambridge Wire Cloth Co. Method and apparatus for weft projection. 3,095,910, 7-2-63, Cl. 139-127.
- Deal, Bruce E., and W. Peterson, to Raytheon Co. Chemical reactor. 3,098,763, 7-23-63, Cl. 118-49.5.
- Deal, Elmer F., I. M. Richlin, and B. W. Wilson, to Lithoplate, Inc. Resinous coatings adapted to receive a light-sensitive layer in the production of lithographic printing plates. 3,073,723, 1-15-63, Cl. 117-161.
- Deal, Robert L. Handle for cans, bottles and the like. 3,088,767, 5-7-63, Cl. 294-31.2.
- Dealer Associates, Inc.: *See*—  
 Brewer, William L., Jr. 3,112,599.
- Dean, Albert G., to The Budd Co. Sidewall-to-floor connection for vehicles. 3,102,498, 9-3-63, Cl. 105-397.
- Dean, Albert G., and P. W. Gaenssle, to The Budd Co. Third rail shoe mount. 3,089,005, 5-7-63, Cl. 191-49.
- Dean, Arthur: *See*—  
 Darlington, William H., Dean, and Fulton. 3,106,067.
- Dean, Francis H., to Pak-Mar Mfg. Co. Power transmission assembly for refuse handling vehicles. 3,074,571, 1-22-63, Cl. 214-82.
- Dean, Frank J., Jr., to Tempmaster Corp. Air mixing and sound attenuating chamber. 3,094,189, 6-18-63, Cl. 181-36.
- Dean, George A., to The Benson Mfg. Co. Contra-rotating blower. 3,083,893, 4-2-63, Cl. 230-117.
- Dean, Gordon W., to Cannon Electric Co. Electrical connector insulator block construction. 3,072,340, 1-8-63, Cl. 339-49.
- Dean, Harry N.: *See*—  
 Sharp, Donald E., Dean, Babcock, and Montgomery. 3,078,692.
- Dean, Harry N., to Johns-Manville Corp. Method and apparatus for continuously gathering fiber. 3,073,136, 1-15-63, Cl. 18-8.
- Dean, Harry N., and A. W. Olson, to Libbey-Owens-Ford Glass Co. Apparatus for producing multiple glass sheet glazing units. 3,097,943, 7-16-63, Cl. 65-152.
- Dean, James C. Moving window display system. 3,082,294, 3-19-63, Cl. 178-6.8.
- Dean, James M. Flying toy. 3,109,256, 11-5-63, Cl. 46-74.
- Dean, Karl C., to United States of America, Interior. Flotation process for concentration of pollucite ores. 3,107,215, 10-15-63, Cl. 209-166.
- Dean, Lester M., and W. D'Esopo. Insulated butter dispenser. 3,097,899, 7-16-63, Cl. 312-36.
- Dean, Lloyd G.: *See*—  
 Olsowski, Franciszek, and Dean. 3,114,684.
- Dean, Mills, III, to United States of America, Navy. Waterproofing strain gages. 3,089,107, 5-7-63, Cl. 338-2.
- Dean, Peter P. Two-speed power transmission. 3,115,791, 12-31-63, Cl. 74-750.
- Dean, Ralph K., E. J. Slatkovski, and H. E. Wegner, to National Distillers and Chemical Corp. Ventilated metal awning. 3,098,267, 7-23-63, Cl. 20-57.5.
- Dean, Reginald I. R. Torque pins. 3,089,334, 5-14-63, Cl. 73-139.
- Dean, Reginald I. R. Torque recorders. 3,099,155, 7-30-63, Cl. 73-134.
- Dean, Robert B.: *See*—  
 Booth, Clifford C., and Dean. 3,100,754.  
 Boschert, Ulrich, and Dean. 3,083,183.
- Dean, Ronald A., and R. B. Girdler, to The British Petroleum Co. Ltd. Removal of metals from petroleum fractions. 3,098,816, 7-23-63, Cl. 208-253.
- Dean, Val B., to The Union Supply Co. Means for joining flexible belts. 3,093,005, 6-11-63, Cl. 74-232.
- Dean, Walter B., to The Budd Co. Column gripping means. 3,079,789, 3-5-63, Cl. 73-93.
- Dean, Walter B., H. W. Wessells III, and B. Labaree, to The Budd Co. Fabricated spoked wheel. 3,080,198, 3-5-63, Cl. 301-64.
- Dean, Walter B., H. W. Wessells, III, and B. Labaree, to The Budd Co. Method and apparatus for testing vehicle bodies. 3,113,452, 12-10-63, Cl. 73-91.
- Deaner, Leland D. Posture indicating device and hat. 3,099,245, 7-30-63, Cl. 116-67.
- De Angelis, Donald. Zipper attachment for overcoat. 3,085,249, 4-16-63, Cl. 2-97.
- De Angelis, Millet R.: *See*—  
 Dersch, Fritz, and De Angelis. 3,071,465.  
 Dersch, Fritz, and De Angelis. 3,084,044.
- Dear, Ervin J., and R. W. Staples. Ore pulverizer with centrifugal impact action. 3,096,037, 7-2-63, Cl. 241-275.
- Dearborn Chemical Co.: *See*—  
 Hwa, Chih M. 3,078,236.  
 Kerst, Herman. 3,080,747.  
 Kerst, Herman. 3,116,105.  
 Rai, Charanjit, Tehle, and Kambara. 3,101,319.
- Dearborn, Elizabeth C., and P. K. Isaacs, to W. R. Grace & Co. Carboxylic acid-polyethylene polyamine reaction mixture. 3,093,655, 6-11-63, Cl. 260-309.6.
- Dearborn, Eugene L. Lay-out gage. 3,078,585, 2-26-63, Cl. 33-189.
- Dearborn, Robert J., to Hooker Chemical Corp. Flameproof paper and process of making same. 3,087,836, 4-30-63, Cl. 117-136.
- Dearling, Harry S., to Charles of The Ritz, Inc. Powder box. 3,103,224, 9-10-63, Cl. 132-82.
- Dearsley, George, to American Machine & Foundry Co. Cigarette making machine. 3,074,414, 1-22-63, Cl. 131-84.
- Dearsley, George, to American Machine & Foundry Co. Method of making a cigarette having a composite filter plug. 3,081,778, 3-19-63, Cl. 131-94.
- Dearsley, George, to American Machine & Foundry Co. Mouthpiece cigarette making machine. 3,094,128, 6-18-63, Cl. 131-94.
- Dearsley, George, to American Machine & Foundry Co. Cigarette making machine and method. 3,096,770, 7-9-63, Cl. 131-21.
- Deaton, Charles U. Bi-level desk. 3,079,207, 2-26-63, Cl. 312-195.
- Deaton, Charles U. Chair. 3,087,758, 4-30-63, Cl. 297-445.
- Deaton, Charles U. Light-ray baffle construction. 3,088,025, 4-30-63, Cl. 240-78.
- Deaver, Charles G.: *See*—  
 Deaver, Lloyd C. and C. G. 3,100,540.
- Deaver, Lloyd C. and C. G. Stone picking implement. 3,100,540, 8-13-63, Cl. 171-63.
- De Back, William. Apparatus for blanching comestibles. 3,086,444, 4-23-63, Cl. 99-239.
- De Back, William, to FMC Corp. Apparatus for handling articles. 3,102,630, 9-3-63, Cl. 198-78.
- De Baere, Richard D. Self-gripping and readily releasable rope tie. 3,085,823, 4-16-63, Cl. 289-17.
- De Barba, Albert E., to Consolidated Electronics Industries Corp. Means for effecting unidirectional rotation. 3,101,137, 8-20-63, Cl. 192-4.
- De Barr, Albert E.: *See*—  
 Linnert, Arthur, Catling, and De Barr. 3,109,204.
- De Beaubien, William J., to General Motors Corp. Heating systems with shut-off. 3,084,867, 4-9-63, Cl. 237-12.3.
- De Beaubien, William J., and J. H. Flatt, to General Motors Corp. Multi-stroke fluid power actuator. 3,077,186, 2-12-63, Cl. 121-48.
- De Beausacq, Alfred R. Safety securing means for skis. 3,079,163, 2-26-63, Cl. 280-11.35.
- De Beer, Edwin J., deceased, by H. I. de Beer, executrix; said H. I. de Beer, assor. to Burroughs Wellcome & Co. (U.S.A.) Inc. Method for the treatment of clonic type seizures. Re. 25,502, 12-24-63, Cl. 167-65.
- De Beer, Helen I.: *See*—  
 De Beer, Edwin J. Re. 25,502.
- De Bell, John M., W. S. Larson, and K. W. Flynn, to Cheney Bigelow Wire Works, Inc. Seam structure for Fourdrinier type screen fabric and method of making same. 3,109,219, 11-5-63, Cl. 28-74.
- De Benneville, Peter L., and H. W. Blessing, to Rohm & Haas Co. Chlorinated 2-iminoisopyrroles. 3,072,673, 1-8-63, Cl. 260-313.



- De Benneville, Peter L., and H. W. Blessing, to Rohm & Haas Co. Tetra- and pentachlorinated cyanoesters. 3,082,241, 3-19-63, Cl. 260-465.4.
- De Benneville, Peter L., and H. W. Blessing, to Rohm & Haas Co. Process for preparing monochlorinated cyanoesters. 3,110,723, 11-12-63, Cl. 260-465.4.
- De Besme, Henry G., and W. Weiss, to Rotary Hospital Equipment Corp. Facial massage mask. 3,094,118, 6-18-63, Cl. 128-39.
- De Biasi, Charles P. Material spreader for use on a dump truck. 3,071,382, 1-1-63, Cl. 275-8.
- De Biasi, Charles P. Spreader and hopper assemblies with lump eliminator. 3,072,290, 1-8-63, Cl. 222-23.
- De Boer, Clarence: *See*—
- Dietz, Alma, De Boer, Smith, Siminoff, Boyack, and Whitfield. 3,116,202.
- De Boer, Clarence, A. Dietz, L. R. E. Johnson, T. E. Eble, and H. Hoeksema, to The Upjohn Co. Decoyinine. 3,094,460 6-18-63, Cl. 167-65.
- De Boer, Geert, to Volma, N.V. Cheese mold assembly. 3,098,297, 7-23-63, Cl. 31-44.
- De Boer, Herman R., T. E. King, and E. L. Knoechel, to The Upjohn Co. Process for sealing capsules. 3,071,513, 1-1-63, Cl. 167-83.
- De Bogory, Alexander, Sr. Hernia support. 3,091,238, 5-28-63, Cl. 128-95.
- Debol, Herbert H.: *See*—
- Bixson, Louis L., and Debol. 3,097,483.
- De Boice, William F., to North American Aviation, Inc. Passive control circuit for electrostatic bearing. 3,098,679, 7-23-63, Cl. 308-8.
- De Bonis, Lucian: *See*—
- Marra, Maria V., and De Bonis. 3,091,339.
- De Bottari, Louis A.: *See*—
- Friedman, George J., and De Bottari. 3,105,382.
- De Bough, Bjorn N. Automatic watering systems. 3,113,724, 12-10-63, Cl. 239-63.
- De Boy, Marvin F.: *See*—
- Flexman, Ralph E., and De Boy. 3,081,886.
- Debrie, André V. L. C. Means for guiding film in cinematographic apparatus. 3,112,053, 11-26-63, Cl. 226-89.
- De Brosse, Kenneth L., to International Telephone and Telegraph Corp. Optical search system. 3,087,986, 4-30-63, Cl. 178-6.8.
- De Bruin, Calvin N.: *See*—
- Burns, Leo C., Warrick, and De Bruin. 3,105,695.
- De Bruyne Norman A., to Techne (Cambridge) Ltd. Improved apparatus for testing the viscosity of a liquid. 3,081,621, 3-19-63, Cl. 73-55.
- Debs, Victor, to American Machine & Foundry Co. Workholding device having means for angular cutoff. 3,083,006, 3-26-63, Cl. 269-110.
- De Buhr, Harold E., and B. G. Sawyer, to Deere & Co. Bale handling mechanism. 3,115,976, 12-31-63, Cl. 214-83.3.
- De Buigne, Carl, to United States of America, Atomic Energy Commission. Extrusion cladding apparatus. 3,095,973, 7-2-63, Cl. 207-4.
- Debus, Karl, to Linotype G.m.b.H. Multidistributing device for die-setting and line-casting machines. 3,080,046, 3-5-63, Cl. 199-39.
- Debus, Karl, to Linotype G.m.b.H. Keyboard lock. 3,107,771, 10-22-63, Cl. 197-107.
- De Butts, Edward H., J. T. Hays, and H. L. Young, to Hercules Powder Co. Preparation of ethers of p-nitrosophenol. 3,107,265, 10-15-63, Cl. 260-512.
- De Callatay, Armand. Suspension insensitive to brief force applicable to vehicles and engine bearers. 3,106,388, 10-8-63, Cl. 267-65.
- De Camillis, Mason, J. J. Hoehn, and W. E. Johnson, to Radio Corp. of America. Combined sensing and switching device. 3,078,069, 1-29-63, Cl. 200-61.41.
- De Camp, Albert E., to The Williamson Co. Electric heating unit. 3,111,571, 11-19-63, Cl. 219-34.
- De Carbo, Charles J., and J. W. Korda, to The Leece-Neville Co. Electric generating systems. 3,086,161, 4-16-63, Cl. 322-11.
- De Carbon, Christian M. L. L. B. Shock absorbers. 3,088,556, 5-7-63, Cl. 188-88.
- De Caro, Charles J., to Olin Mathieson Chemical Corp. Fastener device. 3,074,071, 1-22-63, Cl. 1-44.5.
- De Cat, Arthur H.: *See*—
- Van Poucke, Raphael K., De Cat, and Verbrughe. 3,079,256.
- Decatur, Paul S., to The Maytag Co. Fill and lint removal system in a combination washer drier. 3,083,557, 4-2-63, Cl. 68-20.
- Decatur, Paul S., to The Maytag Co. Time delay control apparatus. 3,084,799, 4-9-63, Cl. 210-144.
- Decca Ltd.: *See*—
- Fitzgerald, Gerald, and Shardlow. 3,076,194.
- Matthews, Robert, and Knowles. 3,076,120.
- Parker, Bernhard D. 3,113,294.
- Parker, Eric. 3,109,063.
- Parker, Eric. 3,113,292.
- Roberts, Graham E. 3,113,313.
- Schneider, Adam B. 3,076,188.
- De Cerma, Paolo, and R. Vironda, to Montecantini Società Generale per l'Industria Mineraria e Chimica. Process for degreasing and oxalating in a single spray stage. 3,116,177, 12-31-63, Cl. 148-6.14.
- De Cesare, Nicholas. Cement block cap plate construction. 3,109,260, 11-5-63, Cl. 50-190.
- Dechamps, Elsa: *See*—
- Binon, Fernand A. G., and Dechamps. 3,096,368.
- Dechamps, Georges J. L.: *See*—
- Binon, Fernand A. G., and Dechamps. 3,096,368.
- Dechau, Edward, Jr. Log debarker feed apparatus. 3,100,514, 8-13-63, Cl. 144-208.
- De Chelbor, William J., to Novo Industrial Corp. Carrying case for soft drinks and the like. 3,107,026, 10-15-63, Cl. 220-21.
- Dechene, Joseph N. G., to E. I. du Pont de Nemours and Co. Guide. 3,083,931, 4-2-63, Cl. 242-157.
- Dechene, Joseph N. G., to E. I. du Pont de Nemours and Co. Melt level alarm. 3,102,301, 9-3-63, Cl. 18-8.
- Déchet, Robert: *See*—
- Moressée, Georges, and Déchet. 3,072,814.
- Moressée, Georges, and Déchet. 3,077,548.
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- Moressée, Georges, and Déchet. 3,101,425.
- Deckel, Dipl. Ing. Friedrich Wilhelm: *See*—
- Ostler, Josef. 3,103,746.
- Deckel, Dr. Ing. Hans: *See*—
- Ostler, Josef. 3,103,746.
- Deckel, Friedrich W.: *See*—
- Lanzenberger, Horst. 3,105,413.
- Plank, Walter. 3,102,343.
- Zwick, Kurt. 3,085,477.
- Deckel, Hans: *See*—
- Lanzenberger, Horst. 3,105,413.
- Zwick, Kurt. 3,085,477.
- Decker, David L., to Collins Radio Co. Overload and short circuit protector for transistor voltage regulator. 3,079,543, 2-26-63, Cl. 323-22.
- Decker, Elmer L., to Martin Decker Corp. Mud gauge. 3,080,758, 3-12-63, Cl. 73-414.
- Decker, Hanns, H. J. Maeder, and P. Wehren, to Klockner-Humboldt-Deutz Aktiengesellschaft. Grinding mill of the swinging type with a plurality of grinder drums. 3,082,965, 3-26-63, Cl. 241-153.
- Decker, Herman W. Method and apparatus for applying liquids. 3,079,090, 2-26-63, Cl. 239-142.
- Decker, Johannes B., and H. Meder, to Klockner-Humboldt-Deutz Aktiengesellschaft. Briquetting roller press for compacting ore coal and similar material. 3,072,043, 1-8-63, Cl. 100-168.
- Decker, Raymond F., A. J. Goldman, and J. T. Eash, to The International Nickel Co., Inc. Age-hardenable, martensitic iron-base alloys. 3,093,519, 6-11-63, Cl. 148-31.
- Decker, Walter J.: *See*—
- Zecca, John J., and Decker. 3,082,349.
- Decker, Wayne R.: *See*—
- Kerr, Ralph O., Decker, and Dorsett. 3,074,969.
- Decker, William H., to Maxant Button & Supply Co. Fabricated belt-buckle and forming device. 3,091,141, 5-28-63, Cl. 79-5.
- Deckert, Franz, to Daimler-Benz Aktiengesellschaft. Frame construction for vehicles. 3,108,836, 10-29-63, Cl. 296-28.
- De Claire, Alton G., Jr., and W. H. Cowles, to Holley Carburetor Co. Ratio computing device. 3,073,166, 1-15-63, Cl. 73-419.
- De Coene, Robert: *See*—
- Schnack, Otto N., and De Coene. 3,076,794.
- Decor Sound Corp.: *See*—
- Jarvis, James G. 3,113,556.
- De Corte, Michael A., to Ford Motor Co. Break point fluid pressure governor mechanism. 3,086,541, 4-23-63, Cl. 137-56.
- De Corte, Michael A., and R. W. Townsend, to Ford Motor Co. Automatic transmission control system. 3,085,449, 4-16-63, Cl. 74-752.
- De Corte, Michael A., R. O. Dameron, and R. P. Zundel, to Ford Motor Co. Automatic power transmission control. 3,103,831, 9-17-63, Cl. 74-677.
- De Courcy, Rowland J. J., to Baker Perkins Inc. Link conveyor with article supported hook. 3,097,736, 7-16-63, Cl. 198-177.
- De Courteix, Joseph B., to Société Civile d'Etude de Procédés de Scellement. Packings for anchoring missiles. 3,072,912, 1-15-63, Cl. 1-44.5.
- De Courteix, Joseph B., to Société Civile d'Etudes de Procédés de Scellement. Casing for the controlled plugging by means of plugging guns and the like apparatus. 3,110,032, 11-12-63, Cl. 1-44.5.
- De Craene, Edmond P.: *See*—
- Bredtschneider, Kurt B., De Craene, Hansen, and Cotterman. 3,094,136.
- De Crease, William M., to Lord Mfg. Co. Adhesive compositions. 3,099,632, 7-30-63, Cl. 260-3.3.
- De Danske Mejeriers Maskinfabrik, A.m.b.A.: *See*—
- Knudsen, Peter S. 3,106,243.
- Deddo, Daniel G. Integral panel for sunlight control. 3,075,429, 1-29-63, Cl. 88-57.5.
- Deddo, Daniel G., to Kenron Awning and Window Corp. Awning structure. 3,092,171, 6-4-63, Cl. 160-40.
- Dedmon, Arthur N., deceased, by J. F. Dedmon, administrator, to Milan Box Corp. Wirebound crate. 3,080,992, 3-12-63, Cl. 217-48.
- Dedmon, James F.: *See*—
- Dedmon, Arthur N. 3,080,992.
- De Dube, Jan E. P. Trouser holder. 3,070,910, 1-1-63, Cl. 38-71.



- Deduck, Nicholas: *See*—  
Growth, John A., Jr., and Deduck. 3,092,556.
- Deedman, Alfred R. Actuator for converting straight-line movement to oscillatory motion and vice versa. 3,097,573, 7-16-63, Cl. 92-68.
- Deeg, Robert L., Jr. Fluid lock structure. 3,109,446, 11-5-63, Cl. 137-384.6.
- Deegan, George M.: *See*—  
Allen, Richard E., and Deegan. 3,111,741.
- Deeley, John C., and J. L. Burgess, to British Nylon Spinners Ltd. Apparatus for simultaneously stretching and false-twisting yarn. 3,094,834, 6-25-63, Cl. 57-55.5.
- Deeley, Stanton E., to Jacques Wolf & Co. Dimensional stabilization of cellulose materials. 3,084,072, 4-2-63, Cl. 117-144.
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- De Koning, Jacob, to Stamicarbon N.V. Discharging device for a bunker. 3,104,038, 9-17-63, Cl. 222-409.
- De Koning, Kornelis K. K.: *See*—
- Van Eldik Thieme, Herman C. A., and Keizer. 3,092,137.
- De Kuznik, Paul, deceased (by J. R. Montgomery). Electronic pressure measuring means for internal combustion engines responsive to pressure caused spark gap resistance charge. 3,101,444, 8-20-63, Cl. 324-33.
- De Laat, Theodorus H. J.: *See*—
- Tautner, Erwin, and De Laat. 3,088,080.
- Delachanal, Michel: *See*—
- Grenon, Michel, Berthod, Cohen de Lara, Delachanal, and Halbronn. 3,074,874.
- Delachanal, Michel, to Societe Grenobloise d'Etudes et d'Applications Hydrauliques et Commissariat a l'Energie Atomique. Apparatus and process for sorting solid particle material in a fluidized liquid medium. 3,075,643, 1-29-63, Cl. 209-358.
- Delachapelle, Richard P., and H. T. Hidler, to Sylvania Electric Products Inc. Electroluminescent devices with overload protection. 3,109,958, 11-5-63, Cl. 315-74.
- Delachapelle, Richard P., and H. T. Hidler, to Sylvania Electric Products Inc. Electroluminescent device with a fusible element. 3,109,959, 11-5-63, Cl. 315-74.
- Delacretaz, Richard E., to Monsanto Chemical Co. Molecular weight control in polymerization of vinylidene monomers. 3,110,702, 11-12-63, Cl. 260-85.5.
- De la Cuadra, Antonio, J. L. Jimenez, and J. L. Torrubiano. Electric impulse generating system for spectral analysis with controlled arc. 3,102,971, 9-3-63, Cl. 315-171.
- De Lacy, Joseph H.: *See*—
- Suter, Oswald, and De Lacy. 3,076,966.
- De Lacy, Joseph H. Drive socket insert for bolt heads having tapered conical surface to match bolt. 3,078,754, 2-26-63, Cl. 85-45.
- Delafontaine, Charles, to Bank of America National Trust and Savings Association. Strip sharpening method. 3,071,904, 1-8-63, Cl. 51-281.
- Delamater, William B., to Imperial Valve Co. Flush valve for toilet tanks. 3,115,153, 12-24-63, Cl. 137-426.
- De Lancey, Eslie W., to E. I. du Pont de Nemours and Co. Flexible tool. 3,086,411, 4-23-63, Cl. 78-1.
- De Lancey, Warren H., to Hards Laboratories. Gas or fluid compressor. 3,081,932, 3-19-63, Cl. 230-58.
- De Lancey, Warren H., to Hards Laboratories. Clutch motor. 3,082,335, 3-19-63, Cl. 310-78.
- Delaney, Augustine P., to McGraw-Edison Co. Metal enclosed switchgear. 3,080,459, 3-5-63, Cl. 200-50.
- Delaney Gallay Ltd.: *See*—
- Morley, Frederick W. W., Wilkinson, and Broad. 3,082,010.
- Delaney, Louis A.: *See*—
- Colvin, Charles H., and Delaney. 3,071,189.
- Delaney, Vincent N., to The Torrington Mfg. Co. Blower wheel blade construction and method of assembly. 3,091,384, 5-28-63, Cl. 230-134.
- Delaney, William, to Kadison Laboratories, Inc. Method of dust-proofing of an edible dry finely divided product and the resulting product. 3,082,035, 3-19-63, Cl. 99-140.
- Delano, James K., deceased; A. G. Steinmetz, administrator, to J. K. Delano. Compact fuel burner with electric ignition means. 3,071,182, 1-1-63, Cl. 158-28.
- De Lano, Walter W.: *See*—
- Yost, Kenneth J., and De Lano. 3,105,982.
- Delaporte, Louis A., and J. A. Denisselle. Electromagnetic valves. 3,098,635, 7-23-63, Cl. 251-54.
- De Lapp, Darwin F.: *See*—
- Malley, Thomas J., and De Lapp. 3,073,677.
- Malley, Thomas J., De Lapp, Giddings, and Cosway. 3,102,000.
- De Larber, Mathew. Putty removing tool. 3,091,852, 6-4-63, Cl. 30-172.
- De La Rue Instruments, Ltd.: *See*—
- Middleditch, Stanley W. 3,077,983.
- Delaruelle, Jacques, and M. Banal, to Electricite de France (Service National, and Gaz de France (Service National). Floats. 3,114,920, 12-24-63, Cl. 9-8.
- De Lashmurt, Robert F. Toggle switch extension actuator. 3,077,789, 2-19-63, Cl. 74-503.
- De Lashmurt, Robert F. Electrical cord plug retainer. 3,102,922, 9-3-63, Cl. 174-135.
- De la Sierra, Carlos, to Gadget-of-the-Month Club, Inc. Drafting machine. 3,103,747, 9-17-63, Cl. 33-174.
- De Laval Separator Co.: *See*—
- Cieri, Frank V. 3,091,799.
- De Laval Steam Turbine Co.: *See*—
- Wagner, Vincent S. 3,094,041.
- De Laval Turbine Inc.: *See*—
- McFarland, Chester R. 3,103,892.
- Rieppel, Perry J., Niemann, Sopher, and Pennell. 3,104,313.
- Sennet, Morgan B. 3,086,474.
- Sennet, Morgan B. 3,103,894.
- Delavan Electronics Corp.: *See*—
- Richard, Grant M., and K. L. 3,105,213.
- Delavan Mfg. Co.: *See*—
- Soth, John M. 3,095,153.
- De Lay, Manford S., 21.55% to R. B. Meibaus, and 21.55% to G. T. Moran. Load-equalizing device for trailers. 3,087,741, 4-30-63, Cl. 280-81.
- Delbert, Guy J. Resuscitator. 3,091,236, 5-28-63, Cl. 128-29.
- Del Bo, Giorgio, to Universal Business Machines Corp. Check writer. 3,078,790, 2-26-63, Cl. 101-95.
- Delbove, Emile, to General American Transportation Corp. Methods of making printed electric circuits. 3,081,525, 3-19-63, Cl. 29-155.5.
- Del Chiocci, Frank, to McNab, Inc. Time recording maneuvering system and safety device. 3,082,423, 3-19-63, Cl. 346-33.
- Delcon Corp.: *See*—
- Simpkins, Alan B. 3,114,800.
- De Leo, Richard V.: *See*—
- Werner, Frank D., and De Leo. 3,099,160.
- De Leo, Vito R.: *See*—
- Valerioti, George N., and De Leo. 3,080,571.
- De Leon Methods, Inc.: *See*—
- De Leon, Paul A. 3,070,935.
- De Leon, Paul A., to De Leon Methods, Inc. Water degasifier. 3,070,935, 1-1-63, Cl. 55-170.
- Delevoey, Victor, and F. Cassalette, to Ateliers de Constructions Electriques de Charleroi. Circuit interrupter. 3,086,097, 4-16-63, Cl. 200-144.
- Delevoey, Victor, and F. Cassalette, to Ateliers de Constructions Electriques de Charleroi. Circuit interrupter. 3,086,098, 4-16-63, Cl. 200-144.
- Delf, George A., and A. E. Stevenson, to Narragansett Gymnasium Equipment Co. Floating floor anchor. 3,087,206, 4-30-63, Cl. 20-6.
- Delf, George A., and R. E. Kortum, to Narragansett Gymnasium Equipment Co. Folding bleacher. 3,088,176, 5-7-63, Cl. 20-1126.
- Deflin, Juan, to Dow Corning Corp. Method of clarifying cane sugar juice. 3,097,970, 7-16-63, Cl. 127-48.



- Del Francia, Joel A., to Institutional Food Equipment Corp. Fully adjustable electrical broiler. 3,098,427, 7-23-63, Cl. 99-446.
- Del Franco, Guy J.: *See*—  
Aronoff, Eli J., Del Franco, and Rooney. 3,083,171.  
Hamernesh, Charles L., Bolstad, and Del Franco. 3,077,427.
- Delfs, Detlef: *See*—  
Böcker, Ernst, Delfs, Unterstenhofer, and Behrenz. 3,111,539.
- Delfs, Hans J., to Babcock & Wilcox Ltd. Apparatus for classifying air-dust mixture. 3,078,651, 2-26-63, Cl. 55-422.
- Delgar, Inc.: *See*—  
Gardel, Robert, and Rogovin. 3,077,052.
- Delguste, Paul, to Ateliers de Constructions Electriques de Charleroi. Apparatus for the preservation and regeneration of insulating oil for electrical apparatus provided with an oil reservoir. 3,098,891, 7-23-63, Cl. 174-15.
- Del'Homme, Daniel L.: *See*—  
Kucera, Clement M., and Del'Homme. 3,099,324.
- Deliere, Edouard: *See*—  
Brichard, Edgard, Plumet, Meunier, and Deliere. 3,088,850.
- De Lisle, Auguste L., to Phoenix Gems, Inc. Method of drying dilute biological solutions to prepare a food supplement. 3,078,164, 2-19-63, Cl. 99-2.
- De Lisle, Auguste L., to Phoenix Gems, Inc. Production of improved synthetic stone bodies with controlled properties. 3,078,175, 2-19-63, Cl. 106-97.
- Delisle, Robert H.: *See*—  
Cronin, Edward F., Johnston, and Delisle. 3,101,386.
- Dell, Harold R., to Link Aviation, Inc. Character generation and display. 3,090,041, 5-14-63, Cl. 340-324.
- Dell, Joseph C., B. R. Fauber, V. P. Poe, and F. J. Peters, deceased (by I. F. Peters, administratrix); said Poe assor. to Aluminum Burial Vaults of America, Inc. Burial vaults. 3,070,868, 1-1-63, Cl. 27-35.
- Dell, Paul A., and E. G. Fridrich, to General Electric Co. Mechanism for forming ribbon leads. 3,102,443, 9-3-63, Cl. 80-25.
- Dellario, Patrick J., to General Electric Co. Rotary compressor injection cooling arrangement. 3,105,633, 10-1-63, Cl. 230-139.
- Deller, Konrad, to Alweg-Forschung G.m.b.H. Monorail vehicles. 3,095,828, 7-2-63, Cl. 105-144.
- Deller, William B.: *See*—  
Warman, Bloomfield J., and Deller. 3,075,183.  
Warman, Bloomfield J., and Deller. 3,075,184.  
Warman, Bloomfield J., and Deller. 3,085,162.
- Dellert, Richard M.: *See*—  
Case, Everett N., Patinkin, and Dellert. 3,083,086.
- Delli-Gatti, Frank A., Jr., to C. E. Compton. Cutter bit and holder. 3,073,582, 1-15-63, Cl. 262-33.
- Delligatti, Patrick. Marking devices. 3,081,697, 3-19-63, Cl. 101-35.
- Dellinger, Hartley C.: *See*—  
Kasbohm, Martin L., Portzer, Dellinger, Cohen, and Franson. 3,093,697.
- Delmag-Maschinenfabrik Reinhold Dornfeld: *See*—  
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Kummel, Fritz. 3,100,630.
- Delman Co., The: *See*—  
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Mandy, Robert R. 3,094,733.  
Mandy, Robert R. 3,103,684.  
Mandy, Robert R., and Erkrantz. 3,094,732.  
McCleery, Robert N. 3,113,190.  
McCleery, Robert N., and Mandy. 3,103,685.  
Neufeld, Leonard C. 3,103,683.  
Neufeld, Leonard C., and Schmalfeldt. 3,114,167.  
Webb, Edmond F. 3,091,932.  
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- Delmar Chemicals Ltd.: *See*—  
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- Del Mar Engineering Laboratories: *See*—  
Elder, Boyd B. 3,113,739.  
Hopper, Robert J., and Elder. 3,086,202.  
Jones, Donald M. 3,085,769.
- Del Mar, Robert. Building material and manufacture thereof. 3,094,426, 6-18-63, Cl. 106-109.
- Delmege, James W., Jr., to International Business Machines Corp. Ring checking circuit. 3,088,095, 4-30-63, Cl. 340-146.1.
- Delmer, Jacob R. Art paper. 3,084,455, 4-9-63, Cl. 35-26.
- Delmon, Anne M. L.: *See*—  
Hadancourt, Alain C., and Poujade. 3,089,983.
- Delmont, John, to Furane Plastics Inc. Coating composition for asphaltic paving. 3,114,304, 12-17-63, Cl. 94-7.
- De Loach, Bernard C., Jr., to Bell Telephone Laboratories, Inc. Low noise amplifier input network. 3,079,569, 2-26-63, Cl. 330-185.
- Delobelle, Emile J. G. P., to Societe Anonyme Pneumatiques et Caoutchouc Manufacture Kleber Colombes. Tire bead structure. 3,111,976, 11-26-63, Cl. 152-362.
- Delong Corp.: *See*—  
Suderow, George E. 3,107,496.
- De Long, Herbert K., to The Dow Chemical Co. Method of treating magnesium metal article prior to spotwelding. 3,087,841, 4-30-63, Cl. 134-27.
- De Long, Herbert K., to The Dow Chemical Co. Method of suppressing bimetallic couple corrosion of magnesium metal articles. 3,099,083, 7-30-63, Cl. 29-527.
- De Long, Herbert K., and J. A. Brown, to The Dow Chemical Co. Process for vitreous enameling of magnesium and its alloys. 3,087,834, 4-30-63, Cl. 117-70.
- De Long, Horace J., to Gainesville Machine Co., Inc. Chilling shackle. 3,103,696, 9-17-63, Cl. 17-44.1.
- De Long, Richard M.: *See*—  
Besemer, Paul J., and De Long. 3,078,629.
- De Long, Vincent R., and J. D. Duncan, to Collins Radio Co. Variable threshold high gain ALC circuit. 3,106,680, 10-8-63, Cl. 325-187.
- De Lorean, Charles J.: *See*—  
De Lorean, Jack Z. 3,075,764.
- De Lorean, Jack Z., 1/2 to C. J. De Lorean. Acrobatic toy. 3,075,764, 1-29-63, Cl. 272-54.
- Delott, Richard: *See*—  
Zander, Jason M., and Delott. 3,078,180.
- Delp, Christopher. Weed destroying implement. 3,077,166, 2-12-63, Cl. 111-7.3.
- Delpla, Jean: *See*—  
Leo, Bertrand, Delpla, and Pounhet. 3,109,516.
- Del Ponte, Otello, to G. Re. Mixing-stirring cap for nail polish bottles and the like. 3,115,664, 12-31-63, Cl. 15-510.
- Del Riccio, Lorenzo: *See*—  
Dowling, Robert W., and Del Riccio. 3,076,381.  
Dowling, Robert W., and Del Riccio. 3,076,382.
- Delta Electric Co.: *See*—  
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- Delta Engineering Corp.: *See*—  
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- Deltec, Inc.: *See*—  
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- Deltown Foods, Inc.: *See*—  
Jaffe, Benjamin, and Textor. 3,093,149.
- De Luca, Jack R.: *See*—  
Dettloff, Helmut W., Wagner, and De Luca. 3,112,488.
- De Lucia, John J.: *See*—  
Pizzarello, Roy A., De Lucia, and Maguire. 3,072,661.
- De Lucia, Victor E., to Resitron Laboratories, Inc. Valve for vacuum systems. 3,112,759, 12-3-63, Cl. 137-315.
- Demag Aktiengesellschaft: *See*—  
Isenberg, Gustav. 3,079,811.  
Müller, Ernst. 3,080,051.
- Demain, Arnold L., to Merck & Co., Inc. Production of cephalosporin C by fermentation. 3,116,216, 12-31-63, Cl. 195-36.
- Demain, Arnold L., to Merck & Co., Inc. Production of cephalosporin C by fermentation. 3,116,217, 12-31-63, Cl. 195-36.
- Demaison, Raymond J., to Quigley Co., Inc. Reversible water-cooled open hearth furnace doors. 3,081,751, 3-19-63, Cl. 122-498.
- Demaison, Raymond J., to Quigley Co., Inc. Open hearth furnace doors. 3,081,752, 3-19-63, Cl. 122-498.
- Demaison, Raymond J., to Quigley Co., Inc. Refractory insulating and sealing compound. 3,092,505, 6-4-63, Cl. 106-99.
- Demaison, Raymond J., to Quigley Co., Inc. Method of spraying multiple coatings of refractory compositions for hot furnace repair. 3,093,458, 6-11-63, Cl. 25-155.5.
- Demaison, Raymond J., to Quigley Co., Inc. Sprayable basic refractory composition for repairing the hot basic refractory linings of high temperature furnaces, and method. 3,093,497, 6-11-63, Cl. 106-59.
- Demaison, Raymond J., to Quigley Co., Inc. Light weight ingot casting mold hot tops and covers. 3,106,756, 10-15-63, Cl. 22-147.
- Demaison, Raymond J., to Quigley Co., Inc. Furnace repair gun. 3,114,536, 12-17-63, Cl. 259-151.
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- De Man, Heiko T., to General Motors Corp. Press transfer mechanism. 3,080,840, 3-12-63, Cl. 113-50.
- Demand, Erhart E., to Philco Corp. Heat transfer apparatus. 3,095,709, 7-2-63, Cl. 62-3.
- De Marco, Curtiss J., to The Weatherhead Co. Hose end fitting for a hose made from annular layers of flexible film. 3,073,629, 1-15-63, Cl. 285-256.
- De Marco, Louis, to The Langenau Mfg. Co. Catch construction. 3,112,943, 12-3-63, Cl. 292-111.
- De Marco, Robert F., to The Heifred Corp. Industrial truck and rocking wheel assemblage therefor. 3,080,175, 3-5-63, Cl. 280-95.
- De Marco, Robert F., to The Cyril Bath Co. Metal forming machine and auxiliary fixture and combination thereof. 3,096,807, 7-9-63, Cl. 153-40.
- De Marco, Robert F., to The Heifred Corp. Hydraulically driven industrial truck. 3,098,574, 7-23-63, Cl. 214-74.
- De Marco, Robert F., and H. W. Hein, to The Heifred Corp. Elevating shelf for stock bin servicing truck. 3,099,332, 7-30-63, Cl. 182-14.
- Demarest, Philip C., to Omega Laboratories. Multiple toggle switch. 3,071,658, 1-1-63, Cl. 200-5.
- Demarest, Reynaldo R. Body member rest. 3,114,527, 12-17-63, Cl. 248-118.



- De Maris, Elbert E., C. D. Forrest, and G. A. Noddin, to E. I. du Pont de Nemours and Co. Explosive composition and process for making same. 3,089,796, 5-14-63, Cl. 149-19.
- De Mart, Le Roy S.: *See*—  
McDaniels, John D., Jr., and De Mart. 3,099,075.  
Singleton, John C., and De Mart. 3,115,332.
- De Mart, Le Roy S., to The Babcock & Wilcox Co. Stud tensioner. 3,099,076, 7-30-63, Cl. 29-252.
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- Demas, Louis, to American Motors Corp. Vehicle wheel suspension and drive. 3,100,549, 8-13-63, Cl. 180-73.
- De Mers, Francis F., to Solar Aircraft Co. Convolution forming machine. 3,083,754, 4-2-63, Cl. 153-73.
- De Mert & Dougherty: *See*—  
Drell, Leonard B. 3,085,752.
- De Mestral, George, to Velcro S.A. Device for connecting two flexible parts. 3,076,244, 2-5-63, Cl. 24-203.
- De Mestral, George, to International Velcro Co. Apparatus for manufacturing separable fasteners. 3,083,737, 4-2-63, Cl. 139-46.
- De Mestral, George, to Velcro S.A. Device for joining two flexible elements. 3,114,951, 12-24-63, Cl. 24-204.
- De Matteo, Adolph J., to Farrel-Birmingham Co., Inc. Multiple injection molding apparatus. 3,100,913, 8-20-63, Cl. 18-20.
- De May, George B.: *See*—  
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- Demay, Peter P., to Minneapolis-Honeywell Regulator Co. Pneumatic fire alarm system. 3,109,409, 11-5-63, Cl. 116-103.
- Demay, Peter P., to Minneapolis-Honeywell Regulator Co. Continuously operated compressors. 3,111,259, 11-19-63, Cl. 230-58.
- Dembinski, Berek. Diamond cutting and polishing device. 3,098,326, 7-23-63, Cl. 51-125.
- Demeo, Nicholas L.: *See*—  
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- Demer, Frederick M., and M. J. Kelly, to International Business Machines Corp. Magnetic data processing. 3,100,834, 8-13-63, Cl. 235-61.12.
- Demeter, Béla: *See*—  
Szóts, Géza, Szetey, Kocsis, Kondor, Havasi, Ritter, Demeter, Gulyás, and Bitter. 3,089,226.
- Demi, Roy C.: *See*—  
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- Deming, Andrew F., and E. V. Schneider, to Consolidated Electronics Industries Corp. Transistor motor circuit. 3,083,326, 3-26-63, Cl. 318-138.
- Deming, Roy, to Kent-Moore Organization, Inc. Liquid measuring device. 3,098,385, 7-23-63, Cl. 73-270.
- Demint, Robert J.: *See*—  
Arthur, Jett C., Jr., and Demint. 3,109,798.
- De Miranda, Heine A. R., and T. J. Tulp, to North American Philips Co., Inc. Magnetic core counting circuit. 3,075,084, 1-22-63, Cl. 307-88.
- De Mire, Haig A. Bowler's lift ring. 3,091,455, 5-28-63, Cl. 273-54.
- Demitz, Roberts S., to ACF Industries, Inc. Carburetor. 3,093,699, 6-11-63, Cl. 261-65.
- Demler, Henry W., to AMP Inc. Connector assembling tool. 3,098,289, 7-23-63, Cl. 29-203.
- Demmel, Georg, to Siemens-Schuckertwerke Aktiengesellschaft. Apparatus for producing communication cables. 3,091,074, 5-28-63, Cl. 57-12.
- Demmler, Kurt: *See*—  
Meyer, Ferdinand, and Demmler. 3,096,349.
- Demmy, Robert C., to Radio Corp. of America. Electroluminescent device. 3,096,458, 7-2-63, Cl. 313-108.
- De Mocko, Gerald G.: *See*—  
Evans, Robert J., and De Mocko. 3,102,677.
- De Molin, Arrigo V., and S. D. Barlow. Pressurized stopper construction. 3,115,868, 12-31-63, Cl. 120-42.4.
- De Monte, Robert W., to Bell Telephone Laboratories, Inc. Negative-impedance repeater. 3,116,378, 12-31-63, Cl. 179-170.
- De Montfort, Gerald S. Chair. 3,073,649, 1-15-63, Cl. 297-396.
- De Montfort, Gerald S. Oil well fire control vehicle. 3,086,465, 4-23-63, Cl. 102-22.
- De Moon, Carl F., 35% to A. Zelnick and E. J. Lobato. Peg and board game. 3,074,721, 1-22-63, Cl. 273-133.
- Demos, George, to N. Demos. Drive-away method and apparatus for transporting automotive vehicles. 3,100,124, 8-6-63, Cl. 296-1.
- Demos, Nicholas: *See*—  
Demos, George. 3,100,124.
- De Moss, John, and R. Peel, to Singer-Fidelity, Inc. Cutting assembly for circular knitting machines. 3,083,553, 4-2-63, Cl. 66-140.
- Demosthenes, Stratton A. Riser pipe stabilizer. 3,105,510, 10-1-63, Cl. 137-236.
- De Moude, Adrian J. Seal. 3,083,974, 4-2-63, Cl. 277-36.
- De Moustier, Marie E., to L'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procédes Georges Claude. Method for refining iron using technically pure oxygen. 3,079,249, 2-26-63, Cl. 75-52.
- Dempsey, James F., to Sun Oil Co. Heat removal in xylene oxidation for preparation of carboxylic acid. 3,077,497, 2-12-63, Cl. 260-524.
- Dempsey, James F., and F. R. Shuman, Jr., to Sun Oil Co. Method and apparatus for dispensing motor fuel. 3,097,761, 7-16-63, Cl. 222-1.
- Dempsey, John M. Water toy. 3,078,617, 2-26-63, Cl. 46-92.
- Dempsey, Malcolm T.: *See*—  
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- Dempsey, Thomas B.: *See*—  
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- Dempster Brothers, Inc.: *See*—  
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Dempster, George R., and Herpich. 3,090,512.  
Dempster, George R., and Herpich. 3,094,227.  
Dempster, George R., and Herpich. 3,094,231.  
Dempster, George R., and Herpich. 3,107,021.  
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Dempster, John S. 3,085,704.
- Dempster, George R., W. A. Herpich, and N. F. Wender; said Wender and said Herpich assors. to Dempster Bros., Inc. Front end loaders. 3,078,000, 2-19-63, Cl. 214-302.
- Dempster, George R., and W. A. Herpich; said Herpich assor. to Dempster Bros., Inc. End gate for compaction-type bodies. 3,078,121, 2-19-63, Cl. 296-56.
- Dempster, George R., and W. A. Herpich; said Herpich assor. to Dempster Brothers, Inc. Front end loader equipment. 3,085,703, 4-16-63, Cl. 214-302.
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- Dempster, George R., and W. A. Herpich; said Herpich assor. to Dempster Brothers, Inc. Compaction bodies. 3,094,227, 6-18-63, Cl. 214-82.
- Dempster, George R., and W. A. Herpich; said Herpich assor. to Dempster Brothers, Inc. Front end loaders. 3,094,231, 6-18-63, Cl. 214-302.
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- Dempster, George R., and W. A. Herpich; said Herpich assor. to Dempster Brothers, Inc. Vehicle body loading and unloading mechanisms. 3,107,021, 10-15-63, Cl. 214-505.
- Dempster, George R., W. A. Herpich, and S. E. Harvey; said French and said Wender assors. to Dempster Brothers, Inc. Front end loaders. 3,112,834, 12-3-63, Cl. 214-302.
- Dempster, John S., to Dempster Brothers, Inc. Front end loader equipment. 3,085,704, 4-16-63, Cl. 214-302.
- Demuth, Hans, to Sulzer Freres, S.A. Method and apparatus for simultaneously weaving lengths of fabric. 3,111,966, 11-26-63, Cl. 139-126.
- De Muth, Russell T., to The Bendix Corp. Multi-piston prime mover. 3,105,415, 10-1-63, Cl. 91-175.
- De Muth, Russell T., and D. M. Lawrence, to The Bendix Corp. Axially movable turbine for varying the turbine inlet in response to speed. 3,073,117, 1-15-63, Cl. 60-39.25.
- De Muth, Russell T., and D. M. Lawrence, to The Bendix Corp. Gas turbine drive having oil pump. 3,074,688, 1-22-63, Cl. 253-39.15.
- Demuth, Walter, to Maag Gear Wheel & Machine Co. Ltd. Device for machining the flanks of spur and helical gears. 3,096,685, 7-9-63, Cl. 90-1.6.
- De Napoli, Anthony C., Jr., and D. F. Balmer, to The Sound-scriber Corp. Indicating and place-finding apparatus for phonographic machines. 3,096,983, 7-9-63, Cl. 274-9.
- Dence, Donald S., to Clark Equipment Co. Power wheel assembly. 3,115,204, 12-24-63, Cl. 180-10.
- Dench, Edward C., to Raytheon Co. Traveling wave tubes. 3,084,277, 4-2-63, Cl. 315-39.3.
- Dench, Edward C., to Raytheon Co. Traveling wave tube systems. 3,096,481, 7-2-63, Cl. 325-17.
- De Neergaard, Leif E., deceased, by Northern Trust Co., executor, to F. W. Olmstead, H. Trechsel, D. A. Gerard, and N. S. Parker, trustees. System and mechanism for measuring displacements. 3,076,374, 2-5-63, Cl. 88-14.
- Denenberg, Maurice. Insulating wall board and method of forming same. 3,097,124, 7-9-63, Cl. 154-44.
- De Net, Robert W.: *See*—  
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- De Neul, Richard P., and J. H. Casey, to Minnesota Mining and Mfg. Co. Dispenser for adhesive coated sheet material having a liner adhered to an adhesive surface. 3,107,193, 10-15-63, Cl. 156-527.
- De Nevers, Noel H., to California Research Corp. Thermostat apparatus. 3,077,112, 2-12-63, Cl. 73-363.5.
- Dengle, Sydney H., and T. G. Stratton, to Meredith Publishing Co. Machine for scarifying printing plates. 3,108,358, 10-29-63, Cl. 29-21.
- Dengler, Carl E., to E. I. du Pont de Nemours and Co. Process for orienting polyethylene film. 3,076,232, 2-5-63, Cl. 18-48.
- Denham, Kenneth E., to Great Western Consolidated No Liability. Mechanical loaders. 3,090,511, 5-21-63, Cl. 214-140.
- Den Hertog, Charles G.: *See*—  
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- Denholm, Alec S., to High Voltage Engineering Corp. Variable capacitance electrostatic generator. 3,107,326, 10-15-63, Cl. 322-2.



- Deniau, Andre J. A., to Societe Generale de Constructions Electriques et Mecaniques. Fluid system. 3,096,390, 7-2-63, Cl. 174-11.
- De Niet, Edmond, to North American Philips Co., Inc. Circuits for converting electric signals logarithmically for detectors and the like. 3,092,779, 6-4-63, Cl. 329-103.
- Denisco, John K. Bowling ball jig. 3,106,111, 10-8-63, Cl. 77-63.
- Denison, R. B. Mfg. Co.: *See*—  
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- Denison, Robert B., to R. B. Denison Mfg. Co. Electric limit switch. 3,097,271, 7-9-63, Cl. 200-47.
- Denison, Ruth C., to Mrs. J. W. Bradley. Di(mono-lower alkanoyl-calcium) carbonates. 3,102,909, 9-3-63, Cl. 260-541.
- Denisselle, Jean A.: *See*—  
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Schimmelschmidt, Kurt, and Denk. 3,101,362.
- Denker, Chester H., to Allis-Chalmers Mfg. Co. Control for hydraulic system. 3,080,003, 3-5-63, Cl. 172-9.
- Denker, Clyde A. Trailer hitch. 3,074,743, 1-22-63, Cl. 280-502.
- Denki Tosoki Co. Ltd.: *See*—  
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- Denison, George H., R. O. Bolt, J. W. Kent, and F. A. Christiansen, to United States of America, Atomic Energy Commission. Method of inhibiting irradiation-induced viscosity increase of organic fluids. 3,115,462, 12-24-63, Cl. 252-46.6.
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- Denman, Stephen A., to General Motors Corp. Intermittent pulse valve control system. 3,092,143, 6-4-63, Cl. 137-624.14.
- Denner, John A., to United Electric Controls Co. Adjustable snap action electrical switch. 3,097,273, 7-9-63, Cl. 200-67.
- Denney, Joseph M., S. S. Friedland, and F. Keywell, to Hughes Aircraft Co. Solid state radiation detector with wide depletion region. 3,110,806, 11-12-63, Cl. 250-83.3.
- Denning, Harold R. Center gauge. 3,086,460, 4-23-63, Cl. 101-331.
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- Dennis, Clement O., and W. C. Shaver, to Poplar Foundries, Inc. Means for molding core members. 3,082,494, 3-26-63, Cl. 22-13.
- Dennis, David H., to Specialties Development Corp. Warehousing system. 3,076,566, 2-5-63, Cl. 214-16.4.
- Dennis, David H. High speed ground transportation system. 3,100,454, 8-13-63, Cl. 104-138.
- Dennis, David S.: *See*—  
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- Dennis, George E., and R. C. Quittenton, to John Labatt Ltd. Production of brewers' wort with enzymes. 3,081,172, 3-12-63, Cl. 99-51.
- Dennis, John V.: *See*—  
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- Dennis, Roderick A., to Research & Aviation Development, Inc. Material flow detector and method. 3,084,250, 4-2-63, Cl. 250-43.5.
- Dennis, William L., to General Motors Corp. Sealing strip. 3,110,065, 11-12-63, Cl. 20-69.
- Dennis, Wolcott, to Air Reduction Co., Inc. Liquefaction and purification of low temperature gases. 3,098,732, 7-23-63, Cl. 62-9.
- Dennis, Wolcott, to Air Reduction Co., Inc. Separation of the elements of air. 3,108,867, 10-29-63, Cl. 62-22.
- Dennison, Brook J.: *See*—  
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- Dennison Mfg. Co.: *See*—  
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- Dennison, William T., to United Aircraft Corp. Inlet and bearing support for axial flow compressors. 3,084,849, 4-9-63, Cl. 230-122.
- Denniston, Donald W.: *See*—  
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- Denny, Marlene, and C.-W. Liao, to The Standard Oil Co. Alkali metal salts of diglycol borates and methods for preparing the same. 3,087,960, 4-30-63, Cl. 260-462.
- De Nobel, Dirk, to North American Philips Co., Inc. Alloying-jig for alloying contacts to semi-conductor bodies. 3,080,841, 3-12-63, Cl. 113-99.
- Denoix, Paul E.: *See*—  
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- Denovan Ltd.: *See*—  
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- Denovan, Robert A., to Denovan Ltd. Gyration screen. 3,101,315, 8-20-63, Cl. 209-332.
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- Densmore, Neal W., to Joy Mfg. Co. Mining and loading machine. 3,078,081, 2-19-63, Cl. 262-9.
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- Denss, Rolf, and H. H. Kühnis, to Geigy Chemical Corp. Quaternary ammonium salts of 5-dimethyl amino-3-furan-methanols. 3,096,348, 7-2-63, Cl. 260-347.7.
- Dent, Harry L., and D. M. Thompson, to J. S. Kamborian. Shoe conforming and wiper heating apparatus. 3,070,819, 1-1-63, Cl. 12-12.4.
- Dentatus, Aktiebolaget: *See*—  
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- Denton, Arnold E., J. F. Beuk, J. M. Hogan, and W. J. McBrady, to Swift & Co. Enzymatic removal of meat from bones. 3,098,014, 7-16-63, Cl. 195-2.
- Denton, Gene W., and B. L. Harris, to Westinghouse Electric Corp. High-speed clamp using two biased hyperconductive negative resistance diodes. 3,103,598, 9-10-63, Cl. 307-85.5.
- Denton, Richard A., and M. P. Rivera, to The New York Air Brake Co. Ultra high vacuum device. 3,095,494, 6-25-63, Cl. 219-35.
- Denton, Robert L. Visual frequency indicator for broad band sonar monitor. 3,105,193, 9-24-63, Cl. 324-82.
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- Denton, William I., to Olin Mathieson Chemical Corp. Catalytic process for producing nitrogen containing compounds. 3,086,017, 4-16-63, Cl. 260-247.
- Denton, William I., to Olin Mathieson Chemical Corp. Isomerization of alkylene oxide. 3,090,815, 5-21-63, Cl. 260-632.
- Denton, William I., to Olin Mathieson Chemical Corp. Isomerization of alkylene oxide. 3,090,816, 5-21-63, Cl. 260-632.
- Denton, William I., and J. D. Newkirk, to Olin Mathieson Chemical Corp. Glycerol from allyl alcohol. 3,092,669, 6-4-63, Cl. 260-636.
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- Denyes, Russell D., and J. W. Soehngen, to Celanese Corp. of America. Wet spinning apparatus and process. 3,084,384, 4-9-63, Cl. 18-8.
- De Nygorden, Per J. B. Optical opaque projection systems. 3,087,382, 4-30-63, Cl. 88-26.
- Denyssen, Ivanhoe P. Strain gage and method of manufacture. 3,078,431, 2-19-63, Cl. 338-2.
- Denzer, Romeo S., to La Crosse Cooler Co. Vending machine. 3,104,779, 9-24-63, Cl. 221-200.
- Denzler, Emil, to H. A. Schlatter A.G. Resistance spot welding apparatus. 3,115,570, 12-24-63, Cl. 219-78.
- De Paoli, Giovanni, to K. P. Engineering Corp., Ltd. Transportable elevators and particularly to car lifters. 3,102,713, 9-3-63, Cl. 254-8.
- De Paolo, Gerard R., to Alumina-Rail, Inc. Portable aluminum fence construction. 3,107,900, 10-22-63, Cl. 256-65.
- De Paul, Alseno S.: *See*—  
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- De Penti, Kenneth L., and D. Willison, to National Castings Co. Car coupler. 3,100,050, 8-6-63, Cl. 213-21.



- De Pesa, Peter L., to J. S. Kamborian. Wipers for end lasting machines. 3,083,384, 4-2-63, Cl. 12-12.5.
- De Pew, Chester C.: *See—*  
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Gaines, John R. and C. F., De Pew, and Carry. 3,103,260.
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- De Place, Henri. Safety knock-off devices for ski binders. 3,079,164, 2-26-63, Cl. 280-11.35.
- De Podesta, Frank B., to Paragon Bridge and Steel Co. Column and deck construction for vehicle shipping apparatus. 3,099,230, 7-30-63, Cl. 105-368.
- De Poor, Andre: *See—*  
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- De Poy, James W., to The Colorado Fuel and Iron Corp. Machine for making welded wire fabric. 3,083,741, 4-2-63, Cl. 140-7.
- De Poy, James W., to The Colorado Fuel and Iron Corp. Wire cloth. 3,100,616, 8-13-63, Cl. 245-10.
- Depp, Marlin C., to Sperry Rand Corp. Method of measuring and compensating for deviation error in compass systems for maneuverable craft. 3,071,959, 1-8-63, Cl. 73-1.
- Depp, Marlin C., to Sperry Rand Corp. Compensating means for gyromagnetic reference systems. 3,091,127, 5-28-63, Cl. 74-5.
- Deppeler, John H., Jr., and E. J. Antczak, to Thermex Metallurgical, Inc. Mold welding. 3,091,825, 6-4-63, Cl. 22-116.
- De Pree, David O., to Ethyl Corp. Preparation of aromatic carboxylic acids and salts thereof. 3,108,135, 10-22-63, Cl. 260-515.
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- De Radzitzky d'Ostrowick, Pierre M. J. G., and J. D. V. Hanotier, to Labofina S.A. Nickel thiocyanate complexes of the Werner type. 3,076,005, 1-29-63, Cl. 260-439.
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- De Rees, Delbert D., to General Motors Corp. Closure hinge. 3,096,538, 7-9-63, Cl. 16-142.
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- Deremer, Floyd E., to Oldberg Mfg. Co. Gas blending and sound-attenuating system and apparatus. 3,072,214, 1-8-63, Cl. 181-48.
- Deremer, Floyd E., to Oldberg Mfg. Co. System and apparatus for sound-attenuation of gas streams. 3,090,464, 5-21-63, Cl. 181-57.
- Deremer, Floyd E., to Oldberg Mfg. Co. Silencer or muffler. 3,103,256, 9-10-63, Cl. 181-54.
- Dereng, Roman, to Motorola, Inc. Portable radio receiver cabinet. 3,109,687, 11-5-63, Cl. 312-244.
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- Derham, Leslie J., to The National Smelting Co. Ltd. Production of beryllium. 3,103,434, 9-10-63, Cl. 75-84.4.
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- De Ridder, Ernst J., to Reynolds Metals Co. Interlocking metallic structural members. 3,100,556, 8-13-63, Cl. 189-34.
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- Derler, Charles J., to Jackson Vibrators, Inc. Railway road-bed tamping and ballasting machine. 3,099,225, 7-30-63, Cl. 104-12.
- De Robertis, Maurice P. Container construction. 3,107,028, 10-15-63, Cl. 220-60.
- De Roll, L. S.A.: *See—*  
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- Derrickson, Michael O., to FMC Corp. Buckle. 3,112,543, 12-3-63, Cl. 24-74.
- D'Errico, Michael J., and M. M. Timney, to American Cyanamid Co. Dielectric plastic. 3,096,289, 7-2-63, Cl. 252-63.2.
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- Dersch, Fritz, and M. R. De Angelus, to General Aniline & Film Corp. Fog reduction in silver halide emulsions by 2H-tetrazolium halides. 3,071,465, 1-1-63, Cl. 96-66.
- Dersch, Fritz, and M. R. De Angelus, to General Aniline & Film Corp. Nitrogenous heterocyclic carboxyalkylmercapto polyoxyalkylene ester photographic sensitizer. 3,084,044, 4-2-63, Cl. 96-66.
- Dersch, Irwin F., 10% to Darby & Darby. Therapeutic device. 3,088,457, 5-7-63, Cl. 123-33.
- Dersch, William C., to International Business Machines Corp. Speech bandwidth compression system. 3,090,837, 5-21-63, Cl. 179-15.55.
- Dersch, William C., to International Business Machines Corp. Signal conversion circuits. 3,094,586, 6-18-63, Cl. 179-1.
- Derschmidt, Hans, to Bolkow-Entwicklungen K.G. Rotors for rotorcraft. 3,074,487, 1-22-63, Cl. 170-159.1.
- Derschmidt, Hans, to Bolkow-Entwicklungen Kommanditgesellschaft. Rotary blade system for use in helicopters and like aircrafts. 3,107,733, 10-22-63, Cl. 170-160.25.
- Derse, Phillip H., L. W. Hein, and K. P. Link, to Wisconsin Alumni Research Foundation. Rodenticide food bait containing anti-coagulant and anti-bacterial agents. 3,113,071, 12-3-63, Cl. 167-46.
- Dershowitz, Samuel, to Polaroid Corp. Dehalogenation processes. 3,104,257, 9-17-63, Cl. 260-515.
- De Ruggieri, Pietro, C. Ferrari, and C. Gandolfi, to Ormonoterapia Richter S.p.A. 17 $\beta$ -acetamino-steroids. 3,101,358, 8-20-63, Cl. 260-397.5.
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- De Ruiter, Jacob W., to North American Philips Co., Inc. High-frequency current conductor. 3,091,655, 5-28-63, Cl. 174-32.
- Dervieux, Andre C., to The Gray Mfg. Co. Remotely controlled sound translation apparatus. 3,094,590, 6-18-63, Cl. 179-100.4.
- Desai, Shrikant, W. H. Henderson, and C. W. Radcliffe, to The Regents of the University of California. Lower leg brace. 3,086,521, 4-23-63, Cl. 128-80.
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- Deschenes, Emile A., to United Shoe Machinery Corp. Lasting machines. 3,087,176, 4-30-63, Cl. 12-12.5.
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- De See, Peter G., to Halkey-Roberts Corp. Two-way relief valve. 3,108,610, 10-29-63, Cl. 137-493.
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- Desenberg, Ned E., to Malleable Iron Fittings Co. Double arming connection box. 3,075,259, 1-29-63, Cl. 20-92.
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- Desmond, John D., to Container Corp. of America. Slide view assembly. 3,106,029, 10-8-63, Cl. 40-62.
- Desnick, Mandel L. Package insertion method and apparatus. 3,105,333, 10-1-63, Cl. 53-24.
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- Deubelbeiss, Klaus. Boat. 3,083,677, 4-2-63, Cl. 115-2.
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- D'Eustachio, Dominic, to Pittsburgh Corning Corp. Sound absorbers. 3,094,188, 6-18-63, Cl. 181-33.
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- Deve, Vagn, and L. Miloradovitch, to Dominion Engineering Works Ltd. Hydraulic tightening device. 3,097,003, 7-9-63, Cl. 287-58.
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- Dever, Lewis A., and C. L. Gschwind, to The Cincinnati Milling Machine Co. Manual three direction tracer. 3,084,899, 4-9-63, Cl. 251-3.
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- Devery, Michael H., to Philco Corp. Refrigeration defrosting. 3,080,727, 3-12-63, Cl. 62-156.
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- Devon, Philip, to Educational Aids Publishing Corp. Phonograph record hold down. 3,089,706, 5-14-63, Cl. 274-42.
- Devonshire, William H., J. M. Moran, R. Lundberg, and E. G. Hoag, to Columbus McKinnon Corp. Magnetic proximity switch dispatch system. 3,074,353, 1-22-63, Cl. 104-88.
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- De Vos, Marcel O., to Grow-Rite Corp. Child's car seat. 3,111,342, 11-19-63, Cl. 297-216.



- De Vost, Valmore F., to United States of America, Navy. Dropable shock tester. 3,100,983, 8-20-63, Cl. 73-12.
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- De Vries, Douwe, and K. W. Foster, to Shell Oil Co. Pipe joint locator for underwater wells. 3,103,976, 9-17-63, Cl. 166-46.
- De Vries, Eduard R., to Prismo Safety Corp. Treatment of glass beads with methyl hydrogen polysiloxane. 3,110-614, 11-12-63, Cl. 117-100.
- De Vries, Fred, and C. W. Hecksel; said Hecksel assor. to said De Vries. Pendulous display. 3,081,058, 3-12-63, Cl. 248-318.
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- Dew, John N., and F. R. Conley, to Continental Oil Co. Method of uniform secondary recovery. 3,113,616, 12-10-63, Cl. 166-9.
- Dew, Joseph H., to General Motors Corp. Ignition spark timing control. 3,105,479, 10-1-63, Cl. 123-146.5.
- Dew, Joseph H., to General Motors Corp. Method and apparatus for separating sheet materials. 3,106,391, 10-8-63, Cl. 271-27.
- Dew, Robert L., to Stewart-Warner Corp. Facsimile recording apparatus. 3,071,646, 1-1-63, Cl. 178-6.6.
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- De Wald, Elsie K.: *See—*  
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- Dewalt, Inc.: *See—*  
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- Dewan, John T., to Schlumberger Well Surveying Corp. Apparatus for exploring boreholes. 3,095,505, 6-25-63, Cl. 250-83.3.
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- Deweld, Inc.: *See—*  
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- Dewender, Edward J.: *See—*  
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- Dewey, Clyde G., to General Electric Co. Protective device. 3,105,920, 10-1-63, Cl. 317-36.
- Dewey, Davis R., and L. Kopito, to Baird-Atomic, Inc. Infra-red radiating source. 3,095,506, 6-25-63, Cl. 250-83.3.
- Dewey, G. C., & Co., Inc.: *See—*  
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- Dewey, John L., to Reynolds Metals Co. Refractory lining for alumina reduction cells. 3,093,570, 6-11-63, Cl. 204-243.
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- Dewhurst, Harold D.: *See—*  
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- Dewhurst, Ernest J., to Somerville Industries Ltd. Cartons and method of forming same. 3,106,876, 10-15-63, Cl. 93-37.
- De Wilde, Pieter C., and M. P. Rappoldt, to North American Philips Co. Inc. Method of stabilizing crystalline compounds against oxidation. 3,100,783, 8-13-63, Cl. 260-397.2.
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- De Wit, Nicolaas P. M., to Union Carbide Corp. Process for producing silanes. 3,072,700, 1-8-63, Cl. 260-448.8.
- De Witt, Don E.: *See—*  
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- De Witt, Raymond H., to The Fate-Root-Heath Co. Cleaning stand. 3,096,776, 7-9-63, Cl. 134-174.
- De Witt, Stuart L., and T. F. Dymek, to General Electric Co. Refrigerating apparatus. 3,099,914, 8-6-63, Cl. 62-276.
- De Woody, Charles M., to Ace Glass Inc. Stopcock for laboratory glassware and the like. 3,093,359, 6-11-63, Cl. 251-314.
- De Woody, Charles M., R. L. Pearce, W. Mueller, and E. A. Egizi, to Ace Glass Inc. Resistance coating for articles of glassware and the like. 3,092,704, 6-4-63, Cl. 219-19.
- De Woskin, David N. Formula container and nipple cap. 3,115,980, 12-31-63, Cl. 215-11.
- De Woskin, Irvin S. Absorbent pads and the manufacture thereof. 3,085,575, 4-16-63, Cl. 128-290.
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- Dexter, Robert G., to Barkley & Dexter, Inc. Intermittent movement. 3,106,109, 10-8-63, Cl. 74-822.
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- D'Hooge, Emile, to Ateliers de Construction Emile D'Hooge S.P.R.L. Installation for fully automatic operation in laundry and other physico-chemical processes, mainly for washing machines. 3,083,273, 3-26-63, Cl. 200-38.



- D'Hooge, Emile, to Ateliers de Construction Emile D'Hooge S.P.R.L. Device for the automatic adjustment of the composition of bath fluids in apparatus for the chemical cleaning of textile materials and similar matter. 3,085,416, 4-16-63, Cl. 68-13.
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- Diagraph-Bradley Industries Inc.: See—  
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- Diamond Alkali Co.: See—  
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- Diamond Antenna & Microwave Corp.: See—  
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- Diassi, Patrick A., and J. Fried, to Olin Mathieson Chemical Corp. Method for producing dihydroxyprogesterone derivatives. 3,073,817, 1-15-63, Cl. 260-239.55.
- Diassi, Patrick A., and P. A. Principe, to Olin Mathieson Chemical Corp. C-ring substituted 6a-halo steroids and process for producing them. 3,079,384, 2-26-63, Cl. 260-239.55.
- Diassi, Patrick A., and S. C. Pan, to Olin Mathieson Chemical Corp. Testololactone derivatives. 3,083,210, 3-26-63, Cl. 260-343.2.
- Diaz, Edmundo M.,  $\frac{1}{2}$  to R. J. Harper, and  $\frac{1}{2}$  to S. Jiron. Method of making a tobacco substitute. 3,112,754, 12-3-63, Cl. 131-2.
- Diaz, Juan, to Automatic Canteen Co. of America. Change-making machine. 3,080,035, 3-5-63, Cl. 194-4.
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- Diaz, Manuel A.: See—  
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- Di Benedetto, Charles, to Lourdes Instrument Corp. Continuous flow centrifuge rotor and liner element. 3,104,225, 9-17-63, Cl. 233-28.
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- Di Camillo, Raymond J., to The Singer Mfg. Co. Work feeding mechanism for sewing machines. 3,094,088, 6-18-63, Cl. 112-211.
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- Dick, Adolph A. Boat mooring apparatus. Re. 25,372, 4-23-63, Cl. 114-230.
- Dick, Adolph A. Boat mooring apparatus and boarding ramp therefor. 3,095,848, 7-2-63, Cl. 114-230.
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- Dicke, Paul A., to Crown Controls Corp. Plural motor remote control system. 3,102,218, 8-27-63, Cl. 318-41.
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- Dickey, Alexander C. Portable water fountain. 3,081,945, 3-19-63, Cl. 239-29.
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- Dickey, Donald K., and M. J. Principe, to General Motors Corp. Semi-trailer kingpin receiving means. 3,081,115, 3-12-63, Cl. 287-20.
- Dickey, John W., to Reeves Brothers, Inc. Method of and an apparatus for forming laminated structure of adhered materials. Re. 25,493, 12-10-63, Cl. 156-82.



- Dickey, Rex E.: *See*—  
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- Dickinson, Alton C., to Bell Telephone Laboratories, Inc. Signal controlled steering systems. 3,102,505, 9-3-63, Cl. 114-23.
- Dickinson, Arthur H., to International Business Machines Corp. Method and apparatus for photographically recording numerical values. 3,112,152, 11-26-63, Cl. 346-110.
- Dickinson, Barry L., and D. R. Connor, to Union Carbide Corp. Method for application of tear tape. 3,088,379, 5-7-63, Cl. 93-1.
- Dickinson, Clayton D., S. Abkowitz, and R. J. Nylen, to National Distillers and Chemical Corp. High strength titanium base zirconium-aluminum alloy. 3,114,632, 12-17-63, Cl. 75-175.5.
- Dickinson, Donald L., to Continental Vending Machine Corp. Ice storing and dispensing mechanism for beverage dispensing machines and the like. 3,101,872, 8-27-63, Cl. 222-197.
- Dickinson, Gerald E.,  $\frac{1}{2}$  to Coeur d'Alene Creamery, Inc. Method of making a frozen confection. 3,091,194, 5-28-63, Cl. 107-34.
- Dickinson, Henry M. N., to Abbott Laboratories. Cyclohexylsulfamic acid salt. 3,074,996, 1-22-63, Cl. 260-465.
- Dickinson, Horace, to The Vapor Recovery Systems Co. Tank gauging system. 3,074,274, 1-22-63, Cl. 73-309.
- Dickinson, John T. Fishing lure having detachable hook supporting means. 3,096,597, 7-9-63, Cl. 43-42.05.
- Dickinson, Lloyd R., and W. V. Vessalo, to McKinney Mfg. Co. Folding door hinge assembly. 3,096,539, 7-9-63, Cl. 16-176.
- Dickinson, Lloyd R., and W. V. Vessalo, to McKinney Mfg. Co. Two-piece shelf and pole bracket. 3,113,678, 12-10-63, Cl. 211-90.
- Dickinson, Nathan L.: *See*—  
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- Dickinson, Robert W., to United States of America, Atomic Energy Commission. Simplified sodium graphite reactor system. 3,080,308, 3-5-63, Cl. 204-193.2.
- Dickinson, Ronald S., to Armstrong Patents Co. Ltd. Load compensating arrangement for a vehicle suspension. 3,079,171, 2-26-63, Cl. 280-124.
- Dickinson, Ronald S., and M. Bartram, to Armstrong Patents Co. Ltd. Hydraulic pumps. 3,073,245, 1-15-63, Cl. 103-41.
- Dickinson, Ronald S., and M. Bartram, to Armstrong Patents Co. Ltd. Hydraulic pumps. 3,077,837, 2-19-63, Cl. 103-41.
- Dickinson, William, to Harvey Aluminum (Inc.). Prefabricated building assembly. 3,088,558, 5-7-63, Cl. 189-2.
- Dickinson, William, to McCullough and Associates. Noise suppressed delay line having fluid gas vibration absorbing terminations at ends of line. 3,113,279, 12-3-63, Cl. 333-30.
- Dickson, Earl B., to Western Electric Co., Inc. Mechanism for moving an element along an irregular path. 3,091,156, 5-28-63, Cl. 90-13.
- Dickson, Earl B., W. C. Graves, and R. E. Purdy, to Western Electric Co., Inc. Article gauging and sorting apparatus. 3,080,054, 3-5-63, Cl. 209-88.
- Dickson, Earl B., W. C. Graves, and R. E. Purdy, to Western Electric Co., Inc. Gauging and recording apparatus. 3,107,432, 10-22-63, Cl. 33-143.
- Dickover, Marion W., and J. N. Jammal, to K-W Battery Co. Vent cover. 3,098,773, 7-23-63, Cl. 136-177.
- Dickson, David M., Jr., to Hercules Powder Co. Stabilization of polyolefins with a nickel phenolate of a bis(p-alkyl phenol)monosulfide and an o-hydroxy phenyl benzotriazole. 3,074,910, 1-22-63, Cl. 260-45.75.
- Dickson, Edgar V., and T. E. Weber, to Hussmann Refrigerator Co. Food merchandiser. 3,091,942, 6-4-63, Cl. 62-89.
- Dickson, Edgar V., and T. E. Weber, to Hussmann Refrigerator Co. Refrigeration system. 3,103,796, 9-17-63, Cl. 62-234.
- Dickson, George, and W. H. Zuercher. Method of and apparatus for forming pulping chips incident to lumber finishing. 3,082,802, 3-26-63, Cl. 144-326.
- Dickson, Herbert F., Jr., to Sylvania Electric Products Inc. Heater-cathode assemblies. 3,097,419, 7-16-63, Cl. 29-155.62.
- Dickson, Herbert F., Jr., and P. Haas, to Sylvania Electric Products Inc. Indirectly heated cathode. 3,092,748, 6-4-63, Cl. 313-270.
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- Dickson, John B., to Signal-Stat Corp. Automotive vehicle marker lamp. 3,115,307, 12-24-63, Cl. 240-8.3.
- Dickstein, Jack, to The Borden Co. Urea formaldehyde resin compositions containing adducts of sulfur oxides and aliphatic tertiary amines. 3,083,185, 3-26-63, Cl. 260-71.
- Dickstein, Jack, and B. D. Halpern, to The Borden Co. Use of polyfunctional reagents in amine-aldehyde compositions. 3,112,293, 11-26-63, Cl. 260-65.
- Dickstein, Jack, M. Bodnar, and R.-M. Hoegerle, to The Borden Co. Amino acrylate esters. 3,094,534, 6-18-63, Cl. 260-482.
- Dickstein, Samuel. Adjustable hacksaw. 3,082,803, 3-26-63, Cl. 145-34.
- Dicktel, Donald J.: *See*—  
Schulze, Robert E., and Dicktel. 3,081,905.  
Schulze, Robert E., Dicktel, and Kreusch. 3,078,224.
- Di Cosola, Michael A.: *See*—  
Cochran, Ulrich D., and Di Cosola. 3,103,926.  
Cochran, Ulrich D., and Di Cosola. 3,112,743.
- Dictograph Products Inc.: *See*—  
Lehr, Philip N. 3,072,754.  
Lehr, Philip N., and Idank. 3,101,155.
- Dicus, Francis A.: *See*—  
Brown, Ralph L., Didriksen, Moritz, and Dicus. 3,079,100.
- Didchenko, Rostislav, and L. M. Litz, to Union Carbide Corp. Preparation of refractory sulfides. 3,086,925, 4-23-63, Cl. 204-1.5.
- Didde, Carl W.: *See*—  
Cozad, Lawrence H., Didde, and Glaser. 3,072,398.
- Didde-Glaser, Inc.: *See*—  
Cozad, Lawrence H., Didde, and Glaser. 3,072,398.  
Glaser, Donald A., and Warren. 3,093,371.
- Dido Lures, Inc.: *See*—  
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- Didriksen, Ronald W.: *See*—  
Brown, Ralph L., Didriksen, Moritz, and Dicus. 3,079,100.
- Dieberg, Rolf: *See*—  
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Horn, Lutz, Dieberg, Philipp, and Dickfeldt. 3,071,637.
- Diebold, Alfred J., to The Anderson Co. Motion-transmitting device. 3,090,657, 5-21-63, Cl. 308-217.
- Diebold, Inc.: *See*—  
Buros, Melvin S. 3,077,243.  
Graber, Carl D. 3,110,271.  
Graber, Carl D., and Grosswiller. 3,114,499.  
Paulos, Harry, and Blauvelt. 3,095,838.  
Roberts, Charles K. 3,103,003.  
Roberts, Charles K., and Smith. 3,104,538.  
Wood, Noah P. 3,108,585.
- Dieckelmann, Gerhard: *See*—  
Plapper, Jürgen, and Dieckelmann. 3,096,357.  
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- Dieckelmann, Gerhard, and J. Plapper, to Böhme Fettchemie G.m.b.H. Process for the preparation of surface active reaction products. 3,084,176, 4-2-63, Cl. 260-400.
- Diedrich, Gunther E., to General Electric Co. Radial flow gas turbine power plant. 3,088,279, 5-7-63, Cl. 60-39.36.
- Dieffendorf, Russell J., to General Electric Co. Process for deposition of pyrolytic graphite. 3,107,180, 10-15-63, Cl. 117-226.
- Dieguez, Lloyd E., to Larkin Specialty Mfg. Co. Box handle. 3,106,332, 10-8-63, Cl. 229-52.
- Diehl, Gordon H., to General Motors Corp. Heat exchanger assemblies for forced air furnaces. 3,102,530, 9-3-63, Cl. 126-99.
- Diehl, John M.: *See*—  
Girardot, Peter R., and Zeldin. 3,083,230.
- Diehl Mfg. Co.: *See*—  
Abel, George J. 3,085,169.  
Happe, Reynold, and Yelpe. 3,072,768.
- Diehl, Max H., to General Electric Co. Transistorized black video clipper. 3,085,181, 4-9-63, Cl. 178-7.1.
- Diehl, Max H., to General Electric Co. Vidicon camera input stage. 3,098,120, 7-16-63, Cl. 178-7.2.
- Diehl, Philip A. Cup carrier. 3,094,259, 6-18-63, Cl. 224-48.
- Diekmann, Heinrich: *See*—  
Krauss, Kurt, and Diekmann. 3,110,563.
- Dielelectric Products Engineering Co., Inc.: *See*—  
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- Dielman, Harold J.: *See*—  
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- Diemer, Gesinus, to North American Philips Co., Inc. Device for amplifying, producing or modulating electrical oscillations. 3,102,959, 9-3-63, Cl. 250-211.
- Diemer, Gesinus, and W. van Gool, to North American Philips Co., Inc. Method of manufacturing layers consisting of chalcogenides. 3,084,397, 4-9-63, Cl. 18-59.3.
- Diener, Adolf, Apparate und Maschinenbau: *See*—  
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- Diener, Richard, to Hoesch Aktiengesellschaft. Tube-welding machines. 3,114,341, 12-17-63, Cl. 113-35.
- Diener, Robert E., to The Warner & Swasey Co. Machine tool turret. 3,094,025, 6-18-63, Cl. 82-36.
- Diener, Robert E., to The Warner & Swasey Co. Fluid system. 3,094,042, 6-18-63, Cl. 91-414.
- Diener, Robert E., and N. P. Darash, to The Warner & Swasey Co. Machine with indexing mechanism. 3,111,044, 11-19-63, Cl. 74-826.
- Diener, Rudolf, to Elemag-Anstalt. Circuit for controlling the striking phase of one or more gas-filled triodes connected to an A.C. voltage. 3,082,352, 3-19-63, Cl. 315-163.



- Dienes, Edward K.: *See*—  
Arnold, Melvin R., McCarthy, and Dienes. 3,075,915.
- Dier, Stephen A., and A. W. Gair, to Thompson Ramo Woolridge Inc. Method of making sockets. 3,079,680, 3-5-63, Cl. 29-432.
- Dierichs, Helmut: *See*—  
Holzrichter, Hermann, König, and Dierichs. 3,092,662.
- Dierks, Bernhard. Grinding machine. 3,073,071, 1-15-63, Cl. 51-72.
- Dierstein, Roy H.: *See*—  
Rademaker, Leo C., and Dierstein. 3,074,149.
- Diesel Equipment Ltd.: *See*—  
Martin, John C. 3,097,009.  
Martin, John C. 3,112,949.
- Diesing, Fred W., to Fairchild Stratos Corp. Fluid cooled valve. 3,075,542, 1-29-63, Cl. 137-338.
- Diessel Molkereimaschinen-Fabrik G.m.b.H.: *See*—  
Sonnberg, Joachim. 3,106,844.
- Dieter, Norman H., Jr., and E. H. Bauer, to Sonotone Corp. Dual stylus phonograph pickup and holder. 3,087,027, 4-23-63, Cl. 179-100.41.
- Dietrich, Francis L. Food holder. 3,084,618, 4-9-63, Cl. 99-427.
- Dietert, Harry W., to Harry W. Dietert Co. Apparatus for measuring and controlling moisture content of materials. 3,092,882, 6-11-63, Cl. 22-89.
- Dietert, Harry W., to Harry W. Dietert Co. Moisture teller. 3,093,460, 6-11-63, Cl. 34-1.
- Dietert, Harry W. and R. L., A. L. Graham, and M. R. Kabel, to Harry W. Dietert Co. Apparatus for electrical moisture measurement. 3,090,091, 5-21-63, Cl. 22-89.
- Dietert, Harry W. Co.: *See*—  
Dietert, Harry W. 3,092,882.  
Dietert, Harry W. 3,093,460.  
Dietert, Harry W., and Graham. 3,083,829.  
Dietert, Harry W. and R. L., Graham, and Kabel. 3,090,091.
- Jameson, Howard L. 3,109,210.
- Dietert, Harry W., and A. L. Graham, to Harry W. Dietert Co. Continuous clay washer. 3,083,829, 4-2-63, Cl. 209-161.
- Dietert, Randolph L.: *See*—  
Dietert, Harry W. and R. L., Graham, and Kabel. 3,090,091.
- Dietrich, Alvin L. Thresher beater bars. 3,079,924, 3-5-63, Cl. 130-27.
- Dietrich, Cornelius F. Optical projection pantometers. 3,113,485, 12-10-63, Cl. 88-24.
- Dietrich, Gerhard: *See*—  
Willersinn, Herbert, Dietrich, Fust, Friederich, and Siebel. 3,110,694.
- Dietrich, Gerhard, to J. Kihlberg. Staple. 3,077,812, 2-19-63, Cl. 85-49.
- Dietrich, Henri: *See*—  
Stoll, Willy, and Dietrich. 3,095,447.
- Dietrich, Karl A., to Dorr-Oliver Inc. Pressure vessel joint. 3,098,577, 7-23-63, Cl. 220-3.
- Dietrich, Karl R.: *See*—  
Rudy, Hermann, Rauch, Dietrich, and Constabel. 3,085,049.
- Dietrich, Rosahl: *See*—  
Sinn, Gustav, Dietrich, and Esser. 3,078,247.
- Dietrich, Wallace E.: *See*—  
Meyers, Robert A., Davis, and Dietrich. 3,105,145.
- Dietrich, Wallace E., Jr., to United States of America, Navy. Digitized analog computer. 3,103,578, 9-10-63, Cl. 235-151.
- Dietrich, Walter, to International Standard Electric Corp. Automatic character-recognition method and associated arrangement of apparatus therefor. 3,081,444, 3-12-63, Cl. 340-146.3.
- Dietrich, Wolfgang, to International Business Machines Corp. Binary information transfer device. 3,113,297, 12-3-63, Cl. 340-174.
- Dietrich, Charles J. Collating device. 3,108,796, 10-29-63, Cl. 270-58.
- Dietsch, Arne K.: *See*—  
Alexandersson, Harald V., and Dietsch. 3,096,422.
- Dietz, Alma: *See*—  
De Boer, Clarence, Dietz, Johnson, Eble, and Hoeksema. 3,094,460.
- Dietz, Alma, C. De Boer, R. M. Smith, P. Siminoff, G. A. Boyack, and G. B. Whitfield, Jr., to The Upjohn Co. Antibiotic streptovaricin and process for its production. 3,116,202, 12-31-63, Cl. 167-65.
- Dietz, Elise: *See*—  
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- Dietz, Erich: *See*—  
Schilling, Karl, and Dietz. 3,109,842.
- Dietz, Georg: *See*—  
Dietz, Karl, Lorentz, and Stroh. 3,080,253.
- Dietz, Karl, deceased (by E. and G. Dietz, heirs), and G. M. R. Lorentz, and R. Stroh, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for providing concrete surfaces with impermeable layers that are resistant to the action of chemical substances and heat. 3,080,253, 3-5-63, Cl. 117-26.
- Dietz, Murray W. Dental burr holder and sterilizer. 3,092,443, 6-4-63, Cl. 21-87.
- Dietz, R. E., Co.: *See*—  
Knapp, George A. 3,093,320.  
Leeder, Harry A., Jr. 3,113,242.
- Dietz, Richard M. Combined dressing tool and work piece holder. 3,085,370, 4-16-63, Cl. 51-92.
- Dietz, Robert E.: *See*—  
Dessert, Edward P., Dietz, and Pickett. 3,109,907.
- Dietze, Ruthard, to Solida Textil- und Netzwaren-Manufaktur Ruthard Dietze K.G. Hair net. 3,094,995, 6-25-63, Cl. 132-49.
- Dietzel, Walter, and H. Hillebrand, to Braunschweigische Maschinenbauanstalt A.G. Centrifugal apparatus. 3,108,067, 10-22-63, Cl. 210-380.
- Dietzgen, Eugene, Co.: *See*—  
Brownscombe, Philip J. 3,076,377.  
Brownscombe, Philip J. 3,078,760.
- Dietzler, Andrew J., and C. L. Stacy, Jr., to The Dow Chemical Co. Stabilized polyolefin compositions. 3,082,188, 3-19-63, Cl. 260-45-95.
- Dietzsch, Clara H.: *See*—  
Dietzsch, Otto, Sr., H. R. O. Dietzsch and O. H. E. Dietzsch. 3,086,134.
- Dietzsch, Hans-Joachim and O., to Trikotfabriken J. Schieser A.G. Multiple hole spinning nozzle and process of manufacture. 3,075,241, 1-29-63, Cl. 18-8.
- Dietzsch, Hans-Joachim R. O.: *See*—  
Dietzsch, Otto, Sr., H. R. O. Dietzsch and O. H. E. Dietzsch. 3,086,134.
- Dietzsch, Otto: *See*—  
Dietzsch, Hans-Joachim and O. 3,075,241.
- Dietzsch, Otto H. E.: *See*—  
Dietzsch, Otto, Sr., H. R. O. Dietzsch and O. H. E. Dietzsch. 3,086,134.
- Dietzsch, Otto, Sr., deceased (C. H. Dietzsch, H. R. O. Dietzsch, and O. H. E. Dietzsch, heirs), H. R. O. Dietzsch, and O. H. E. Dietzsch: said H. R. O. Dietzsch and O. H. E. Dietzsch assors. to Verwaltungsgesellschaft der Werkzeugmaschinenfabrik Oerlikon. Device for the two-dimensional arrangement, variable according to pattern, of a plurality of elongated control means for multi-member machines. 3,086,134, 4-16-63, Cl. 310-78.
- Diffee, Henry S. Vernier Calibrated angle and distance layout instrument. 3,105,305, 10-1-63, Cl. 33-189.
- Differential-Diesel-Vaduz (Fürstentum Liechtenstein): *See*—  
Glamann, Wilhelm. 3,077,730.  
Glamann, Wilhelm. 3,090,194.
- Differential Hydraulics, Inc.: *See*—  
Berry, Frank. 3,075,506.
- Di Francesco, Emilio. Washing and drying apparatus for fishing lines. 3,082,972, 3-26-63, Cl. 242-104.
- Diggelmann, Hans, to Hasler A.G. Electrical synchronizing arrangement. 3,090,922, 5-21-63, Cl. 328-72.
- Diggins, Bartholomew, to S. G. Bair. Journal stop. 3,075,815, 1-29-63, Cl. 308-40.
- Di Giovanni, Mario, to Statham Instruments, Inc. Unbonded strain gage transducer. 3,086,185, 4-16-63, Cl. 338-6.
- Digitronics Corp.: *See*—  
Cohen, William D. 3,072,311.
- Di Giulio, Arnold O.: *See*—  
Block, Charles, and Di Giulio. 3,085,668.
- Di Giulio, Enzo, and F. Denti, to Montecatini Società Generale per l'Industria Mineraria e Chimica. Spinning solution of sulfochlorinated ethylene-propylene copolymer, filaments thereof, and process for obtaining them. 3,079,218, 2-26-63, Cl. 18-54.
- Di Gregorio, Adamo E.: *See*—  
Pascoe, George, and Di Gregorio. 3,114,029.
- Di Ianni, Daniel A., to American Machine & Foundry Co. Mechanism for reclaiming tobacco from rejected filter tip cigarettes. 3,103,222, 9-10-63, Cl. 131-96.
- Di Ienzo, John J., to Carey-McFall Co. Artificial tree. 3,085,774, 4-16-63, Cl. 248-39.
- Dijkema, Leendert F. W., to Heineken's Brouwerijen Nederland N.V. Apparatus for periodically determining the carbon dioxide content of a carbon dioxide containing liquid flowing through a conduit. 3,077,765, 2-19-63, Cl. 73-19.
- Dike, Roy W., to Continental Can Co., Inc. Plastic captive seal closure and spout. 3,104,039, 9-17-63, Cl. 222-536.
- Dike, Sheldon H., G. J. Strickroth, and J. Jenkins, to Martin-Marietta Corp. Guidance system for aircraft. 3,087,155, 4-23-63, Cl. 343-112.
- Dilatush, John E., to Ingwersen Mfg. Co., Inc. Receptacle. 3,086,676, 4-23-63, Cl. 220-31.
- Di Laurenzio, Anthony C. Mobile car washing apparatus. 3,072,131, 1-8-63, Cl. 134-123.
- Di Lella, Paul. Grinding machine. 3,100,954, 8-20-63, Cl. 51-165.
- Dilgard, Lemoyne W., to Joy Mfg. Co. Conveyor device. 3,089,580, 5-14-63, Cl. 198-192.
- Dilks, John H., to Lukens Steel Co. Slab grinder, hydraulic counterbalance and lift control. 3,089,287, 5-14-63, Cl. 51-35.
- Dill, Johann G., to Hughes Aircraft Co. Pulse generating circuit utilizing avalanche transistors and tunnel diodes. 3,075,092, 1-22-63, Cl. 307-88.5.
- Dill, Walter R., to Halliburton Co. Acidizing of wells. 3,076,762, 2-5-63, Cl. 252-8.55.
- Dill, William J. Electrically operable toy game. 3,112,931, 12-3-63, Cl. 273-139.
- Dillard, William M.: *See*—  
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- Dillaway, Robert B., to North American Aviation, Inc. Dual propellant tank control system. 3,073,110, 1-15-63, Cl. 60-35.6.



- Dille, Roger M.: *See*—  
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- Dillehay, John W.: *See*—  
Hlavacek, Robert J., Sauvage, Dillehay, and Swift. 3,112,519.  
Hlavacek, Robert J., Sauvage, and Dillehay. 3,115,670.
- Dillemoth, Arnold H. Level. 3,103,749, 9-17-63, Cl. 33—207.
- Dillenburger, Wolfgang, to Fernseh G.m.b.H. Method and arrangement for the transmission of television signals. 3,102,927, 9-3-63, Cl. 178—69.5.
- Dilley, William. Wind oriented marauder-proof bird feeder. 3,086,499, 4-23-63, Cl. 119—51.
- Dilliard, Allen E., and E. L. Miffin, Jr., to United States of America, Army. Abrasive drilling apparatus. 3,075,318, 1-29-63, Cl. 51—8.
- Dillie, Roger M., R. W. Chapman, J. C. Ahlborn, and D. B. Eastman, to Texaco Inc. Hydration of acetylene to produce acetaldehyde. 3,095,453, 6-25-63, Cl. 260—605.
- Dillin, George R. Fish line and plug ejector. 3,111,783, 11-26-63, Cl. 43—19.
- Dilling, Elmer D.: *See*—  
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- Dillingham, Edward, to Thompson Ramo Wooldridge Inc. Superconductive bistable circuit. 3,093,749, 6-11-63, Cl. 307—88.5.
- Dillingham, Frederick L., to Soderhamn Machine Mfg. Co. Log debarking machine. 3,082,801, 3-26-63, Cl. 144—208.
- Dillman, Earnest J., to American Radiator & Standard Sanitary Corp. Constant fluid flow device. 3,073,350, 1-15-63, Cl. 138—46.
- Dillman, Earnest J., and T. E. Noakes, to American Radiator & Standard Sanitary Corp. Condition controller. 3,073,930, 1-15-63, Cl. 219—140.
- Dillman, Edward E., D. Ringo, and F. C. Boston, to Engineers & Fabricators, Inc. Adsorption process. 3,085,350, 4-16-63, Cl. 55—62.
- Dillman, Edward E., D. Ringo, and F. C. Boston, to Engineers & Fabricators, Inc. Separation of close boiling components. 3,086,065, 4-16-63, Cl. 260—676.
- Dillon, Harold P., II, to Union Carbide Corp. High temperature coatings. 3,091,548, 5-28-63, Cl. 117—70.
- Dillon, John A., Jr.: *See*—  
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- Dillon, Paul W., R. Stewart, C. G. Bosco, and C. G. Robinson, to Northwestern Steel & Wire Co. Electric arc furnace power cable arrangement. 3,078,325, 2-19-63, Cl. 13—9.
- Dillon, Richard C., and W. R. Dunbar. Strain wire flowmeter. 3,114,261, 12-17-63, Cl. 73—228.
- Dillon, Robert M., to Massey-Ferguson Ltd. Snapping rolls for corn picking apparatus. 3,100,491, 8-13-63, Cl. 130—5.
- Dillon, W. C., and Co.: *See*—  
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- Dillon, W. C., & Co., Inc.: *See*—  
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Glerum, Irvin L. 3,090,227.  
Glerum, Irvin L. 3,097,524.  
Glerum, Irvin L. 3,101,445.  
Van Mastrigt, Max. 3,096,839.
- Dillon, Wendell M., to Watts Regulator Co. Pressure regulator with integral relief valve. 3,115,154, 12-24-63, Cl. 137—493.8.
- Dillon, William C., and C. H. Kehm, to W. C. Dillon & Co., Inc. Carrier wave telephony. 3,086,171, 4-16-63, Cl. 325—55.
- Dills, Raymond L., to General Electric Co. Oven thermostat. 3,096,420, 7-2-63, Cl. 200—140.
- Di Lorenzo, John A.: *See*—  
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- Dils, Eugene W., Jr.: *See*—  
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- Di Luzio, Nicholas R., to United States of America, Atomic Energy Commission. Process for reducing exogenous cholesterol levels in animal organisms. 3,081,226, 3-12-63, Cl. 167—55.
- Dilworth, J. E., Co., Inc.: *See*—  
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- Dilworth, William G., to General Motors Corp. Thrust bearing. 3,090,655, 5-21-63, Cl. 308—37.
- DiMartino, John M.: *See*—  
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- Di Marzio, Emilio, to Fabbrica Italiana Macchine Aziendali. Apparatus for inserting and securing labels in printing plates. 3,114,200, 12-17-63, Cl. 29—211.
- Di Mattia, Alfred L.: *See*—  
Sioles, George W., Di Mattia, and Bauer. 3,074,726.
- Di Mattia, Alfred L., and E. Kaulins, to Zenith Radio Corp. Universal mount for stylus assembly. 3,088,743, 5-7-63, Cl. 274—36.
- Dimeff, John, to United States of America, National Aeronautics and Space Administration. High-speed low-level electrical stepping switch. 3,076,065, 1-29-63, Cl. 200—19.
- Dimeff, John, to United States of America, National Aeronautics and Space Administration. Two-plane balance. 3,100,990, 8-20-63, Cl. 73—147.
- Dimensions, Inc.: *See*—  
Ruderfer, Martin. 3,077,256.
- Dimitracopoulos, Panayotis C., and C. D. Pezaris. Method and means for variable resistance recording. 3,081,383, 3-12-63, Cl. 179—100.4.
- Dimmick, Robert L., to The Regents of the University of California. Dilution pipette. 3,106,845, 10-15-63, Cl. 73—425.6.
- Dimmig, John D., and R. T. Vaughan, to Philco Corp. Combination packaging assembly and packaged article. 3,088,587, 5-7-63, Cl. 206—56.
- Dimond, Herbert M.: *See*—  
Enochs, John R., Dimond, and Springer. 3,078,358.
- Dimond, Thomas L., to Bell Telephone Laboratories, Inc. Machine reading of handwritten characters. 3,108,254, 10-22-63, Cl. 340—146.3.
- Dimroth, Peter, and H. Pasedach, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of 4,4-disubstituted 5-alkylidene-1,3-dioxolane-2-ones. 3,082,216, 3-19-63, Cl. 260—340.2.
- Dinan, Frank J., to The Carborundum Co. Method of making magnesium oxide. 3,081,155, 3-12-63, Cl. 23—201.
- Dineen, John J., to Chandler Evans Corp. Air cycle cooling unit. 3,109,583, 11-5-63, Cl. 230—190.
- Dinehart, Marjory E. Artificial lures for game fish. 3,086,313, 4-23-63, Cl. 43—35.
- Dinerman, Bernhart V., and A. H. Dove, to United States of America, Navy. Warhead detonation indicator. 3,104,383, 9-17-63, Cl. 340—213.
- Dinerstein, Samuel: *See*—  
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- Dinger, Edward H., to General Electric Co. Pulse generator utilizing transistor with saturable core feedback and adjustable bias to vary load current. 3,071,697, 1-1-63, Cl. 307—88.5.
- Dingus, George W.: *See*—  
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- Dininger, Marion W.: *See*—  
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- Dinn, Leo J. Simulated four-in-hand tie construction. 3,097,302, 7-16-63, Cl. 2—153.
- Dinning, John R., to Toledo Scale Corp. Elevator controls. 3,080,946, 3-12-63, Cl. 187—29.
- Dinning, John R., W. V. Weaver, and D. H. Wilson, Jr., to Toledo Scale Corp. Elevator controls. 3,080,945, 3-12-63, Cl. 187—29.
- Dinning, Robert W., and C. M. Peters, to U.S. Industries. Well apparatus. 3,073,392, 1-15-63, Cl. 166—224.
- Dinning, Robert W., to U.S. Industries, Inc. Well tool. 3,107,731, 10-22-63, Cl. 166—217.
- Di Noia, Emanuel J., to Aerotec Industries, Inc. Magnetic ball switch for electric circuits. 3,103,562, 9-10-63, Cl. 200—87.
- Dinolfo, Michael, and E. W. Farmer, to Sanders Associates, Inc. Air dropped buoy release mechanism. 3,074,671, 1-22-63, Cl. 244—138.
- Dinsmore, David W., and A. H. Smith, to Monsanto Chemical Co. Lubricating composition. 3,103,492, 9-10-63, Cl. 252—32.7.
- Dinsmore, Joseph A., and R. I. Seddon, to Ampex Corp. Strip tensioning apparatus. 3,092,344, 6-4-63, Cl. 242—55.12.
- Dinter, Henry A., Jr., to Minneapolis-Honeywell Regulator Co. Gyrocompass. 3,098,306, 7-23-63, Cl. 33—226.
- Dinu, Madeline C. Receptacle for storing electric cords. 3,110,454, 11-12-63, Cl. 242—134.
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- Dion, Clifton R. Lawn aerating and fertilizing machine. 3,109,393, 11-5-63, Cl. 111—89.
- Dion, Henry W.: *See*—  
Frohardt, Roger P., Dion, and Ehrlich. 3,111,523.
- Dion, Henri, and J. Couthon, to J. Couthon Etablissement. Vibratory roller device. 3,105,424, 10-1-63, Cl. 94—50.
- Dion, John F., to Package Machinery Co. Carton forming machines. 3,081,675, 3-19-63, Cl. 93—51.
- Dionne, Emilien: *See*—  
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- Dionne, Henry E. Carburetor air filter detecting device. 3,095,866, 7-2-63, Cl. 123—196.
- Dionne, Leonard J., to Green Instrument Co. Depth control device for cutting machine. 3,110,226, 11-12-63, Cl. 90—62.
- Di Paolo, Anthony J., to Reliance Mfg. Co. Jacket. 3,086,215, 4-23-63, Cl. 2—93.
- Di Paolo, John, to Fairchild Camera and Instrument Corp. Deflecting circuit. 3,094,645, 6-18-63, Cl. 315—27.
- Di Pasqua, Joseph, to Mechanical Swinging Cradle Co. Spring motor for swings. 3,073,416, 1-15-63, Cl. 185—38.
- Di Pasqua, Joseph, to Mechanical Swinging Cradle Co. Spring motor for swings. 3,112,814, 12-3-63, Cl. 185—37.
- Di Pasquale, Fred A.: *See*—  
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- Di Piero, Michael J. Hinge construction for lids. 3,113,692, 12-10-63, Cl. 220—31.
- Di Piero, Michael J., and P. M. Nigro. Leakproof oiling device. 3,081,921, 3-19-63, Cl. 222—525.
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- Di Ponte, Sabato A. Alphabet set for the practical teaching of reading and writing. 3,101,556, 8-27-63, Cl. 35—35.
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- Dirck, Alden C. Animal cage. 3,087,459, 4-30-63, Cl. 119—17.
- Dirian, Gregoire, H. Sack, F. Botter (born Bergheaud), and B. Lefrancois, to Houilleries du Bassin du Nord et du Pas-de-Calais, and Commissariat a l'Energie Atomique. Process for the isotopic enrichment or fractionation of hydrogen. 3,098,020, 7-16-63, Cl. 204—59.
- Di Riccio, Leo, to International Business Machines Corp. Wear resistant magnetic recording media. 3,109,749, 11-5-63, Cl. 117—72.
- Di Rito, Vincent L. J., and L. B. Hary, to United States of America, Air Force. Multiuse adapter for manipulators. 3,111,328, 11-19-63, Cl. 279—41.
- Dirks, Gerhard. Signal transfer in cyclic storages. 3,088,102, 4-30-63, Cl. 340—174.1.
- Dirks, Gerhard. Tape perforation and movement control system. 3,093,303, 6-11-63, Cl. 234—108.
- Dirks, Gerhard. Sorting of signals recorded on a magnetizable signal carrier. 3,094,684, 6-18-63, Cl. 340—172.5.
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- Enicks, James H., and Di Rocco. 3,089,487.
- Dirth, George P., and I. Fackrell. Gage control system for strip mill. 3,078,746, 2-26-63, Cl. 80—35.
- Di Sabatino, Roland, to Radio Corp. of America. Spindle adapter. 3,071,380, 1-1-63, Cl. 274—10.
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- Disley, Aubrey, to George Goodman Ltd. Plastic collapsible screw fastening device having auxiliary holding means. 3,109,342, 11-5-63, Cl. 85—40.
- Disley, Aubrey, to George Goodman Ltd. Collapsible screw fastening means having auxiliary resilient rotation preventing means. 3,110,213, 11-12-63, Cl. 85—40.
- Dismuke, William O., to P & D Corp. Apparatus for vulcanizing ornamental trim on tire walls. 3,113,902, 12-10-63, Cl. 156—416.
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- Dison, Ernest E. Automobile fender assembly. 3,081,119, 3-12-63, Cl. 293—48.
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- Dison, James R., W. L. Johnson III, and W. F. Jones, to General Motors Corp. Shaft seal. 3,081,097, 3-12-63, Cl. 277—23.
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- Disson, Stanley B., and P. Winsor, III, to Burroughs Corp. High speed analog-digital converter. 3,074,058, 1-15-63, Cl. 340—347.
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- Close, Patrick B., Coulter, Ditmer, Fahrenbruck, Goldammer, Goodrick, Gulden, Holloran, Jenkins, Kilheffer, Kinker, Lyons, Manor, Marvin, Miller, O'Brian, Randall, Garner, Sather, Yost, and Braden. 3,112,394.
- Di Toro, Michael, to International Standard Electric Corp. Decade method of noise reduction. 3,081,457, 3-12-63, Cl. 343—118.
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- Di Tullio, Elio S.: *See—*
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- Diversified Products, Inc.: *See—*
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- Di Veto, Hillard R., to Burroughs Corp. Jam detection apparatus for sheet feeder. 3,071,373, 1-1-63, Cl. 271—57.
- Divine, Ralph D., to American Cyanamid Co. Process for decolorizing and purifying O,O-dialkylthiophosphoryl chlorides and thiophosphate condensates formed therefrom. 3,098,866, 7-23-63, Cl. 260—461.
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- Dixon, Ellsworth A. Flexible cushioned horse shoe. 3,090,718, 5-21-63, Cl. 168—7.
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- Dixon, Wallace B. Toy camera. 3,090,158, 5-21-63, Cl. 46-228.
- Dixon, Willis O., and J. A. Cunningham, to Crose-United Corp. Chill ring. 3,110,277, 11-12-63, Cl. 113-102.
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- Djerassi, Carl, F. A. Kincl, and J. Iriarte, to Syntex Corp.  $\Delta^4$ -estrene-10 $\beta$ ,17 $\beta$ -diol-3-one compounds and process therefor. 3,088,953, 5-7-63, Cl. 260-397.4.
- Djerassi, Carl, O. Halpern, and O. Mancera, to Syntex Corp. Intermediates in the conversion of 11 $\alpha$ -hydroxydiosgenin to cortisone. 3,093,636, 6-11-63, Cl. 260-239.55.
- Djorup, Robert S., to Epsco, Inc. Converging channel gnat system comprising double transistor series and shunt switches. 3,089,963, 5-14-63, Cl. 307-88.5.
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- Doak, Gordon J., to Sears, Roebuck and Co. Pillow. 3,109,182, 11-5-63, Cl. 5-337.
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- Busch, Theodore N. 3,087,247.
- Doan, Charles A., R. J. Hoffman, and W. D. Lopley, to Kellogg Co. Die cleaning. 3,084,075, 4-2-63, Cl. 134-8.
- Doan, Herbert D., to The Dow Chemical Co. Container for explosive materials. 3,113,518, 12-10-63, Cl. 192-24.
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- Dobbie, James, to Westinghouse Electric Corp. Generating system producing constant width pulses from input pulses of indeterminate height and duration. 3,097,340, 7-9-63, Cl. 328-63.
- Dobbie, James, to Westinghouse Electric Corp. Anticoincident pulse responsive circuit comprising logic components. 3,107,306, 10-15-63, Cl. 307-88.5.
- Dobbins, Grover L., to Kaiser Aluminum & Chemical Corp. Method for removing complex sodium aluminum silicate scale. 3,074,823, 1-22-63, Cl. 134-18.
- Dobbins, Mark, to Fenestra, Inc. Method of producing a sound absorbing structure. 3,103,410, 9-10-63, Cl. 18-56.
- Dobbratz, Ervin C., deceased (W. Dobbratz, administratrix), and J. A. Green. Wear plate unit for scarifier shanks. 3,098,532, 7-23-63, Cl. 172-719.
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- Dobbratz, Ervin C., and Green. 3,098,532.
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- Dobell, Curzon, to Dorr-Oliver Inc. Pressure vessel. 3,074,584, 1-22-63, Cl. 220-3.
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- Dobens, William L., to American Can Co. Apparatus for treating all surfaces of a thermoplastic tube with corona discharge. 3,102,193, 8-27-63, Cl. 250-49.5.
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- Dobkin, Ella M.: *See*—
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- Doble, Allan M. Fluidising and feeding of finely divided materials. 3,093,418, 6-11-63, Cl. 302-17.
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- Dobrikin, Harold L., to Berg Airlectro Products Co. Vehicle lamp. 3,093,324, 6-11-63, Cl. 240-8.2.
- Dobrikin, Harold L., to Berg Airlectro Products Co. Relay emergency valve. 3,097,021, 7-9-63, Cl. 303-29.
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- Dobrin, Saxe, and J. F. Kincaid, to United States of America, Army. Outward burning neutral granulation for cast propellants. 3,099,963, 8-6-63, Cl. 102-98.
- Dobrosavljević, Slobodan M. Air-cooled two-stroke diesel engine. 3,086,506, 4-23-63, Cl. 123-41.85.
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- Dobslaw, Gerhardt A., to Portable Electric Tools, Inc. Radial saw adjustment means. 3,092,154, 6-4-63, Cl. 143-6.
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- Doczi, John, to Warner-Lambert Pharmaceutical Co. Method of recovering urokinase from urine. 3,081,236, 3-12-63, Cl. 195-66.
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- Dodd, Glen M., and R. A. Jacobs, Jr., to General Dynamics Corp. Redundant amplifier. 3,075,153, 1-22-63, Cl. 330-30.
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- Dodge, Howard M., to The General Tire & Rubber Co. Molded rubber girdle. 3,075,532, 1-29-63, Cl. 128-521.
- Dodge, Howard M., and D. P. Reynolds, to The General Tire & Rubber Co. Perforation of sheet material. 3,098,406, 7-23-63, Cl. 83-588.
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- Dodge, Milton L. Method of and mechanism for shaping the uppers of low-cut footwear. 3,080,588, 3-12-63, Cl. 12-53.5.
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- Dodgson, Douglas P., to Monsanto Chemicals Ltd. Preparation of organic silicon compounds. 3,073,856, 1-15-63, Cl. 260-448.8.
- Dodinot, Camille. Method of making lazy tongs linkage, each link being made from one piece of stock. 3,082,595, 3-26-63, Cl. 59-35.
- Dodington, Sven H. M., to International Telephone and Telegraph Corp. Pulse shaping klystron modulator. 3,098,980, 7-23-63, Cl. 332-7.
- Dodson, Harold L., to United States of America, Army. Frangible firing device. 3,111,089, 11-19-63, Cl. 102-20.2.
- Dodson, Harold L., and W. A. Danesi, to United States of America, Army. Frangible firing device. 3,111,901, 11-26-63, Cl. 102-70.2.
- Dodson, Richard J., to Clayton Mark & Co. Water well strainer. 3,087,560, 4-30-63, Cl. 175-314.
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- Doe, Frederick H., P. R. Freeman, C. G. Lawson, B. H. Newman, C. H. Peers, and G. H. S. Young. Gas-producing compositions. 3,073,730, 1-15-63, Cl. 149-19.
- Doe, Walter P., to Fisher-Price Toys, Inc. Sound producing device for toy vehicle. 3,099,893, 8-6-63, Cl. 46-111.
- Doebel, Karl, G. Rey-Bellet, R. Schlapfer, and H. Spiegelberg, to Hoffmann-La Roche Inc. 9-(3-amino-1-propenyl) derivatives of 9-xanthenols and 9-thioxanthenols and a process for their preparation. 3,073,847, 1-15-63, Cl. 260-328.
- Doede, Donald J., to Marmet Corp. Insulating unit for curtain wall. 3,093,217, 6-11-63, Cl. 189-34.
- Doeden, Douglas D., to Doeden Tool Corp. Roll throttle for air operated hand tool. 3,083,944, 4-2-63, Cl. 251-263.
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- Doedens, James D., and D. E. Pletcher, to The Dow Chemical Co. Flame resistant compositions of inorganic fillers and polymeric products of halomethyl diphenyl oxides. 3,082,185, 3-19-63, Cl. 260-37.
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- Doelp, Louis C., Jr., to Air Products and Chemicals, Inc. Preparing alumina beta trihydrate. 3,092,454, 6-4-63, Cl. 23-143.
- Doelp, Walter L., Jr., to Philco Corp. Fabrication of electrical units. 3,082,522, 3-26-63, Cl. 29-497.
- Doelter, Gandolph. Continuous fasteners. 3,114,953, 12-24-63, Cl. 24-205.1.
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- Ratner, Hyman, and Doepel. 3,116,249.
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- Von Kutepow, Nikolaus, and Doerfel. 3,086,046.
- Doerfer, Richard E., C. L. Harms, and L. R. Beard, to Deere & Co. Transmission and controls therefor. 3,106,273, 10-8-63, Cl. 192-4.
- Doerfner, William H., to General Motors Corp. Ball nut screw assembly. Re. 24,526, 7-23-63, Cl. 74-459.
- Doering, Charles W.: *See*—
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- Doering, Felix F., Jr., to Esso Research and Engineering Co. Jet tray tabs. 3,105,862, 10-1-63, Cl. 261-114.
- Doering, Hasso: *See*—
- Kaunert, Paul, and Doering. 3,096,156.
- Doerer, Richard P., and H. G. Guenther, to Van Dresser Specialty Corp. Pleater structure. 3,110,427, 11-12-63, Cl. 223-32.
- Doerner, Ernest H., to The Singer Co. Lock stitch zigzag sewing machine. 3,106,176, 10-8-63, Cl. 112-158.
- Doerr, Richard L., to Olin Mathieson Chemical Corp. Hydrazine salt for activation and stabilization of chlorite bleach for cellulosic textiles. 3,111,358, 11-19-63, Cl. 8-108.
- Doerschuk, Albert P., B. A. Bitler, and M. A. Petty, to American Cyanamid Co. Process of producing bromotetracycline. 3,105,016, 9-24-63, Cl. 195-80.
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- Doggett, Roger H., G. H. Hall, D. B. Montgomery, and R. S. Robinson, to Johnson & Johnson. Apparatus for cleaning animal tissue. 3,112,518, 12-3-63, Cl. 17-43.
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- Doherty, Lewis S., to Doherty-Silentaire. Adjustable motor supports. 3,113,753, 12-10-63, Cl. 248-23.
- Doherty, Robert H.: *See*—
- Hefley, Gifford, Linfield, Davis, and Doherty. 3,106,709.
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- Brooks, William N., Jr., and Dohogne. 3,106,025.
- Dohr, Manfred, H.-J. Krause, and C. Wulff, to Henkel & Cie. G.m.b.H. Esters of acylaminocarboxylic acids. 3,089,883, 5-14-63, Cl. 260-404.
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- Graswich, Edward, and Cedarquist. 3,077,717.
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- Dolby, Ray, M. L. J. Kabell, H. E. Murphy, and H. L. Walsh, to Ampex Corp. Video recording system and method. 3,095,472, 6-25-63, Cl. 178-5.4.
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- Dolce, Thomas J., and F. M. Berardinelli, to Celanese Corp. of America. Thermal stabilization of oxymethylene polymers. 3,103,499, 9-10-63, Cl. 260-45.7.
- Dolceamore, Aladino W. Slanted cleat assembly for athletic shoes. 3,082,549, 3-26-63, Cl. 36-2.5.
- Dold, John F. Resuscitation device. 3,090,380, 5-21-63, Cl. 128-29.
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- Bauerlein, Carl C. 3,074,248.
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- Doll, Donald P., and H. H. Volkening, to National Lead Co. Composite pigment. 3,073,711, 1-15-63, Cl. 106-296.
- Doll, Frank A., and M. J. McLean, to The American Hardware Corp. Lock cylinder assembly machine. 3,111,748, 11-26-63, Cl. 29-208.
- Doll, Henri-Georges, to Schlumberger Well Surveying Corp. Electrical measuring systems. 3,072,844, 1-8-63, Cl. 324-54.
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- Dollison, William W., to Otis Engineering Corp. Retrievable drill pipe plug. 3,102,592, 9-3-63, Cl. 166-125.
- Dollison, William W., to Otis Engineering Corp. Pressure controlled pilot valve operating device. 3,115,330, 12-24-63, Cl. 251-62.
- Dolliver, Morris A., to Olin Mathieson Chemical Corp. Preparation of ortho-phenethylbenzoic acids by hydrogenation of 3-benzalphenaldehydes. 3,116,324, 12-31-63, Cl. 260-515.
- Dolman, Henry J. Print wheel indexing means. 3,110,249, 11-12-63, Cl. 101-79.
- Dolnick, Seymour S., to Glen Mfg. Inc. Toilet bowl cover. 3,085,611, 4-16-63, Cl. 150-52.
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- Dolph, Ake A. H.: *See*—
- Stedt, Tore P. G., and Dolph. 3,087,897.
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- Bouvy, Christiana H., and Dolza. 3,096,750.
- Dolza, John, to General Motors Corp. Charge forming means. Re. 25,492, 12-3-63, Cl. 123-119.
- Dolza, John. Internal combustion engines. 3,092,089, 6-4-63, Cl. 123-76.
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- Du Pont, Stephen. 3,080,002.
- Domann, Helmut, to Robert Bosch, G.m.b.H. Regulating device for electric generators. 3,106,673, 10-8-63, Cl. 322-73.
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- Dombeck, Edward K., and D. D. Johannesen, to The Bendix Corp. Quick check master cylinder filler cap. 3,096,648, 7-9-63, Cl. 73—334.
- Dombrow, Bernard A., to Nopco Chemical Co. Flexible urethane foams and a process for producing same. 3,100,752, 8-13-63, Cl. 260—2.5.
- Dombrowik, Eugene S., to Landers, Frary and Clark. Coffee maker. 3,081,709, 3-19-63, Cl. 103—231.5.
- Dombrowski, Edward J., to Sperry Rand Corp. Transfer mechanism for calculating machines. 3,076,602, 2-5-63, Cl. 235—137.
- Dombrowski, Edward J., to Sperry Rand Corp. Restoring mechanism for pin carriages. 3,098,608, 7-23-63, Cl. 235—60.
- Dombrowski, Henry S., to E. I. du Pont de Nemours and Co. Metal processing. 3,072,347, 1-8-63, Cl. 241—3.
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- Dôme, Peter, to Societe Suisse pour l'Industrie Horlogere S.A. Device for electromagnetically maintaining oscillating movement. 3,095,529, 6-25-63, Cl. 318—132.
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- Dome, Robert B., to General Electric Co. Video frequency amplifiers for television receivers. 3,102,925, 9-3-63, Cl. 178—7.5.
- Dome, Robert B., to General Electric Co. Bridged-T time delay network. 3,116,373, 12-31-63, Cl. 179—15.
- Domeck, Corneal L., Jr., and C. J. Moll, Jr., to General Cigar Co., Inc. Tobacco manufacture. 3,115,882, 12-31-63, Cl. 131—17.
- Domeisen, Karl A., to Avco Corp. Mechanism for observing nozzle spray patterns. 3,081,623, 3-19-63, Cl. 73—119.
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- Domicone, Joseph J., and W. C. Smith, to Corning Glass Works. Method of joining two glass bodies. 3,099,549, 7-30-63, Cl. 65—30.
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- Dominion Engineering Works Ltd.: *See—*  
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- Dommer, Henry. Illuminated spirit level. 3,114,507, 12-17-63, Cl. 240—6.44.
- Donning, William E., to The Dow Chemical Co. Production and separation of molten cerium from its reducing metal chloride which is in solid form. 3,104,166, 9-17-63, Cl. 75—84.5.
- Domsic, Paul M., and H. J. Dielman, to The Sanymetal Products Co., Inc. Automatic door locking assemblies. 3,095,225, 6-25-63, Cl. 292—169.
- Donado, Joseph G. Method of manufacturing synthetic star sapphire jewelry piece. 3,088,194, 5-7-63, Cl. 29—160.6.
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- Donahue, Gary M., J. Scher, and D. B. Train, to Owens-Illinois Glass Co. Display shipper. 3,093,240, 6-11-63, Cl. 206—45.19.
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- Donaldson, Chase, to Darworth, Inc. Method of making a glass reinforced fibrous web. 3,113,061, 12-3-63, Cl. 156—167.
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- Donaldson, David R. Lifts with inclined track. 3,084,766, 4-9-63, Cl. 187—12.
- Donaldson, Donald J., to Kaiser Aluminum & Chemical Corp. Method for continuous digestion of aluminous ore. 3,112,994, 12-3-63, Cl. 23—143.
- Donaldson, Raymond E., and C. C. White, to Eastman Kodak Co. Flameproof cellulose acetate fabrics. 3,082,121, 3-19-63, Cl. 117—136.
- Donaldson, Raymond W., to The Ohio Brass Co. Third rail apparatus. 3,071,656, 1-1-63, Cl. 191—32.
- Donaldson, Richard L. Adjustable outboard motor mounting. 3,106,375, 10-8-63, Cl. 248—4.
- Donaldson, Robert D., and E. V. Welch, to General Aniline & Film Corp. Process for manufacturing  $\alpha$ -anthraquinone disulfonate containing low amounts of mercury. 3,079,404, 2-26-63, Cl. 260—370.
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- Donawa, Carlton S. Lathe spindle and collet stops. 3,115,798, 12-31-63, Cl. 82—34.
- Doncaster, Daniel P., B. B. Bauer, and A. A. Goldberg, to Minnesota Mining & Mfg. Co. Magnetic tape magazine. 3,090,574, 5-21-63, Cl. 242—55.13.
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- Doner, Byron, to F. Maurits. Infant feeding bottle. 3,071,272, 1-1-63, Cl. 215—11.
- Doner, Ralph D., to United States of America, Army. Apparatus and method for testing solid propellant for aging. 3,092,992, 6-11-63, Cl. 73—19.
- Dongelans, Pieter, to International Training Centre for Aerial Survey. Marking device for apparatus for observing photograms. 3,083,468, 4-2-63, Cl. 33—189.
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- Donguy, Rene, to Commissariat a L'Energie Atomique. Device for the production of a discontinuous rotary movement. 3,071,015, 1-1-63, Cl. 74—88.
- Donkin, Arthur W., to Conoco-Trol, Inc. Spring. 3,091,447, 5-28-63, Cl. 267—1.
- Donle, Edwin S., to Coro, Inc., of Rhode Island. Locket having a hinged leaf with a marginal opening facing said hinge. 3,079,771, 3-5-63, Cl. 63—19.
- Donlevy, Alfred L.: *See—*  
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- Donlevy, James A., to United States of America, Air Force. Canister unit with latching means. 3,075,165, 1-22-63, Cl. 339—91.
- Donlin, John E., to Contemporary Structures, Inc. Ridge beam hanger. 3,109,208, 11-5-63, Cl. 20—94.
- Donnell, Conrad K., to Sun Oil Co. Colorimeter with linear absorbance scale. 3,076,375, 2-5-63, Cl. 88—23.
- Donnell, Howard K., to Radio Corp. of America. Method of making electrode spacing means. 3,081,526, 3-19-63, Cl. 29—155.5.
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- Donnelly, Frank M., to Belmont Blower Corp. Self-modulating air moving device. 3,086,699, 4-23-63, Cl. 230—117.
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- Donnelly, William T., to Purex Corp., Ltd. Plastic object blow molding method and apparatus. 3,114,932, 12-24-63, Cl. 18—5.
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- D'Onofrio, Anthony. Tabulating apparatus for typewriters or like machines. 3,099,343, 7-30-63, Cl. 197-127.
- D'Onofrio, Joseph V., L. Weisman, I. Steinberg, and C. G. Valavanis, to Sperry Rand Corp., Ford Instrument Co. Division. Compensator for variations of parameters in telemetry systems. 3,087,156, 4-23-63, Cl. 343-225.
- Donohue, Frank L.: *See*—
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- Donovan, Arthur F., H. T. Jacquot, and R. E. Richardson, to Pittsburgh Plate Glass Co. Glass bending method. 3,102,016, 8-27-63, Cl. 65-107.
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- Doolittle, Gerald R. Scaffolding clamp. 3,116,079, 12-31-63, Cl. 287-20.
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- Doran, Donald P. Multi-unit packet. 3,071,244, 1-1-63, Cl. 206-45.31.
- Doran, John T. Cement floor finishing machine. 3,098,329, 2-23-63, Cl. 51-177.
- Doran, Leo L., and M. H. Olson, to Oxy-Dry Sprayer Corp. Web cleaning apparatus. 3,078,496, 2-26-63, Cl. 15-346.
- Doran, Wilbur J., and N. R. Easton, to Eli Lilly and Co. Hindered amino alcohols and ketones. 3,111,542, 11-19-63, Cl. 260-584.
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- Dorendorf, Heinz, to Siemens & Halske Aktiengesellschaft. Double-base semiconductor device for producing a defined number of impulses. 3,114,050, 12-10-63, Cl. 307-88.5.
- Dorey, George B., to Enterprise Railway Equipment Co. Closure means. 3,079,032, 2-26-63, Cl. 220-38.
- Dorey, George B., to Enterprise Railway Equipment Co. Hopper car discharge outlet sliding closure actuating mechanism. 3,082,700, 3-26-63, Cl. 105-253.
- Dorey, George B., to Enterprise Railway Equipment Co. Sliding hopper closure operating assembly. 3,082,701, 3-26-63, Cl. 105-253.
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- Dorff, Arlo: *See*—
- Smith, John K., and Dorff. 3,104,023.
- Dorfmann, Oskar: *See*—
- McCormick, Frank, and Dorfmann. 3,105,626.
- Dorgelo, Eduard G., to North American Philips Co., Inc. Magnetron. 3,078,387, 2-19-63, Cl. 315-39.75.
- Doring, Erwin: *See*—
- Greger, Paul, and Doring. 3,087,398.
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- Dorius, Carl B., G. M. Jones, and P. L. Morse, to American Gilsonite Co. Cold-laid bituminous paving materials. 3,074,807, 1-22-63, Cl. 106-273.
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- Schrader, Gerhard, and Dörken. 3,076,009.
- Dorken & Mankel K.G.: *See*—
- Bomm, Heinz. 3,108,315.
- Bomm, Heinz, and Berghaus. 3,098,259.
- Dorkins, Evan E., and P. D. Gernhardt, to Young Spring & Wire Corp. Road working machine. 3,088,385, 5-7-63, Cl. 94-49.
- Dorman, Isidore, to Ideal Toy Corp. Swimming pool alarm. 3,092,822, 6-4-63, Cl. 340-261.
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- Dorman, William H., and D. D. Sullivan, to Corning Glass Works. Luminaire. 3,113,730, 12-10-63, Cl. 240-106.
- Dormandy, William L.: *See*—
- Bahn, John J., and Dormandy. 3,112,415.
- Dornak, Henry J. Boat hull. 3,077,172, 2-12-63, Cl. 114-62.
- Dornbierer, Fritz. Mixing-faucet assembly. 3,110,038, 11-12-63, Cl. 4-145.
- Dornbos, Peter B. Plasterer's finishing tool. 3,095,594, 7-2-63, Cl. 15-235.4.
- Dornbusch, Aaron P., to Minneapolis-Honeywell Regulator Co. Asynchronous to synchronous converter for use in data processing apparatus. 3,103,649, 9-10-63, Cl. 340-174.
- Dornbush, Herbert W.: *See*—
- Horelick, Arnold L., Dornbush, and Zimsky. 3,097,346.
- Dornhoefer, Edna M.: *See*—
- Dornhoefer, Warren J. 3,074,032.
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- Dornier, Silvius. 3,075,725.
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- Laufer, Theodor. 3,111,993.
- Dorofachuk, Gus J., to Container Corp. of America. Paper-board carrier for frangible articles. 3,090,539, 5-21-63, Cl. 229-40.
- Dorosz, Adolph S.: *See*—
- Clark, Alfred S., Dorosz, Gilbride, and Walsh. 3,086,230.
- Dorr-Oliver Inc.: *See*—
- Crosby, Hartzell L., and Coe. 3,073,737.
- Dietrich, Karl A. 3,098,577.
- Dobell, Curzon. 3,074,584.
- Glasson, John G. 3,073,516.
- Halbach, Ralph H. 3,080,109.
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- Helbig, Fritz, and Jukkola. 3,089,251.
- Jacobson, Kenneth E. 3,080,108.
- Strong, Michael D. 3,074,842.
- Van Note, Robert H. 3,089,789.
- Dorr Sales & Engineering Co., Inc.: *See*—
- Taylor, Harvey C. 3,103,169.
- Dorr Woolen Co.: *See*—
- Mortensen, Rudolf W. 3,108,428.
- Dorrance, John G.: *See*—
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- Dörre, Heinrich: *See*—
- Günther, Alfred, Dörre, and Thieme. 3,080,635.



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- Dorow, Henry E., to R. L. Crain Ltd. Continuous form marginal connections. 3,112,125, 11-26-63, Cl. 282-11.5.
- Dorsak, John W., and T. F. Van Denberg, to Air Reduction Co., Inc. Filter for incubator. 3,084,492, 4-9-63, Cl. 55-265.
- Dorse, Thomas J.: *See*—  
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- Dorset-Rex, Inc.: *See*—  
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- Ramsbotham, Robert W. 3,080,989.
- Dorsett, Charles M.: *See*—  
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- Dorsett, Clarence T. Magnetic blocks. 3,095,668, 7-2-63, Cl. 46-25.
- Dorsey, Clarence A. Carriage chair. 3,083,053, 3-26-63, Cl. 297-153.
- Dorsey, Dennis B. Safety closure. 3,097,756, 7-16-63, Cl. 215-9.
- Dorsey, Mercer M. Head and mantle assemblies for crushers. 3,097,803, 7-16-63, Cl. 241-293.
- Dorsey, William J., to International Latex Corp. Deposited latex undergarments. 3,098,486, 7-23-63, Cl. 128-521.
- Dorst, Richard W., to Textron, Inc. Jet drive mounting mechanism for power boat. 3,109,407, 11-5-63, Cl. 115-14.
- Dorst, W.: *See*—  
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- Dortort, Isadore K., to I-T-E Circuit Breaker Co. Semiconductor rectifier bridge construction. 3,081,424, 3-12-63, Cl. 321-8.
- Dortort, Isadore K., to I-T-E Circuit Breaker Co. Shockless automatic to manual changeover system for regulators. 3,086,165, 4-16-63, Cl. 323-66.
- Dortort, Isadore K., to I-T-E Circuit Breaker Co. Bias for current transformer. 3,089,999, 5-14-63, Cl. 323-56.
- Dory, Jacques, to Realisations Ultrasoniques. Centrifugal acceleration siren device. 3,089,458, 5-14-63, Cl. 116-147.
- Dory, Jacques, and J.-J. Renaut, to Realisations Ultrasoniques. Improvements in the mounting of electromagnetic transducer elements. 3,102,210, 8-27-63, Cl. 310-26.
- Dory Lamp Co., Inc.: *See*—  
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- Dosamatic Dropper Corp.: *See*—  
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- Doschek, Antony Z., to Allied Instructional Developments, Inc. Loudspeaker resonator. 3,101,810, 8-27-63, Cl. 181-31.
- Dosenbach, Wilma A.: *See*—  
Bischof, Julius L., and Dosenbach. 3,085,334.
- Dosie, Erwin F., ½ to L. P. Dosie. Filter for the exhaust gases of internal combustion engines and the like. 3,083,524, 4-2-63, Cl. 60-29.
- Dosie, Lillian P.: *See*—  
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- Dosker, Cornelius D., to Conch International Methane Ltd. Insulated space and elements employed therein. 3,079,026, 2-26-63, Cl. 220-9.
- Dosker, Cornelius D., to Conch International Methane Ltd. Insulated floor construction and elements. 3,082,726, 3-26-63, Cl. 114-74.
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- Dosker, Cornelius D., to Gamble Brothers, Inc. Wooden bowling pins of spherical belly type and prefabricated segments therefor. 3,099,449, 7-30-63, Cl. 273-82.
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- Dosmar, Kurt J. Cabinet with shiftable shelves. 3,101,982, 8-27-63, Cl. 312-223.
- Doss, Joseph H. Metallurgical composition. 3,087,812, 4-30-63, Cl. 75-171.
- Doss, Joseph H., and G. A. Graham, to Boeing Airplane Co. Full body restraint system. 3,099,261, 7-30-63, Cl. 128-1.
- Dossier, Michel. One-way clutches and in particular free wheels. 3,092,227, 6-4-63, Cl. 192-41.
- Dostal, Joseph B. Combination car seat and stroller. 3,116,069, 12-31-63, Cl. 280-30.
- Dotson, Lionel E., to E. I. du Pont de Nemours and Co. Filtration of viscose. 3,073,815, 1-15-63, Cl. 260-217.
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- Dotter, Paul, to Fichtel & Sachs A.G. Anti-friction bearing. 3,113,812, 12-10-63, Cl. 308-187.1.
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- Dotts, Walter M., Jr., and W. E. Stevens, to Development, Ltd. Method for high pressure selective absorption of gases. 3,097,917, 7-16-63, Cl. 23-2.
- Doty, George I.: *See*—  
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- Logan, Hugh H., Doty, and Nelson. 3,093,002.
- Doty, George I., J. F. Nelson, and R. M. Ege, to Logan Mfg. Co. Multi-station plumbing fixture and outlet manifold therefor. 3,078,476, 2-26-63, Cl. 4-192.
- Doty, Joseph C., and R. J. Buchwalder, to Harris-Intertype Corp. Safety control for a cutting machine clamping device. 3,081,079, 3-12-63, Cl. 269-23.
- Doubek, Edward R., Jr., to Western Electric Co., Inc. Decelerating circuit. 3,100,554, 8-13-63, Cl. 188-161.
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- Double, Plummer E., and J. H. Steward, to Multifastener Corp. Method of applying stress relieved fasteners. 3,091,843, 6-4-63, Cl. 29-432.
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- Dougherty Brothers, Inc.: *See*—  
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- Dougherty, Frank E. 3,087,656.
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- Dougherty, Frank H. Collapsible load carrying device. 3,085,815, 4-16-63, Cl. 280-47.33.
- Dougherty, Patrick F.: *See*—  
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- Dougherty, Patrick F., to Sun Oil Co. Storage of normally gaseous material in underground caverns. 3,083,537, 4-2-63, Cl. 61-5.
- Dougherty, Patrick F., to Sun Oil Co. Underground storage of liquids. 3,084,513, 4-9-63, Cl. 61-5.
- Dougherty, Walter J., Jr., to Hughes Tool Co. Ball director for rock bits. 3,087,558, 4-30-63, Cl. 175-65.
- Doughty, Joseph B.: *See*—  
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- Doughty, Joseph B., to West Virginia Pulp and Paper Co. Reaction of lignin and product. 3,081,293, 3-12-63, Cl. 260-124.
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- Ball, Kenneth H. 3,075,068.
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- Clark, Winslow B. M. 3,103,657.
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- Douglas, Bradley C., to Micro Controls, Inc. Liquid dispenser. 3,085,715, 4-16-63, Cl. 222-70.
- Douglas, Bradley C., to Micro Controls, Inc. Thermostatic gas valve. 3,091,395, 5-28-63, Cl. 236-99.
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- Douglas, David D. Building panels for and coupling joints therebetween in prefabricated buildings. 3,082,489, 3-26-63, Cl. 20-8.
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- Douglas, Peyton W., to Blackstone Corp. Clothes washing machine having a gyratory suspension system. 3,083,558, 4-2-63, Cl. 68-23.
- Douglas, Peyton W., to Blackstone Corp. Combined lint filter and dispenser for washing substances in automatic washing machines. 3,085,418, 4-16-63, Cl. 68-17.
- Douglas, Robert I., to Permali Ltd. Insulating fish plates. 3,071,325, 1-1-63, Cl. 238-159.
- Douglas, Samuel A., to General Precision, Inc. Link Division. Electrical potentiometer. 3,072,871, 1-8-63, Cl. 338-171.



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- Douglas, Stuart D., deceased, by The National Bank of Commerce of Charleston, executor, to Union Carbide Corp. Reactive polyvinyl chloride resin reactive acrylate ester plasticizer compositions. 3,074,905, 1-22-63, Cl. 260—45.5.
- Douglas, William S., to Ericsson Telephones Ltd. Electrical pulse-counting devices. 3,108,226, 10-22-63, Cl. 328—42.
- Douls, Michel, J. Godart, J. Jouin, H. Laurent, and M. Sougi, to Commissariat a l'Energie Atomique. Devices for opening and handling from a distance a container, and in particular an irradiated tube. 3,085,327, 4-16-63, Cl. 30—11.
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- Doukas, George, to E. I. du Pont de Nemours and Co. Process for making acetylene. 3,073,769, 1-15-63, Cl. 204—171.
- Douma, Tjiski, to Radio Corp. of America. Inductive circuits. 3,076,106, 1-29-63, Cl. 307—106.
- Doundoulakis, Helias, to C. A. Michalos. Electrical resistor. 3,092,800, 6-4-63, Cl. 338—143.
- Doundoulakis, Helias, to Telelobe Pay-TV-System, Inc. Television communication system. 3,116,363, 12-31-63, Cl. 178—5.1.
- Dourdeville, Theodore A., to David Gessner Co. Seam jumping apparatus for cloth shearing machines. 3,099,871, 8-6-63, Cl. 26—17.
- Dournow, Frederic, to Brevets Aero-Mecaniques S.A. Rockets carried in clusters by a launching machine and in particular an aircraft. 3,110,218, 11-12-63, Cl. 89—1.7.
- Douros, John D., Jr., R. L. Raymond, and J. J. Melchore, to Sun Oil Co. Alkylated naphthalene fungal growth inhibitors. 3,080,278, 3-5-63, Cl. 167—32.
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- Douty, Alfred, to Amchem Products, Inc. Electrical measuring equipment. 3,075,143, 1-22-63, Cl. 324—30.
- Douty, Alfred, and D. E. Buczkowski, to Amchem Products, Inc. Chemical feed control system. 3,095,121, 6-25-63, Cl. 222—52.
- Douwes, Cornelis T., P. A. van Weeren, and H. de Ruiter, to Shell Oil Co. Process for the catalytic desulfurization of hydrocarbon oils. 3,112,257, 11-26-63, Cl. 208—216.
- Douwes, Cornelis T., and G. J. F. Stijntjes, to Shell Oil Co. Low-temperature selective hydrogenation of dienes. 3,116,233, 12-31-63, Cl. 208—143.
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- Dove, Archie H.: See—  
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- Dove, Starr A. Shaft straightening device. 3,103,963, 9-17-63, Cl. 153—32.
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- Doven, Eugene, to The Appleton Machine Co. Machine for slitting sheet material. 3,096,039, 7-2-63, Cl. 242—56.2.
- Doven, Eugene, and P. W. Lenke, to The Appleton Machine Co. Winding and slitting machine. 3,104,072, 9-17-63, Cl. 242—66.
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Griswold, Nelson D. 3,103,890.  
Gruenhagen, Richard H. 3,071,506.  
Gurgliolo, Arthur E. 3,077,467.  
Gurgliolo, Arthur E., Bressler, and Smith. 3,084,140.  
Gurgliolo, Arthur E., and Newton. 3,094,549.  
Hahn, Harold G. 3,092,599.  
Hahn, Harold G., Visger, and Raich. 3,092,598.  
Ham, George E. 3,071,626.  
Handley, Melvin F., and Seymour. 3,082,074.  
Hanson, Alden W. 3,103,975.  
Hardy, John L. 3,105,000.  
Harrell, Bob R. 3,104,948.  
Harris, Guy H., and Fischback. 3,100,797.  
Harrison, Hugh T., and Oakes. 3,107,221.  
Hatch, Melvin J. 3,078,140.  
Hatch, Melvin J., and Dillon. 3,099,529.  
Hatch, Melvin J., and McMaster. 3,078,259.  
Havens, Carl B., and Brookens. 3,080,340.  
Hearns, Harold L. 3,091,411.  
Hebert, Norman T., Rosenbrock, and Doedens. 3,075,929.  
Heisterkamp, Herbert W., and Ladegaard. 3,090,998.  
Hemwall, John B. 3,073,064.  
Hemwall, John B. 3,075,851.  
Hemwall, John B. 3,077,740.  
Hemwall, John B. 3,082,075.  
Hemwall, John B. 3,082,076.  
Hemwall, John B. 3,082,112.  
Hemwall, John B. 3,082,113.  
Hemwall, John B. 3,084,058.  
Hemwall, John B. 3,091,522.  
Hibbard, Billy B., and Teot. 3,078,241.  
Hickner, Richard A. 3,105,080.  
Hickner, Richard A., Bakke, and Judd. 3,072,652.  
Hickner, Richard A., and Judd. 3,072,672.  
Hoelzer, Russell L., and Schmidt. 3,075,459.  
Hoerger, Fred D. 3,071,569.  
Howard, William L., and Lorette. 3,072,727.  
Howe, Joseph H., and Morris. 3,078,294.  
Howe, Joseph H., and Morris. 3,082,081.  
Hradel, Joseph R., and Bjork. 3,094,069.  
Hradel, Joseph R., and Bjork. 3,094,443.  
Hradel, Joseph R. and M. F. 3,092,025.  
Humiston, Charles G. 3,084,093.  
Hurley, Rupert B., and Colodny. 3,099,517.  
Jahn, Alex K. 3,086,885.  
Johnson, Francis. 3,076,809.  
Johnson, Francis. 3,077,475.  
Johnson, Francis. 3,087,929.  
Johnson, Francis. 3,096,337.



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Johnson, Robert L. 3,075,938.  
 Josephs, Melvin J. 3,072,472.  
 Josephs, Melvin J. 3,077,394.  
 Josephs, Melvin J. 3,084,036.  
 Juckniess, Paul R., Cobel, and Chisholm. 3,075,263.  
 Kaeding, Warren W. 3,113,965.  
 Karpovich, John. 3,072,584.  
 Karpovich, John. 3,090,113.  
 Karpovich, John, and Dufresne. 3,106,983.  
 Kauer, Kenneth C. 3,095,438.  
 Kenaga, Duane L. 3,077,417.  
 Kenaga, Duane L. 3,077,418.  
 Kenaga, Duane L. 3,077,419.  
 Kenaga, Duane L. 3,077,420.  
 Kenaga, Eugene E. 3,090,720.  
 Kent, Ray W., Jr., and Bolton. 3,097,186.  
 Keskkula, Henno. 3,072,598.  
 Kinter, Mark R., and Pfeifer. 3,076,006.  
 Koepfingler, Ronald D. 3,108,369.  
 Kroon, James L., and Blue. 3,072,544.  
 Kucera, Clare H., and Barron. 3,104,704.  
 Kummer, Joseph T. 3,102,003.  
 Lang, John L., Jones, and Roche. 3,080,348.  
 Larsen, Eric R. 3,104,202.  
 Larsen, Eric R., and Broadworth. 3,095,354.  
 Larsen, Eric R., Ilgenfritz, and Ruh. 3,080,405.  
 Leasure, John K. 3,074,790.  
 Leavitt, Frederick C., and Johnson. 3,116,307.  
 Le Blanc, Robert B. 3,080,410.  
 Lee, Lieng-Huang, and Keskkula. 3,080,342.  
 Lee, Lieng-Huang, and Keskkula. 3,085,992.  
 Le Fevre, Walter J., and Sheetz. 3,108,979.  
 Legler, Bobby. 3,112,524.  
 Lesinski, Chester A., and Sullivan. 3,085,853.  
 Levine, Leonard. 3,077,495.  
 Levy, Donald J. 3,100,169.  
 Levy, Donald J. 3,100,170.  
 Long, Ray S. 3,079,437.  
 Long, Ray S. 3,079,438.  
 Long, Ray S., and Ellis. 3,072,461.  
 Longstreth, Murray O., McMaster, and Nagle. 3,108,016.  
 Lorette, Nicholas B., and Howard. 3,114,772.  
 Loucks, Charles M., and Brown. 3,084,076.  
 Lowes, Fred J., Jr. 3,075,933.  
 Martin, Allan D. 3,112,526.  
 Martin, Irvin J., Stowe, and Meverden. 3,096,653.  
 Martin, Robert C. 3,100,526.  
 Mattano, Leonard A., and Grabiell. 3,088,971.  
 Mattano, Leonard A., and Grabiell. 3,088,972.  
 McCoy, Charles E., Jr. 3,113,849.  
 McIntosh, Donald L. 3,075,740.  
 Means, James O., and Woodward. 3,086,938.  
 Mick, William F. 3,071,162.  
 Miller, James K., and Lomonte. 3,084,190.  
 Mock, Richard A., and Vanderkooi. 3,091,512.  
 Moeller, Delmer H. 3,109,876.  
 Monroe, Roger F., Kucera, and Goodwin. 3,108,069.  
 Monroe, Roger F., Kucera, Oakes, and Johnston. 3,077,454.  
 Monroe, Roger F., Lowes, Foster, and Oakes. 3,079,345.  
 Moore, Carl, and Tousignant. 3,108,992.  
 Moore, John. 3,113,827.  
 Moore, William G. 3,107,403.  
 Mounts, Lewis S. 3,114,488.  
 Moyle, Clarence L., and Chern. 3,075,991.  
 Moyle, Clarence L., and Johnson. 3,081,221.  
 Mullen, Eugene D. 3,103,973.  
 Murdock, Stanley A. 3,075,947.  
 Murdock, Stanley A. 3,094,505.  
 Murdock, Stanley A., Davis, and Ehlers. 3,072,599.  
 Murdock, Stanley A., Davis, and Ehlers. 3,072,600.  
 Murdock, Stanley A., Davis, and Ehlers. 3,082,186.  
 Murdock, Stanley A., Davis, and Ehlers. 3,083,176.  
 Murdock, Stanley A., Davis, and Ehlers. 3,083,179.  
 Murdock, Stanley A., Davis, and Ehlers. 3,084,138.  
 Murdock, Stanley A., and Spence. 3,091,507.  
 Murdock, Stanley A., and Traylor. 3,086,959.  
 Murdock, Stanley A., and Traylor. 3,094,504.  
 Myers, John C., and Cates. 3,072,558.  
 Nault, Joyce D., and Youngson. 3,092,544.  
 Neely, Wesley B. 3,113,078.  
 Newmaker, Frederick C., Jr. 3,096,602.  
 Norton, Frederick H. 3,076,834.  
 Oakes Billy D. 3,077,453.  
 Oakes Billy D. 3,077,501.  
 Oja, Phyllis D. 3,083,229.  
 Olah, George A., and Kuhn. 3,096,371.  
 Olah, George A., and Kuhn. 3,103,782.  
 Oldershaw, Charles F. 3,074,775.  
 Oldershaw, Charles F. 3,100,306.  
 Oliver, Kenneth R., Jr., and McKimmy. 3,107,523.  
 Olstowski, Franciszek, and Dean. 3,114,684.  
 Olstowski, Franciszek, and Watson. 3,089,910.  
 Pangrac, George D. 3,113,715.  
 Pankratz, Paul M., Houvener, and Matthias. 3,112,527.  
 Parks, Christ F., Strassner, and Burtch. 3,096,777.  
 Pashak, John F. 3,080,443.  
 Pawloski, Chester E. 3,082,254.

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Peters, Adolph T., and La Valley. 3,108,340.  
 Phillips, Robert A., and Lee. 3,071,514.  
 Price, Robert W. 3,079,670.  
 Pumpelly, Charles T. 3,079,418.  
 Pursglove, Laurence A. 3,079,426.  
 Pye, David J. 3,072,536.  
 Pye, David J. 3,087,890.  
 Rand, Burton. 3,096,774.  
 Rausch, Douglas A. 3,072,590.  
 Rausch, Douglas A., and Hahn. 3,072,589.  
 Reifschneider, Walter. 3,098,103.  
 Reifschneider, Walter. 3,098,104.  
 Reifschneider, Walter. 3,098,105.  
 Reifschneider, Walter. 3,100,801.  
 Reifschneider, Walter. 3,100,802.  
 Reifschneider, Walter. 3,102,916.  
 Reifschneider, Walter. 3,102,917.  
 Reifschneider, Walter. 3,114,777.  
 Rigtcrink, Raymond H. 3,100,206.  
 Rittenhouse, William E., Briggs, and Price. 3,096,300.  
 Roberts, Carleton W., and Haigh. 3,105,087.  
 Rogers, William A., Jr., Latta, Knodel, Gurgiolo. 3,072,605.  
 Romesberg, Floyd E., and Karlinski. 3,108,984.  
 Routson, Willis G., and Spence. 3,097,054.  
 Routson, Willis G., and Spence. 3,097,055.  
 Rubens, Louis C. 3,086,247.  
 Ruh, Robert P., Davis, and Allswede. 3,092,458.  
 Scholten, Herman G., and Prielipp. 3,085,859.  
 Schramm, James N., and Wolf. 3,105,060.  
 Schrenk, Walter J., and Cleereman. 3,115,674.  
 Scoles, George W. 3,074,791.  
 Senkbeil, Herman O. 3,071,610.  
 Senkbeil, Herman O. 3,072,702.  
 Senkbeil, Herman O. 3,087,957.  
 Senkbeil, Herman O. 3,088,966.  
 Senkbeil, Herman O. 3,099,675.  
 Sexton, Arthur R. 3,096,362.  
 Shulgin, Alexander T. 3,084,098.  
 Small, Hamish. 3,102,782.  
 Smith, Cornelius P., and Ingraham. 3,086,899.  
 Smith, John C. 3,094,538.  
 Smith, John C., Bradshaw, Raff, and Bressler. 3,095,429.  
 Smith, John C., and Bressler. 3,088,980.  
 Soderquist, Frederick J., Amos, and Boyce. 3,093,694.  
 Soderquist, Frederick J., Boyce, and Amos. 3,091,652.  
 Soderquist, Frederick J., Frevel, and Boyce. 3,084,125.  
 Soderquist, Frederick J., Stickelmeyer, and Amos. 3,091,651.  
 Staadt, Harold E. 3,091,559.  
 Stanton, George W., and Traylor. 3,090,766.  
 Steinhauer, Alfred F., and Valenta. 3,110,683.  
 Sterling, George B., Watson, and Pawloski. 3,116,298.  
 Sterling, George B., Watson, and Pawloski. 3,116,299.  
 Sterling, George B., and Zimmerman. 3,092,605.  
 Strojny, Edwin J., and Keeler. 3,094,558.  
 Strycker, Stanley J. 3,072,675.  
 Strycker, Stanley J. 3,108,129.  
 Teitel, Robert J. 3,099,555.  
 Teot, Arthur S. 3,084,070.  
 Tolkmith, Henry. 3,074,993.  
 Tolkmith, Henry. 3,087,931.  
 Tomita, Mary S. 3,084,202.  
 Townsend, Harold J., and Grenley. 3,097,178.  
 Trapp, Walter B., and Doedens. 3,100,796.  
 Underhill, Richard R. 3,093,934.  
 Van Dijk, Christiaan P., and Murdock. 3,106,482.  
 Vitkuske, John F., and Rutledge. 3,072,588.  
 Wahl, Winton W. 3,116,264.  
 Wahl, Winton W., and Dever. 3,094,501.  
 Wahl, Winton W., Dever, and Ryan. 3,086,588.  
 Walborsky, Harry M., Galloway, and Wysonz. 3,105,082.  
 Waldron, George W., and Periard. 3,080,215.  
 Waldron, William D., McIntosh, and Schroeder. 3,093,864.  
 Waller, Wilhelm E. 3,079,396.  
 Waller, Wilhelm E. 3,080,344.  
 Waller, Wilhelm E., Davies, and Gold. 3,086,865.  
 Waller, Wilhelm E., and Tousignant. 3,087,804.  
 Waller, Wilhelm E., Tousignant, and Axelson. 3,097,048.  
 Waller, Wilhelm E., Tousignant, and Cloninger. 3,097,046.  
 Watson, Edward J., Jr. 3,072,666.  
 Wehr, Henry W., and Guziak. 3,091,998.  
 White, Halbert C. 3,094,537.  
 Widiger, Alexander H., Jr. 3,087,969.  
 Wirth, Allan R., Murdock, and Berry. 3,111,357.  
 Young, David M. 3,080,412.  
 Young, David M., and Meyers. 3,074,812.  
 Zupic, Carl P. 3,075,946.  
 Zvanut, Carl M. 3,113,053.  
 Zweigle, Maurice L. 3,113,144.  
 Zweigle, Maurice L., and Tolkmith. 3,099,668.

Dow Corning Corp.: See—

Ault, Lawrence H., and Salisbury. 3,076,726.  
 Brown, Paul L., and Hyde. 3,101,361.  
 Bruner, Leonard B. 3,077,465.  
 Bruner, Leonard B. 3,105,061.  
 Burdick, Duane F., and Polmanteer. 3,094,446.  
 Delfin, Juan. 3,097,970.



- Dow Corning Corp.: *See*—Continued  
 Dexter, John F., and Clark. 3,079,281.  
 Haluska, Loren A. 3,109,013.  
 Hedlund, Robert C., and Kin. 3,093,494.  
 Hyde, James F. 3,094,497.  
 Plueddemann, Edwin P. 3,079,361.  
 Polmanteer, Keith E., and Metevia. 3,086,954.  
 Ryan, John W. 3,088,964.  
 Ryan, John W. 3,105,086.  
 Schiefer, Harry M. 3,090,754.  
 Sommer, Leo H. 3,111,534.  
 Toporcer, Louis H. 3,105,085.  
 Warrick, Earl L. 3,090,738.  
 Weyer, Donald E. 3,079,349.  
 Weyer, Donald E. 3,090,691.  
 Weyer, Donald E. 3,108,985.
- Dow, Harrison E., to Philco Corp. Improved dual channel amplifier system. 3,094,587, 6-18-63, Cl. 179-1.  
 Dow Jones & Co., Inc.: *See*—  
 Ackell, Joseph J., Paulding, and Yu. 3,074,537.  
 Dow, Joseph W.: *See*—  
 Jackson, Martin A., and Dow. 3,087,584.  
 Dow, Ray A. Refuse disposal and general truck bed. 3,083,851, 4-2-63, Cl. 214-503.  
 Dow Unquinesa, S.A.: *See*—  
 Solomka, Monroe M. 3,071,439.
- Dow, Willard M., to National Tank Co. Processes for recovering hydrocarbons from gas streams. 3,109,722, 11-5-63, Cl. 55-21.  
 Dow, William B., to ACF Industries, Inc. Method of manufacturing valve seat. 3,087,232, 4-30-63, Cl. 29-157.1.  
 Dowat, Frank F. Apparatus for charging a sweat furnace. 3,081,889, 3-19-63, Cl. 214-29.  
 Dowbenko, Rostyslaw, to Pittsburgh Plate Glass Co. Novel chemical compound. 3,079,394, 2-26-63, Cl. 260-286.  
 Dowbenko, Rostyslaw, and R. M. Christenson, to Pittsburgh Plate Glass Co. Preparation of N-alkoxymethyl substituted amides. 3,087,965, 4-30-63, Cl. 260-561.  
 Dowd, Edward J., to Esso Research and Engineering Co. Process for purification of hydrogen. 3,102,012, 8-27-63, Cl. 55-23.  
 Dowdall, Lawrence W., to Change-ares Ltd. Adjustable shelving supports. 3,115,254, 12-24-63, Cl. 211-134.  
 Dowding, Linda C.: *See*—  
 Smutny, Edgar J., Soloway, Dowding, and Van Overbeek. 3,101,265.  
 Dowdle, Walter F., and H. Kane, to General Electric Co. Magnetic core structure. 3,110,874, 11-12-63, Cl. 336-210.  
 Dowell, A. Yates: *See*—  
 Parker, Edgar W., Jr. 3,084,794.  
 Dowell, A. Yates, Jr.: *See*—  
 Parker, Edgar W., Jr. 3,084,794.  
 Dowell, Arthur M., Jr.: *See*—  
 Easterwood, Vesta M., and Dowell. 3,108,848.  
 Dowell, Charles J., and H. L. Cooper. Chain hoist. 3,074,692, 1-22-63, Cl. 254-75.  
 Dowell, Frederick S., to Dunlop Rubber Co. Ltd. Disc brakes. 3,094,193, 6-18-63, Cl. 188-72.  
 Dowell, Horace B., Jr.: *See*—  
 Haigler, Henry E., Jr., and Dowell. 3,108,352.  
 Dowling, Arthur P., to Diamond Alkali Co. Polyester coating system. 3,089,784, 5-14-63, Cl. 117-70.  
 Dowling, Robert W., and L. Del Riccio, to D & D Co., Inc. Lens casing control mechanism for a binocular telescope. 3,076,381, 2-5-63, Cl. 88-34.  
 Dowling, Robert W., and L. Del Riccio, to D & D Co., Inc. Lens arrangement for a binocular telescope. 3,076,382, 2-5-63, Cl. 88-34.  
 Dowling, William E., and J. E. Heckethorn, to C. M. L. L. Bourcier de Carbon. Piston rod seal for shock absorbers. 3,104,916, 9-24-63, Cl. 308-35.  
 Downey, Thomas A., and J. J. McCallion, to Chas. Pfizer & Co., Inc. Method of regenerating citric acid etching solutions by ion exchange. 3,116,240, 12-31-63, Cl. 210-24.  
 Downey, William E., Jr., to Diamond Alkali Co. Process for treating carboilic oils. 3,097,404, 7-16-63, Cl. 23-63.  
 Downham, Roy E., to Ansul Chemical Co. Visual indicators. 3,105,458, 10-1-63, Cl. 116-114.  
 Downie, John A., and W. Boyd, to Colgate-Palmolive Co. Apparatus and process for pressing detergents. 3,094,758, 6-25-63, Cl. 25-7.  
 Downin, Roland W., to Valguard Co., Inc. Flush tank assembly. 3,110,036, 11-12-63, Cl. 4-41.  
 Downing, Arthur C., to General Electric Co. Dual voltage flatiron. 3,095,493, 6-25-63, Cl. 219-25.  
 Downing, Francis P., to The Sharples Corp. Fat rendering. 3,078,287, 2-19-63, Cl. 260-412.6.  
 Downing, James H., and B. J. Wilson, to Union Carbide Corp. Process for producing metals. 3,099,554, 7-30-63, Cl. 75-80.  
 Downing, James H., H. L. Gorski, and E. L. Koerner, Jr., to Union Carbide Corp. Production of rare earth metals. 3,104,970, 9-24-63, Cl. 75-84.  
 Downing, James H., N. B. Colton, and C. G. Chadwick, to Union Carbide Corp. Production of columbium and tantalum. 3,114,629, 12-17-63, Cl. 75-84.  
 Downing, John G. Knock-down display construction. 3,113,392, 12-10-63, Cl. 40-125.  
 Downing, John H. Apparatus for cleaning ducts. 3,074,098, 1-22-63, Cl. 15-314.
- Downing, John K., to Vent-Axia Ltd. Fans. 3,072,041, 1-8-63, Cl. 98-116.  
 Downing, Kenneth D., H. D. Hall, and I. E. Posten, to General Motors Corp. Abrasive tool. 3,115,401, 12-24-63, Cl. 51-293.  
 Downing, Verlan L., to Elliott Bay Lumber Co. Method of manufacture of a laminated metal and wood product. 3,110,643, 11-12-63, Cl. 156-222.  
 Downs, Cas A. Traveling scaffold. 3,114,433, 12-17-63, Cl. 182-82.  
 Downs, Charles D., and J. Martin, to Columbian Carbon Co. Magnetic material. 3,093,589, 6-11-63, Cl. 252-62.5.  
 Downs, William T.: *See*—  
 Williams, Richard J., Heyl, and Downs. 3,081,463.  
 Downs, William T., and A. H. Ryan, to Simmons Co. Remote control switch operating device. 3,080,720, 3-12-63, Cl. 60-54.5.  
 Dowrelio, Antone. Anchor tripper. 3,071,097, 1-1-63, Cl. 114-210.  
 Dowsmith Inc.: *See*—  
 Stewart, Joe W., and Bulloch. 3,111,567.  
 Dowson, Arthur G., and I. J. Buckland, to Engelhard Industries Inc. Apparatus for detecting and/or measuring the concentration of oxygen in aqueous liquids such as boiler feed water. 3,113,092, 12-3-63, Cl. 204-195.  
 Dowty Fuel Systems Ltd.: *See*—  
 Carey, Frederick H., and Arscott. 3,083,892.  
 Tyler, Stanley R. 3,078,046.  
 Tyler, Stanley R. 3,106,165.  
 Dowty Hydraulic Units Ltd.: *See*—  
 Bick, David E. 3,107,633.  
 Bowers, Eric H., and Thoma. 3,075,778.  
 Thoma, Oswald, and Bowers. 3,091,930.  
 Thoma, Oswald, and Ward. 3,106,108.  
 Dowty Mining Equipment Ltd.: *See*—  
 Barrett, Wesley H. 3,084,920.  
 Mills, Joseph A. W., and Cannon. 3,093,026.  
 Joseph, Roy D. 3,115,754.  
 Dowty Rotol Ltd.: *See*—  
 Godden, Thomas E., Danvers, and Morris. 3,080,928.  
 Knights, Richard N., Pitt, Willitt, and Wood. 3,091,416.  
 Pitt, Angus R. 3,091,418.  
 Dowty Technical Developments Ltd.: *See*—  
 Lush, Gerald W. M., and Whittall. 3,074,708.  
 Doyen, Jean, to Yardney International Corp. Activator for dry-charged electrochemical batteries and the like. 3,075,034, 1-22-63, Cl. 136-90.  
 Doyen, Jean, to Yardney International Corp. Method and apparatus for making battery electrodes. 3,082,278, 3-19-63, Cl. 136-30.  
 Doyer, Cornelis. Loading or digging device. 3,101,142, 8-20-63, Cl. 198-9.  
 Doying Ernest G., to Union Carbide Corp. Adsorbent briquets for combined odor and moisture removal. Re. 25,400, 6-18-63, Cl. 252-428.  
 Doying, Ernest G., to Union Carbide Corp. Adsorbent compositions and method of coating therewith. 3,091,550, 5-28-63, Cl. 117-76.  
 Doyle, Britton H., A. J. Eisenberg, and J. F. McDermott, Jr., to Nashua Corp. Convertible multiple-use automatic tape dispensing assembly. 3,076,586, 2-5-63, Cl. 226-101.  
 Doyle, Collin M. Rotating column contact device. 3,107,218, 10-15-63, Cl. 233-15.  
 Doyle, Dewey L., Sr., to Doyle Vacuum Cleaner Co. Floor machines. 3,100,903, 8-20-63, Cl. 15-49.  
 Doyle, Edward J., to Philco Corp. Laundry machine utilizing a wobble-type agitator. 3,102,410, 9-3-63, Cl. 68-23.  
 Doyle, Frank B. Non-freezing expansion valve. 3,103,951, 9-17-63, Cl. 137-505.29.  
 Doyle, Frank B., C. W. Lassiter, and J. Berner, to P. Lorillard Co. Production of tobacco products. 3,077,890, 2-19-63, Cl. 131-140.  
 Doyle, Frank J.: *See*—  
 Hilgao, Vernon J., and Doyle. 3,099,211.  
 Tyma, Louis S., Jr., and Doyle. 3,098,437.  
 Doyle, Frank P., J. H. C. Nayler, G. N. Rolinson, to Beecham Research Laboratories Ltd. Synthetic penicillins and salts thereof. 3,071,575, 1-1-63, Cl. 260-239.1.  
 Doyle, Frank P., and J. H. C. Nayler, to Beecham Research Laboratories Ltd. Synthetic penicillins. 3,071,576, 1-1-63, Cl. 260-239.1.  
 Doyle, Frank P., J. H. C. Nayler, and H. Smith. Process for the preparation of penicillins. 3,078,268, 2-19-63, Cl. 260-239.1.  
 Doyle, Leo A. Padding for goal posts. 3,104,875, 9-24-63, Cl. 273-55.  
 Doyle, Margaret D.: *See*—  
 Doyle, William V., and M. D. 3,073,059.  
 Doyle, William V., and M. D. 3,102,360.  
 Doyle, Orville K. Valve with positive shutoff. 3,074,684, 1-22-63, Cl. 251-35.  
 Doyle, Orville K. Check valve. 3,115,893, 12-31-63, Cl. 137-525.3.  
 Doyle, Patrick E., to Doyle Vacuum Cleaner Co. Adjustable handle for floor machines. 3,097,890, 7-16-63, Cl. 306-4.  
 Doyle, Philip C., E. O. Hook, and H. F. Hardman, to The Standard Oil Co. Asphaltic cement. 3,094,427, 6-18-63, Cl. 106-273.  
 Doyle, Richard E. Aircraft with fluent mass retaining and dispensing means. 3,072,371, 1-8-63, Cl. 244-137.



- Doyle, Richard H.: *See*—  
Wandel, Oscar A., and Doyle. 3,094,900.  
Wandel, Oscar A., and Doyle. 3,094,901.
- Doyle, Robert, to Phillips Petroleum Co. Plastic molding process and apparatus. 3,084,389, 4-9-63, Cl. 18-19.
- Doyle, Robert, to Phillips Petroleum Co. Method for obtaining improved film. 3,097,915, 7-16-63, Cl. 18-57.
- Doyle, Robert, and D. E. Perry, to Phillips Petroleum Co. Blow molding equipment. 3,112,522, 12-3-63, Cl. 18-5.
- Doyle Vacuum Cleaner Co.: *See*—  
Doyle, Dewey I., Sr. 3,100,903.  
Doyle, Patrick E. 3,097,890.
- Doyle, William T., to Sturtevant Mill Co. Method and apparatus for sizing solid particles. 3,090,487, 5-21-63, Cl. 209-139.
- Doyle, William V. and M. D. Paper doll construction. 3,073,059, 1-15-63, Cl. 46-157.
- Doyle, William V. and M. D. Paper doll structure. 3,102,360, 9-3-63, Cl. 46-157.
- Dozier, Henna W. Brassiere construction. 3,087,494, 4-30-63, Cl. 128-460.
- Dozier, Hilliard. Insulated electrical terminal construction. 3,095,470, 6-25-63, Cl. 174-153.
- Drabek, Josef, and W. Kafka, to Siemens-Schuckertwerke Aktiengesellschaft. Power-valve reactor, particularly for magnetically controlled power rectifiers. 3,085,188, 4-9-63, Cl. 321-8.
- Drabert, Fritz. Orthopaedic seating device. 3,092,417, 6-4-63, Cl. 297-291.
- Drabert, Fritz E., and K. E. Geffers, to Fr. Drabert Sohne. Foldable tables. 3,097,748, 7-16-63, Cl. 211-149.
- Drabert, Fr., Sohne: *See*—  
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- Drachenberg, Richard E., deceased; R. P. Drachenberg, executrix of said R. E. Drachenberg. Juice extractor having overrunning spinner. 3,100,009, 8-6-63, Cl. 146-76.
- Drachenberg, Ruth P.: *See*—  
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- Drackett Co., The: *See*—  
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Corsette, Douglas F. 3,084,873.  
Corsette, Douglas F., and Coopridge. 3,102,489.  
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- Draeger, Kenneth E.: *See*—  
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- Drafto Corp.: *See*—  
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- Dräger, Otto H.: *See*—  
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Grosskopf, Karl. 3,112,999.  
Schreiber, Peter, and Egidl. 3,107,689.  
Wächter, Karl-August. 3,100,692.
- Drago, Leo, to Ilma-Industria Lavorazioni Metalli Antiacidi S.p.A. Apparatus for the dye or like treatment of textile fibres. 3,115,025, 12-24-63, Cl. 68-198.
- Dragoco Spezialfabrik Konz. Riech- und Aromastoffe Gerberding & Co., G.m.b.H.: *See*—  
Porsch, Friedrich. 3,098,874.
- Dragt, Jan C. W., to North American Philips Co., Inc. Pickup for use with record players. 3,105,691, 10-1-63, Cl. 274-36.
- Drabheim, Willi, and K. Möhl, to Bolkow-Entwicklungen Kommanditgesellschaft. Recording medium transport mechanism. 3,077,315, 2-12-63, Cl. 242-55.12.
- Draim, John E. Space suit attitude control and thrusting device. 3,107,069, 10-15-63, Cl. 244-4.
- Draim, John E., and C. E. Stalzer. Transportation of a floatable rocket vehicle. 3,074,321, 1-22-63, Cl. 89-1.7.
- Draim, John E., and C. E. Stalzer. Water launch of floating rocket vehicles. 3,077,143, 2-12-63, Cl. 89-1.7.
- Draim, John E., C. E. Stalzer, and J. N. Keihner, to United States of America, Navy. Descending-ascending water-launched rocket vehicle. 3,093,033, 6-11-63, Cl. 89-1.7.
- Drake, Bernard: *See*—  
Stallworthy, Frank A., and Drake. 3,072,747.
- Drake, Billy B., and C. V. Smythe, to Rohm & Haas Co. Process for making pesticidal compositions. 3,087,865, 4-30-63, Cl. 195-96.
- Drake Corp.: *See*—  
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- Drake, Derrell A. Tool for forming and crimping axial lead components. 3,099,838, 8-6-63, Cl. 1-322.
- Drake, Derrell A., to Holley Carburetor Co. Tape feeding mechanism. 3,110,439, 11-12-63, Cl. 234-50.
- Drake, George L., Jr.: *See*—  
Reeves, Wilson A., Drake, and Guthrie. 3,084,017.
- Drake, Herbert E., and L. Kral, to Newspaper Enterprise Association, Inc. Apparatus for producing color separation negatives and the like. 3,100,815, 8-13-63, Cl. 178-5.2.
- Drake, Norman B. Grab hook. 3,092,412, 6-4-63, Cl. 294-66.
- Drake, Robert T., to Clevite Harris Products, Inc. Punch for assembling rubber bushings. 3,073,016, 1-15-63, Cl. 29-235.
- Drake, Robert T., to Clevite Harris Products, Inc. Resilient bearing mount. 3,107,946, 10-22-63, Cl. 308-8.
- Drake, Stephen, and L. Crook, to United States of America, Navy. Air eject system control valve. 3,089,507, 5-14-63, Cl. 137-383.
- Drake, Theodore R.: *See*—  
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- Drake, Thomas F.: *See*—  
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- Drake, William H.: *See*—  
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- Drakeford, George E., and R. D. Winstanley, to Dunlop Rubber Co. Ltd. Pneumatic tyres. 3,072,171, 1-8-63, Cl. 152-362.
- Drakenfeld, B. F., & Co., Inc.: *See*—  
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- Dralle, Wilhelm: *See*—  
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- Drapeau, John B., Jr. Positive displacement internal combustion engine. 3,103,919, 9-17-63, Cl. 123-16.
- Draper Brothers Co.: *See*—  
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- Draper, Charles H., and R. C. Sutter, to Diamond Alkali Co. Cooling process for HCl-containing gas. 3,079,231, 2-26-63, Cl. 23-154.
- Draper, Charles S., W. Wrigley, R. B. Woodbury, and J. F. Hutzenlaub, to Massachusetts Institute of Technology. Guidance system. 3,104,545, 9-24-63, Cl. 73-178.
- Draper Corp.: *See*—  
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Belforti, George F. 3,085,598.  
Blake, Donald L. 3,094,297.  
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Remington, Elliott L. 3,081,796.  
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- Draper, John H., Jr., to Draper Brothers Co. Unwoven paper-maker's felt. 3,097,413, 7-16-63, Cl. 28-79.
- Draper, Montrose L. Grease blotting device. 3,088,151, 5-7-63, Cl. 15-210.
- Draucker, Claude D.: *See*—  
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- Draut, Charles F.: *See*—  
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- Dravnieks, Andrew, and A. J. Freedman, to Standard Oil Co. Conductometric corrosion measurement system. 3,094,865, 6-25-63, Cl. 73-86.
- Dravo Corp.: *See*—  
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- Drayer, William L., and S. A. Makela, to General Motors Corp. Vibratory apparatus for atomizing liquids. 3,108,749, 10-29-63, Cl. 239-102.
- Drayton, John W. Apparatus for handling mandrels used in the fabrication of tubular stock. 3,090,575, 5-21-63, Cl. 242-66.
- Dreamland Electrical Appliances Ltd.: *See*—  
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- Drechsel, Armin: *See*—  
Van Winsen, Friedrich H., and Drechsel. 3,102,573.
- Drechsel, Armin, to Daimler-Benz Aktiengesellschaft. Tire pressure control device. 3,101,111, 8-20-63, Cl. 152-416.
- Drees, Jan M., to Bell Aerospace. Method of second harmonic control. 3,102,597, 9-3-63, Cl. 170-160.25.
- Drees, Lothar. Multiple-writing set. 3,084,955, 4-9-63, Cl. 282-11.5.
- Dreher, Emil, F. Raack, and K. Bolz, to Byk-Gulden Lomberg Chemische Fabrik G.m.b.H. Process of retarding sedimentation of pigments in film-forming coating materials and compositions. 3,075,849, 1-29-63, Cl. 106-177.
- Dreher, John L., and J. E. Goodrich, to California Research Corp. Pyromellitimides. 3,093,656, 6-11-63, Cl. 260-326.
- Dreibelbis, Richard C., to Carrier Corp. Thermostatic control mechanism. 3,100,078, 8-6-63, Cl. 236-47.
- Dreier, Melvin E. Testing device for tractor pulling power. 3,110,176, 11-12-63, Cl. 73-141.
- Dreier, Raymond C. Machine tool. 3,094,816, 6-25-63, Cl. 51-92.
- Dreier, Sidney, and S. Lubash. Floor construction and method of providing same. 3,093,932, 6-18-63, Cl. 50-83.
- Dreissen, Hubert H., to Stamicarbon N.V. Manufacturing starch and by-products from potatoes, cassava roots and the like. 3,079,283, 2-26-63, Cl. 127-67.
- Drelich, Arthur H., to Johnson & Johnson. Fibrous structures and methods of making the same. 3,087,833, 4-30-63, Cl. 117-38.
- Drelich, Arthur H., to Johnson & Johnson. Nonwoven fabrics and methods of manufacturing the same. 3,093,502, 6-11-63, Cl. 117-38.
- Drell, Leonard B., to De Mert & Dougherty. Pressure dispenser. 3,085,752, 4-16-63, Cl. 239-308.
- Drengler, George R.: *See*—  
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- Drengler, George R., M. B. Clark, R. E. Stark, and T. R. Beatty, to Union Carbide Corp. High rate primary batteries. 3,087,003, 4-23-63, Cl. 136-10.
- Drennan, Emil J. Cleaner for swimming pool floors. 3,074,087, 1-22-63, Cl. 15-1.7.
- Drennan, Stewart W.: *See*—  
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- Drennen, Thomas J., and L. E. Kelley, to Rohm & Haas Co. Prevention of deposition of pitch in papermaking. 3,081,219, 3-12-63, Cl. 162-72.
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- Stewart, Warren A., and Drenning. 3,104,997.
- Drenth, John B. Jig for making custom chairs. 3,112,137, 11-26-63, Cl. 297-284.
- Dreon, Luigi, to Eitel-McCullough, Inc. Socket. 3,089,116, 5-7-63, Cl. 339-182.
- Drescher, Philipp. Continuous band of form sets. 3,081,110, 3-12-63, Cl. 282-11.5.
- Dresden, Anton. Valve having elastomer sleeve. 3,102,710, 9-3-63, Cl. 251-9.
- Dresen, Esbern. Plaval motor powered toothbrush. 3,104,347, 9-17-63, Cl. 318-5.
- Dressen, De Wayne J. Three point hitch. 3,088,752, 5-7-63, Cl. 280-508.
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- Davis, Roy C. 3,089,431.
- Dyer, Norman D., and Franks. 3,101,928.
- Engle, Allen W. 3,102,604.
- Engle, Allen W., Casey, and Brokaw. 3,112,466.
- Fabian, Francis G., and Ouderkirk. 3,072,138.
- Fry, Dale L. 3,091,293.
- Hammer, Otto. 3,091,300.
- Hennig, Fritz O. 3,072,380.
- Hoke, Howard L. 3,101,743.
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- Marx, Paul F. 3,078,332.
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- Porter, Forrest V. 3,080,005.
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- Risley, Roger E., and Newell. 3,106,069.
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- Schopper, Jurgen R. 3,105,191.
- Smith, Harold W., Dueterhoeft, Bostick, and Garner. 3,096,477.
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- Dresser Operations, Inc.: *See*—  
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- Dresser, Richard. Pneumatic safety tire construction. 3,100,518, 8-13-63, Cl. 152-347.
- Dresser, Thorpe: *See*—  
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- Dresser, Thorpe, to Sinclair Research, Inc. Process for duren recovery by crystallization. 3,113,982, 12-10-63, Cl. 260-674.
- Dresser, Walter K. Paper towel dispenser cabinet. 3,087,662, 4-30-63, Cl. 225-43.
- Dretzke, Carl F., to Sperry Rand Corp. Devices for unloading materials from silos and similar structures. 3,079,016, 2-26-63, Cl. 214-17.
- Dreve, Wolfgang. Extrusion method and device. 3,114,935, 12-24-63, Cl. 18-30.
- Drew Chemical Corp.: *See*—  
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- McGinn, Earl P. 3,107,519.
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- Drews, Harald J., and E. K. Fields, to Standard Oil Co. Synthesis of diarylalkanes. 3,071,631, 1-1-63, Cl. 260-668.
- Drews, John W. Charcoal grill. 3,087,416, 4-30-63, Cl. 99-345.
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- Drexinger, Robert M., and S. Kuba, to Western Electric Co., Inc. Apparatus for treating articles. 3,098,494, 7-23-63, Cl. 134-70.
- Dreyer, H., Amazonen-Werke: *See*—  
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- Dreyer, Heinz, to H. Dreyer Amazonen-Werke. Centrifugal spreader. 3,109,657, 11-5-63, Cl. 275-8.
- Dreyer, Ulrich, and W. Kirst, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning. Complex metal compounds of water-insoluble mono azo 3-indazole dyestuffs. 3,096,319, 7-2-63, Cl. 260-147.
- Dreyfus, Philip S., deceased, and L. G. Fernstrom (The First National Bank of Chicago, executor of P. S. Dreyfus). Dry concentrator. 3,080,056, 3-5-63, Cl. 209-466.
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- Driesch, Theodore W., to General Electric Co. Drum brake mechanism. 3,106,265, 10-8-63, Cl. 188-75.
- Drieschman, Donald F., and T. M. Lott, to Eitel-McCullough, Inc. Klystron apparatus. 3,076,116, 1-29-63, Cl. 315-5.35.
- Driesel, Gustav: *See*—  
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- Drimus, Iosif, G. C. Matasa, and M. Klang, to Ministerul Industriei Petrolului Si Chimie. Process for the nitration of organic compound in gas phase. 3,115,527, 12-24-63, Cl. 260-644.
- Dripps, William F.: *See*—  
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- Driscoll, William J.: *See*—  
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- Dritz, Arthur. Belt with corrugated fastening means. 3,112,496, 12-3-63, Cl. 2-322.
- Drnee, Harry F., J. T. Bell, and T. D. Jaeger, to Container Corp. of America. Box cover forming machine. 3,115,813, 12-31-63, Cl. 93-36.
- Drnee, Harry F., J. T. Bell, and T. D. Jaeger, to Container Corp. of America. Paperboard container. 3,116,006, 12-31-63, Cl. 229-45.
- Droblil, Francis W.: *See*—  
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- Droblilits, Martin E.: *See*—  
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- Drobne, John R.: *See*—  
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- Drobnick, James L.: *See*—  
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- Drobnick, James L., and C. J. Lewis, to General Mills, Inc. Control of molybdenum during liquid-liquid extraction of uranium using amine extractants. 3,083,076, 3-26-63, Cl. 23-14.5.
- Drodofsky, Martin, to C. Zeiss. Orientation compass. 3,088,217, 5-7-63, Cl. 33-222.
- Droege, Frederick J.: *See*—  
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- Droegkamp, Robert E., E. R. Slaughter, and A. B. Thomas, to Westinghouse Electric Corp. Zirconium-base brazing alloys. 3,104,972, 9-24-63, Cl. 75-177.
- Droeschler, Le Roy A., to C. H. Wheeler Mfg. Co. Deaerating system for condensers. 3,094,165, 6-18-63, Cl. 165-39.
- Droeske, Gordon W. Tractor-trailer wheel steering assembly. 3,092,398, 6-4-63, Cl. 250-426.
- Dromboski, Stephen. Hydraulic chain mover. 3,095,181, 6-25-63, Cl. 254-105.
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- Dronoff, Tima. Seamless shoe. 3,081,563, 3-19-63, Cl. 36-49.
- Dronsek, Gunter: *See*—  
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- Dros, Albert A., to North American Philips Co., Inc. Refrigerator. 3,078,683, 2-26-63, Cl. 62-6.
- Dros, Albert A., to North American Philips Co., Inc. Multi-stage refrigerating arrangement. 3,091,092, 5-28-63, Cl. 62-6.
- Dros, Albert A., to North American Philips Co., Inc. Gas refrigerator. 3,101,597, 8-27-63, Cl. 62-6.
- Drost, Wilfred, R. W. Keblor, and E. E. Dutchess, to Union Carbide Corp. Method of making synthetic uniaxial bodies. 3,077,752, 2-19-63, Cl. 65-18.
- Drott Mfg. Corp.: *See*—  
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- Droz, Arthur. Diving watch. 3,111,003, 11-19-63, Cl. 58-126.
- Drubel, Richard B., and F. J. Buege, to The Dow Chemical Co. Coating compositions of epoxy novolac resins, amino resins and acid esters of diethylene glycol and dibasic carboxylic acids. 3,097,183, 7-9-63, Cl. 260-44.
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- Druey, Jean, P. Schmidt, and K. Eichenberger, to Ciba Corp. New pyrazolo-pyrimidines. 3,098,075, 7-16-63, Cl. 260-256.4.
- Druey, Jean, and H. U. Daeniker, to Ciba Corp. Thio alkane carboxylic acids and functional derivatives thereof. 3,098,078, 7-16-63, Cl. 260-327.
- Druey, Jean, and K. Schenker, to Ciba Corp. Meta-substituted phenoxethylamines. 3,105,854, 10-1-63, Cl. 260-570.7.
- Drugmand, Lester D., to Edwin L. Wiegand Co. Electric immersion heater assembly. 3,111,572, 11-19-63, Cl. 219-38.
- Drugmand, Lester D., to Edwin L. Wiegand Co. Electric heaters. 3,116,401, 12-31-63, Cl. 219-38.
- Drugmand, Lester D., to Edwin L. Wiegand Co. Electric heaters. 3,116,402, 12-31-63, Cl. 219-38.
- Drukker, Willard D.: *See—*  
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- Drutchas, Gilbert H.: *See—*  
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- Drutchas, Gilbert H., and H. M. Clark, to Thompson Ramo Wooldridge, Inc. Pressure intensifier. 3,079,864, 3-5-63, Cl. 103-57.
- Drutchas, Gilbert H., and H. M. Clark, to Thompson Ramo Wooldridge, Inc. Slipper sealing means for a dual acting pump. 3,081,706, 3-19-63, Cl. 103-4.
- Druz, Walter S., to Zenith Radio Corp. Code signal generator. 3,073,892, 1-15-63, Cl. 178-5.1.
- Druz, Walter S., to International Commodities, Inc. Recording and reproducing apparatus. 3,075,775, 1-29-63, Cl. 274-17.
- Druz, Walter S., and J. Isabeau, to Zenith Radio Corp. Remote control system. 3,078,444, 2-19-63, Cl. 340-171.
- Dry, Claud J., and D. C. Orcutt. Chassis support apparatus and system. 3,115,945, 12-31-63, Cl. 180-56.
- Dry, John F. Adjustable air diffuser and damper. 3,103,869, 9-17-63, Cl. 98-40.
- Dry Screen Process, Inc.: *See—*  
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- Dryden, Eva. Vehicle sun visor means having a main shield mounting a horizontally slidingly positionally changeable auxiliary shield. 3,095,233, 6-25-63, Cl. 296-97.
- Dryden, Hugh L., Deputy Administrator to the National Aeronautics and Space Administration, with respect to the invention of J. F. Meyer. Time-division multiplexer. 3,100,294, 8-6-63, Cl. 340-147.
- Dryer, Eldon O.: *See—*  
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- Dryer, Peter J., and D. C. Harding, to Boyne Products, Inc. Direction signaling apparatus. 3,076,067, 1-29-63, Cl. 200-61.3.
- Drysdale, John, to Cable Covers Ltd. Stay rods. 3,085,306, 4-16-63, Cl. 24-126.
- Dual, George C., and T. F. Drake, to Courtaulds, Ltd. Method of modifying cellulose with formaldehyde using Lewis acid catalyst solutions for use in such method and product thereof. 3,113,826, 12-10-63, Cl. 8-116.4.
- Dual Jet Refrigeration Co.: *See—*  
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Beckwith, Sterling. 3,094,851.
- Dual Mfg. & Engineering Inc.: *See—*  
Belisic, Adelard J., Allyn, and Re. 3,084,974.
- Duane, John J.: *See—*  
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- Duane, John J., and G. F. Tappan, to Union Carbide Corp. Deicer composition. 3,096,290, 7-2-63, Cl. 252-70.
- Duarte, Tom F. Automatic wood trimming saw machine. 3,072,158, 1-8-63, Cl. 143-19.
- Dubberke, Walther H. Adjustable tractor wheel means. 3,084,000, 4-2-63, Cl. 301-1.
- Dubberley, Charles A., to General Electric Co. Hermetic refrigerant compressor. 3,098,604, 7-23-63, Cl. 230-206.
- Dube, Alfred, and J. A. Kasper, to Stetson China Co. Time analyzer. 3,095,253, 6-25-63, Cl. 346-20.
- Dube, Emile. Hook for facial tissue box and the like. 3,110,467, 11-12-63, Cl. 248-311.
- Dubeck, Emil, to The Kenmar Mfg. Co. Reclining chair mechanism with leg platform extension. 3,096,118, 7-2-63, Cl. 297-75.
- Dubeck, Michael, to Ethyl Corp. Cyclomatic nickel allyl compounds. 3,086,984, 4-23-63, Cl. 260-439.
- Dubeck, Michael, to Ethyl Corp. Acetylenic nickel compounds. 3,088,962, 5-7-63, Cl. 260-439.
- Dubeck, Michael, to Ethyl Corp. Manufacture of cyclopentadienyl nickel nitrosyl compounds. 3,088,963, 5-7-63, Cl. 260-439.
- Dubeck, Michael, to Ethyl Corp. Acetylene nickel compounds. 3,097,224, 7-9-63, Cl. 260-439.
- Dubeck, Michael, to Ethyl Corp. Acetylenic nickel compounds. 3,097,225, 7-9-63, Cl. 260-439.
- Dubecky, Petro, to Johns-Manville Corp. Punch for forming perforations in coated asbestos-cement sheets. 3,078,574, 2-26-63, Cl. 30-358.
- Dubelier, Morton A. Hair holders. 3,099,271, 7-30-63, Cl. 132-46.
- Du Berger, Roland J. Core drilling apparatus. 3,095,049, 6-25-63, Cl. 175-244.
- Du Berger, Roland J. Core drilling apparatus. 3,095,050, 6-25-63, Cl. 175-254.
- Dubey, Michael B.: *See—*  
Mann, Alfred E., Dubey, Wolf, Ralph, Oliver, and Shuster. 3,094,439.
- Dubie, Orville L. Bulk truck with flexible conveyor. 3,092,241, 6-4-63, Cl. 198-213.
- Dubied, Edouard, et Cie (Societe Anonyme): *See—*  
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Seiler, Fritz. 3,102,404.
- Dubiel, Joseph M.: *See—*  
Brunson, Thomas H. 3,092,844.
- Dubil Mfg., Inc.: *See—*  
Dubil, Matthew. 3,098,747.
- Dubil, Matthew, to Dubil Mfg., Inc. Method for preparing a ground beef product. 3,098,747, 7-23-63, Cl. 99-108.
- Dubini, Camillo, to Giuseppe Dubini & C. S.A. Apparatus for refining yarns. 3,085,390, 4-16-63, Cl. 57-34.
- Dubini, Giuseppe, & C. S.A.: *See—*  
Dubini, Camillo. 3,085,390.
- Dublirer, Robert, S. M. Barbaresi, and L. Katzman. Therapeutic warming pad for animals. 3,096,428, 7-2-63, Cl. 219-46.
- Dubofsky, Nicholas. Balance for safety razors. 3,111,757, 11-26-63, Cl. 30-90.
- Du Bois, Chester: *See—*  
Rapplean, Eugene L., and Du Bois. 3,115,114.
- Du Bois, Edgar H.: *See—*  
Jeschke, Richard R., and Du Bois. 3,110,255.
- Du Bois, Edgar H., to A. B. Dick Co. Oscillating roller mechanism for printing presses. 3,110,253, 11-12-63, Cl. 101-348.
- Du Bois, Edgar H., A. J. Mazzio, and G. P. Niesen, to A. B. Dick Co. Photocopy developing machine having automatic squeeze roller operation. 3,095,796, 7-2-63, Cl. 95-89.
- Dubois, Jacques R. N. Process for welding thermoplastic materials. 3,071,503, 1-1-63, Cl. 156-272.
- Du Bois, John H. Provision of surface markings on plastics. 3,072,969, 1-15-63, Cl. 18-55.
- Du Bois Plastic Products, Inc.: *See—*  
Bright, Roy A. 3,113,346.
- Du Bois, Robert C., to Manning, Maxwell & Moore, Inc. Instrument case for universal mounting. 3,096,654, 7-9-63, Cl. 73-431.
- Dubois, Sven-Otto. Device for keeping index cards. 3,073,050, 1-15-63, Cl. 40-124.
- Du Bois, William H., and D. J. Roth, to The Bendix Corp. Brake element having metal fiber reinforcing. 3,114,197, 12-17-63, Cl. 29-182.2.
- Dubouchet, Jacques, to Etablissements Neyrpic. Automatic gate for maintaining a constant and adjustable water level. 3,070,963, 1-1-63, Cl. 61-23.
- Du Broff, Warren. Carton inverting apparatus. 3,070,934, 1-1-63, Cl. 53-374.
- Du Brow, Paul, to Armour and Co. Isothiouonium compounds. 3,093,666, 6-11-63, Cl. 260-404.5.
- Dubsky, Borivoj, O. Straka, H. Felkel, and R. Feureisl, to Vyzkumny a zkusebni letcky ustav. Electromagnetic open-circuit spirometer. 3,081,766, 3-19-63, Cl. 128-2.08.
- Dubsky, Borivoj, and O. Straka, to Vyzkumny a zkusebni letcky ustav. Fourfold electromagnetic tensometer with adjustable prestressing. 3,092,795, 6-4-63, Cl. 336-30.
- Du Buis, Edwin O., and E. L. Cucksey, to Willcox & Gibbs Sewing Machine Co. Doffing device. 3,070,949, 1-1-63, Cl. 57-53.
- Du Buis, Edwin O., and E. L. Cucksey, to Willcox & Gibbs Sewing Machine Co. Doffing and donning machine. 3,077,725, 2-19-63, Cl. 57-53.
- Dubuit, Louis G. Surface treatment of cylindrical articles. 3,076,640, 2-5-63, Cl. 263-6.
- Dubuit, Louis. Silk screen printing machine. 3,090,300, 5-21-63, Cl. 101-123.
- Dubuit, Louis G. Silk-screen printing device. 3,113,510, 12-10-63, Cl. 101-124.
- Dubugue Awning & Tent Co.: *See—*  
Frommelt, Cyril P., and S. J. 3,095,886.
- Dubugue Products, Inc.: *See—*  
Carlo, Clarence E. Re. 25,422.  
Carlo, Clarence E. 3,090,424.  
Carlo, Clarence E. 3,090,425.  
Carlo, Clarence E. 3,090,426.  
Carlo, Clarence E. 3,090,430.
- Ducati, Adriano C., to Plasmadyne Corp. Method of making glass fibers. 3,099,548, 7-30-63, Cl. 65-5.



- Ducati, Adriano C., and R. D. Buhler. Hyperthermal tunnel apparatus and electrical plasmajet torch incorporated therein. 3,075,065, 1-22-63, Cl. 219-75.
- Duchange, Guillaume, to B. Titeux. Establishment of pH value of a phosphoric acid solution by its reaction with iron prior to its use to treat ferrous surfaces. 3,102,830, 9-3-63, Cl. 148-6.16.
- Ducharme, Alphonse, 49% to J. C. Marcotte. Fuel oil burner. 3,090,422, 5-21-63, Cl. 158-77.
- Duchene, William R., and H. C. Shook, to Research, Inc. Flue caps for chimneys and the like. 3,101,039, 8-20-63, Cl. 98-59.
- Duchesne, Normand. Driver for rotary tools. 3,088,338, 5-7-63, Cl. 74-757.
- Duchin, Maurice, Creations, Inc.: See—  
Ross, Lon. 3,097,615.
- Duchin, Paul J. Vacuum breaker. 3,083,723, 4-2-63, Cl. 137-218.
- Duclaux, Daniel, to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques. Clamping device for electric connections. 3,093,369, 6-11-63, Cl. 269-221.
- Ducommun, Georges, to Baumgaitner Freres S.A. Clock with several dials. 3,106,817, 10-15-63, Cl. 58-2.
- Ducon Co., Inc., The: See—  
Krochta, Harry. 3,093,468.  
Leech, Robert R., Weits, and Held. 3,078,646.
- Ducros, Andre C.: See—  
Cottet, Emile C., and Ducros. 3,107,206.  
Cottet, Emile C., and Ducros. 3,107,207.
- Dudak, Rita M.: See—  
Mann, David J., Perry, and Dudak. 3,083,235.
- Duddy, Joseph C., to The Electric Storage Battery Co. Storage battery electrodes and method of making the same. 3,099,586, 7-30-63, Cl. 136-43.
- Dudek, Edwin K.: See—  
Witt, Victor R., Prentky, and Dudek. Re. 25,405.
- Dudgeon, John E. Nail with head removable by twisting. 3,096,680, 7-9-63, Cl. 85-28.
- Dudgeon, John E. Removable spring check valve. 3,111,961, 11-26-63, Cl. 137-327.
- Dudler, Hans A.: See—  
Smith, Paul E., Jr., and Dudler. 3,092,742.
- Dudley, Earl A. Vegetation harvester. 3,090,138, 5-21-63, Cl. 37-2.
- Dudley, Edmond R., to Peerless Equipment Co. Can feeding and dividing apparatus and system. 3,098,551, 7-23-63, Cl. 193-31.
- Dudley, Elizabeth, to Scott Paper Co. Sanitary napkin and method of manufacture. 3,106,207, 10-8-63, Cl. 128-290.
- Dudley, George, Jr., to The Narrow Fabric Co. Distending device for uniform caps and the like. 3,076,199, 2-5-63, Cl. 2-195.
- Dudley, Homer T. Illuminated decoy and lure for fishing. 3,091,882, 6-4-63, Cl. 43-17.5.
- Dudley, Horace C. Apparatus for the promotion and control of vehicular flight. 3,095,167, 6-25-63, Cl. 244-62.
- Dudley, Jerome M. Wing shot arrow. 3,096,091, 7-2-63, Cl. 273-106.5.
- Dudley, John W., to Minneapolis-Honeywell Regulator Co. Underwater search apparatus. 3,084,331, 4-2-63, Cl. 340-3.
- Dudley, Leslie P. C. J. Three-dimensional spatial image producing display device. 3,096,389, 7-2-63, Cl. 88-75.
- Dudyak, Michael, to American Cyanamid Co. Capsule inspection and separation. 3,097,161, 7-9-63, Cl. 209-12.
- Dudzik, Chester J., to Leesona Corp. Yarn guiding device. 3,094,761, 6-25-63, Cl. 28-62.
- Dudzinski, Clarence A.: See—  
Adams, Arthur A., Arvai, Barton, Dudzinski, Grant, and McNulty. 3,113,019.
- Dudzinski, Leonard R., to Bendix-Westinghouse Automotive Air Brake Co. Fluid pressure feed or reducing valve. 3,071,147, 1-1-63, Cl. 137-116.5.
- Dueker, Gordon W.: See—  
Woodcock, Eugene L., Dueker, and Golay. 3,094,001.
- Dueker, Gordon W., and C. R. Sebens, to Mine Safety Appliances Co. Chromatographic system. 3,070,989, 1-1-63, Cl. 73-23.
- Dueker, Stanley T., to Schlumberger Well Surveying Corp. Perforating apparatus. 3,106,130, 10-8-63, Cl. 89-1.
- Duenke, Clarence G., to Moloney Electric Co. Electrical core loop winding apparatus. 3,078,053, 2-19-63, Cl. 242-9.
- Duenke, Clarence G., to Moloney Electric Co. Electrical core loop fabrication. 3,093,889, 6-18-63, Cl. 29-155.57.
- Duenke, Kenneth L., to The Clarken Co. Bushing assembly. 3,084,305, 4-2-63, Cl. 339-202.
- Duenke, Kenneth L., to The Clarken Co. Quick connector. 3,099,509, 7-30-63, Cl. 339-255.
- Duennenberger, Max: See—  
Ackermann, Franz, Duennenberger, and Siegrist. 3,076,812.  
Liechti, Peter, Siegrist, Duennenberger, and Maeder. 3,095,421.
- Duennenberger, Max, E. Maeder, A. E. Siegrist, and P. Liechti, to Ciba Ltd. New phenylbenzazoles. 3,095,422, 6-25-63, Cl. 260-307.
- Duennenberger, Max, and A. E. Siegrist, to Ciba Ltd. 2,5-di[6'-methoxybenzimidazole-(2')-furan]. 3,103,518, 9-10-63, Cl. 260-309.2.
- Duensing, Maurice W. Sheath for retaining heat of body temperature and supporting muscle structure of wearer. 3,074,405, 1-22-63, Cl. 128-293.
- Duensing, Maurice W. Muscular thermal support sheath. 3,092,110, 6-4-63, Cl. 128-293.
- Duer, Morris J., to General Motors Corp. Compound epicyclic gear mechanism. 3,081,648, 3-19-63, Cl. 74-801.
- Duer, Morris J., to General Motors Corp. Self-cleaning air filter. 3,104,962, 9-24-63, Cl. 55-302.
- Duer, Morris J., to General Motors Corp. Self-purging air filter and speed reducing drive therefor. 3,107,987, 10-22-63, Cl. 55-294.
- Duerden, David, to Abbott Laboratories. Method of rendering alcohols anhydrous. 3,105,099, 9-24-63, Cl. 260-643.
- Duerksen, Arnold, to Super Mold Corp. of California. Press for portable fire retreading molds. 3,074,109, 1-22-63, Cl. 18-18.
- Duesel, Bernard F., and G. Wilbert, to Nepera Chemical Co. Inc. Aluminum salts of nicotinic acid and process therefor. 3,072,659, 1-8-63, Cl. 260-270.
- Duesterhoeft, William C., Jr.: See—  
Smith, Harold W., Duesterhoeft, Bostick, and Garner. 3,096,477.
- Du Fault, Homer D., to Heatbath Mfg. Co., Inc. Steel space heater construction. 3,099,257, 7-30-63, Cl. 126-90.
- Du Ferodo, Francaise, Societe Anonyme: See—  
Maurice, Jean, and Rist. 3,091,315.
- Duff, Harold H., to Synchro Machine Co. Transfer device for continuous spoolers. 3,086,721, 4-23-63, Cl. 242-25.
- Duff, Jack E., to The Hoover Co. Extensible hose. 3,080,891, 3-12-63, Cl. 138-122.
- Duff, Jack E., and M. C. Pavlic, to The Hoover Co. Suction washing appliance. 3,072,950, 1-15-63, Cl. 15-320.
- Duff-Norton Co.: See—  
Carroll, Charles. 3,086,090.  
Carroll, Charles. 3,092,369.  
Sample, Basil S. 3,096,578.
- Duff, Philip, to United States of America, Navy. Explosive diaphragm valve. 3,092,286, 6-4-63, Cl. 220-47.
- Duff, Samuel. Apparatus for garaging or storing motor vehicles. 3,104,019, 9-17-63, Cl. 214-16.1.
- Duffey, Billy J., and L. H. Finner. Tool tray for vehicle grease racks. 3,084,764, 4-9-63, Cl. 187-8.41.
- Duffey, Joseph G., to Arnold Equipment Corp. Method of recovering carbon dioxide. 3,100,685, 8-13-63, Cl. 23-150.
- Duffield, Joseph F., to Amalgamated Electric Corp., Ltd. Wiring device assembly. 3,114,792, 12-17-63, Cl. 174-54.
- Duffield, Robert B.: See—  
Koutz, Stanley L., Duffield, Minogue, Compton, and Lynch. 3,072,549.
- Duffy, Basil, to Combustion Engineering, Inc. Method of fitting circumferential seal members. 3,108,366, 10-29-63, Cl. 29-405.
- Duffy, Dan W.: See—  
Fuettner, Charles T. 3,113,605.
- Duffy, Edward J., to Radio Corp. of America. Loading apparatus. 3,074,526, 1-22-63, Cl. 193-29.
- Duffy, James J., to Ford Motor Co. Control circuit for a power transmission mechanism. 3,095,755, 7-2-63, Cl. 74-472.
- Duffy, John R., to Lindberg Engineering Co. Heat treating furnace. 3,071,356, 1-1-63, Cl. 263-6.
- Duffy, Walter M., to E. I. du Pont de Nemours and Co. Upgraded oil comprising at least one unsaturated oil which is an ester of a C<sub>10</sub> to C<sub>22</sub> fatty acid and an at least trihydric alcohol. 3,074,896, 1-22-63, Cl. 260-23.
- Dufour, Georges, to Brevets Aero-Mecaniques S.A. Armor-piercing projectiles. 3,096,715, 7-9-63, Cl. 102-52.
- Dufresne, Robert J.: See—  
Karpovich, John, and Dufresne. 3,106,983.
- Dugan, John W. Method of and apparatus for preparing aqua ammonia. 3,073,678, 1-15-63, Cl. 23-193.
- Dugan, Martin, to Arthur Vale, d.b.a. La Trique Brassieres Co. Brassiere. 3,093,137, 6-11-63, Cl. 128-443.
- Dugan, Patrick J. Games. 3,090,623, 5-21-63, Cl. 273-142.
- Duggan, Raymond J.: See—  
Papero, Patrick V., Jr., Snider, and Duggan. 3,090,773.
- Duggan, Raymond J., E. J. Murray, and L. O. Winstrom, to Allied Chemical Corp. Process for the production of cyclohexanone. 3,076,810, 2-5-63, Cl. 260-586.
- Duggan, Robert B., and A. A. Klapheke, to American Radiator & Standard Sanitary Corp. Electrical heating element. 3,086,187, 4-16-63, Cl. 338-283.
- Dugger, Lonnie R. Spring bending tool. 3,094,151, 6-18-63, Cl. 140-106.
- Dugger, Ralph L. Door and latching. 3,103,995, 9-17-63, Cl. 189-46.
- Duggins, William E., to General Aniline & Film Corp. Process of defoliating chlorophyllaceous plants. 3,092,485, 6-4-63, Cl. 71-2.7.
- Duhaime, Raymond A.: See—  
Lasto, Stephen W., and Duhaime. 3,071,402.
- Du Hamel, Raymond H., and F. R. Ore, to Collins Radio Co. Logarithmically periodic rod antenna. 3,079,602, 2-26-63, Cl. 343-908.
- Duinker, Simon: See—  
Peck, Johannes J. A., Rinla, and Duinker. 3,100,852.
- Duinker, Simon, to North American Philips Co. Inc. Method of producing magnetic heads with accurately predetermined gap heights. 3,094,772, 6-25-63, Cl. 29-155.59.
- Duinker, Simon, and J. G. van Santen, to North American Philips Co., Inc. Device having an electro-luminescent element. 3,082,343, 3-19-63, Cl. 313-108.



- Duinker, Simon, and J. Box, to North American Philips Co., Inc. Method of manufacturing a multiple magnetic recording. 3,105,286, 10-1-63, Cl. 29—155-56.
- Dujardin, Albert J. A. J., to Ecremeuses Melotte, Societe Anonyme. Apparatus for clarifying liquids containing suspended solids. 3,087,710, 4-30-63, Cl. 261—18.
- Dujols, Pierre A.: *See—*
- Bansard, Pierre M. P., Dujols, and Perilhou. 3,091,683.
- Dukane Corp.: *See—*
- Schroeder, Robert E., and Smithberg. 3,097,907.
- Torn, William R. 3,105,124.
- Duke, Edward D., and R. Y. Hermiz, to International Harvester Co. Push bumper for vehicles. 3,079,176, 2-26-63, Cl. 280—451.
- Duke, Jacob A. Mechanical jack. 3,096,967, 7-9-63, Cl. 254—126.
- Duke, James B.: *See—*
- Greene, Ernest W., Duke, and Hunter. 3,072,255.
- Duke, James B., to Minerals & Chemicals Philipp Corp. Method for comminuting kaolin clay. 3,097,801, 7-16-63, Cl. 241—16.
- Duke, James B., to Minerals & Chemicals Philipp Corp. Froth flotation method. 3,107,214 10-16-53, Cl. 209—166.
- Duke, James B., and E. W. Green; by Minerals and Chemicals Philipp Corp. Attapulgite clay filter aid product and method of making same. Re. 25,464, 10-15-63, Cl. 23—110.
- Duke, James B., and E. W. Greene, to Minerals & Chemicals Philipp Corp. Attapulgite clay filter aid product and method of making same. 3,080,214, 3-5-63, Cl. 23—110.
- Duke, John A., to Minneapolis-Honeywell Regulator Co. Coated radiant energy sight guide for temperature measurement. 3,105,150, 9-24-63, Cl. 250—83.
- Duke, June T.: *See—*
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- Duke University: *See—*
- Barber, Billy R. 3,108,705.
- Dukes, Clifford O. Cleaning tool for meat tenderizers. 3,106,740, 10-15-63, Cl. 15—512.
- Dukes, John R., and D. K. Allemang, to Industrial Nucleonics Corp. Composition insensitive beta ray gauging system. 3,087,061, 4-23-63, Cl. 250—83.3.
- Dulebohn, David H., and R. M. Gold, to Dayton Rogers Mfg Co. Apparatus for trimming drawn sheet metal shells and the like. 3,084,576, 4-9-63, Cl. 82—46.
- Dülfer, Ewald: *See—*
- Reichle, Alfred, and Dülfer. 3,102,278.
- Dulis, Edward J., and M. J. Day, to Crucible Steel Co. of America. Nickel-free austenitic corrosion resistant steels. 3,075,839, 1-29-63, Cl. 75—125.
- Dulk, George A., and E. J. Pybus, to United States of America, Army. Peltier dew point hygrometer. 3,112,648, 12-3-63, Cl. 73—336.5.
- Dull, Thomas J.: *See—*
- Greene, John R., and Dull. 3,090,407.
- Dullabaun, Paul W., and R. E. Hanslip, to Mather Spring Co. Vehicle leveling mechanism. 3,092,397, 6-4-63, Cl. 280—124.
- Dullas, William. Molded beehive. 3,110,044, 11-12-63, Cl. 6—1.
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- Stiner, James E., and Dullmeyer. 3,098,685.
- Dulmage, Florence: *See—*
- Dulmage, Fred E. 3,109,201.
- Dulmage, Fred E., also known as Frederick E. Dulmage, deceased, by F. Dulmage, administratrix, to The Dow Chemical Co. Apparatus for manufacture of bowling pin. 3,109,201, 11-5-63, Cl. 18—36.
- Dulmage, Frederick E.: *See—*
- Dulmage, Fred E. 3,109,201.
- Duluk, Stanley, and W. H. West, to General Motors Corp. Closure latch. 3,082,030, 3-19-63, Cl. 292—113.
- Duluth Filter Co.: *See—*
- Sather, Olaf P. 3,092,577.
- Dumaire, Marc J., to Societe d'Electronique et d'Automatisme. Digital control system for positioning shafts. 3,078,404, 2-19-63, Cl. 318—162.
- Dumas, Albert. Boiler. 3,104,654, 9-24-63, Cl. 122—225.
- Dumas, Henry J., Jr., to The New York Air Brake Co. Electrical inverter. 3,112,456, 11-26-63, Cl. 331—113.
- Dumas, Roger E., and A. C. Hughes, to Statham Instruments, Inc. Electromagnetic transducers. 3,076,343, 2-5-63, Cl. 73—517.
- Dumas, Roger E., and A. C. Hughes, to Statham Instruments, Inc. Electrical bridge circuits. 3,076,927, 2-5-63, Cl. 323—75.
- Dumbauld, George K.: *See—*
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- Dunbeck, Joseph T., to Corning Glass Works. Stopcock assembly. 3,089,506, 5-14-63, Cl. 137—315.
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- Borsy, Joseph, Dumbovich, Vargha, Farkas, Kuszmann, and Kastreiner. 3,086,976.
- Dumire, Leo G., and G. Edlen, to Phelps Dodge Electronic Products Corp. Connector for coaxial cables. 3,109,052, 10-29-63, Cl. 174—88.
- Dumm, Robert P., to Pacific Valves, Inc. Seal seat construction for a ball valve. 3,077,201, 2-12-63, Cl. 137—315.
- Dumm, Robert P., to Pacific Valves, Inc. Balance pressurized seal globe valve. 3,081,062, 3-12-63, Cl. 251—175.
- Dumm, Robert P., to Pacific Valves, Inc. Soft seat with metal insert for gate valves. 3,085,784, 4-16-63, Cl. 251—176.
- Dumm, Robert P., to Pacific Valves, Inc. Mounting means for a gate pack-off. 3,110,470, 11-12-63, Cl. 251—159.
- Dumm, Robert P., to Pacific Valves, Inc. Manual latch to retract a packing assembly. 3,114,386, 12-17-63, Cl. 137—316.
- Dummel, Paul. Grinding machine. 3,079,733, 3-5-63, Cl. 51—94.
- Dummer, Wilhelm: *See—*
- Messwarb, Gunther, Schotte, and Dummer. 3,108,017.
- Dummett, George A., and D. T. Shore, to The A.P.V. Co. Ltd. Production of brewers' wort. 3,082,090, 3-19-63, Cl. 99—52.
- Dumont, Walter: *See—*
- Brouwers, Georges E. J., Dumont, and Scoville. 3,116,108.
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- Dunatic Industries, Inc.: *See—*
- Biben, Edward. 3,079,825.
- Dunaway, Ralph H. Apparatus for dispensing dry powdered material. 3,114,482, 12-17-63, Cl. 222—328.
- Dunay, John, to Ideal Mechanisms, Inc. Oscillatory motor. 3,075,102, 1-22-63, Cl. 310—39.
- Dunbar, Allen S., to United States of America, Army. Rapid scan antenna with lens for correction of aberration. 3,071,768, 1-1-63, Cl. 343—754.
- Dunbar, James A., and S. G. Von Stocker, to Aluminum Co. of America. Splicing aluminum foil. 3,100,337, 8-13-63, Cl. 29—470.9.
- Dunbar, Joseph E., to The Dow Chemical Co. S-(10-phenoxarsinyl) sulfonates and thiosulfonates. 3,082,231, 3-19-63, Cl. 260—440.
- Dunbar, Joseph E., to The Dow Chemical Co. Aryl dialkyl-sulfamates. 3,082,238, 3-19-63, Cl. 260—456.
- Dunbar, Joseph E., to The Dow Chemical Co. Dialkyl tin chloride dialkylphosphite. 3,100,785, 8-13-63, Cl. 260—429.7.
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- Tenniswood, Howard J., and Dunbar. 3,103,693.
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- Duncan, Bobby J., to Sperry Rand Corp. Mixer employing gyromagnetic elements. 3,098,974, 7-23-63, Cl. 325—448.
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- Duncan, Ian G., to Ever-Ready Razor Products Ltd. Dry shaver with flexible shear plate and means supporting the shear plate. 3,092,905, 6-11-63, Cl. 30—43.
- Duncan, James A., to Grinnell Corp. Automatic rate responsive fire protection circuit. 3,071,713, 1-1-63, Cl. 317—153.
- Duncan, James E., and G. L. Thomas, to Pittsburgh Plate Glass Co. Glass composition. Re. 25,312, 1-1-63, Cl. 106—52.
- Duncan, James K., to Cummins-Chicago Corp. Documentary delivery apparatus. 3,087,725, 4-30-63, Cl. 271—71.
- Duncan, James K., to Duncan Research. Ring binder. 3,105,494, 10-1-63, Cl. 129—24.
- Duncan, James K., and J. L. Quinn, to Cummins-Chicago Corp. Document sorting apparatus. 3,087,612, 4-30-63, Cl. 209—74.
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- Duncan, Joseph G., III. Weapon of self-defense. 3,084,466, 4-9-63, Cl. 42—1.
- Duncan, Joseph G., III. Solar heat absorbing structure. 3,089,480, 5-14-63, Cl. 126—270.
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- Duncan, Robert H., to International Telephone and Telegraph Corp. Quality control sorting device. 3,082,871, 3-26-63, Cl. 209—81.



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- Duncan, William L., to Montgomery Elevator Co. Circuit for providing a delayed overriding control on one of a plurality of elevator safety devices. 3,082,845, 3-26-63, Cl. 187—52.
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- Dunham, John C., to Aurora Equipment Co. Perforated non-skid panel. 3,093,216, 6-11-63, Cl. 189—34.
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 Harper, Lee R. 3,074,911.  
 Harris, John F., Jr. 3,086,058.  
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 Kamlet, Jonas. 3,115,518.  
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 Duppengiesser, Karl A. Blade for soil-working implement. 3,095,228, 6-25-63, Cl. 294-49.  
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 Dupree, James N., to California Plasteck, Inc. Illuminated panel assembly. 3,077,535, 2-12-63, Cl. 240-8.16.  
 Duprey, Evert J. Trouble light. 3,108,752, 10-29-63, Cl. 240-54.  
 Dupuis, Maria J. A. Catamenial pad. 3,097,648, 7-16-63, Cl. 128-290.  
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 Dupuy, Harold P., L. A. Goldblatt, and F. C. Magne, to United States of America, Agriculture. 4-(12-acetoxy-ricinoleoyl) derivatives of morpholine and method of preparation. 3,079,387, 2-26-63, Cl. 260-247.2.  
 Dupuy, Harold P., L. A. Goldblatt, and F. C. Magne, to United States of America, Agriculture. 4-(ricinoleoyl) derivatives of morpholine. 3,079,388, 2-26-63, Cl. 260-247.7.



- Duquesne Brewing Co. of Pittsburgh: *See*—  
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- Duquesne, Victor. Axially extending tool mounting column for disc wheels. 3,100,008, 8-6-63, Cl. 144-288.
- Duquesnel, Andre, to Societe en nom Collectif so-called Le-feuvre & Martin, Etablissements. Device for mounting insert guide-rails notably in machine tools. 3,106,117, 10-8-63, Cl. 82-32.
- Duquette, Albert. Card stop for textile machines. 3,103,040, 9-10-63, Cl. 19-2.
- Dura Corp.: *See*—  
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- Duran, Paul L. Machine for sorting articles of different grades. 3,095,090, 6-25-63, Cl. 209-111.5.
- Durand, Fred A., to Durand Machinery, Inc. Automatic filler for fruit and the like. 3,073,399, 1-15-63, Cl. 177-53.
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- Durbin, Enoch J.: *See*—  
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- Durgeloh, Jean B., to Fiber Bond Corp. Filter. 3,076,303, 2-5-63, Cl. 55-511.
- Durget, Andre, to Anciens Etablissements Goldenberg & Cie. Support plate for an anchoring device. 3,090,203, 5-21-63, Cl. 61-45.
- Durham, Daniel R., to Westinghouse Electric Corp. Electric power distribution apparatus. 3,107,283, 10-15-63, Cl. 200-114.
- Durham, Edwin, to The Babcock & Wilcox Co. Apparatus for burning low heat value fuels. 3,115,120, 12-24-63, Cl. 122-7.
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Reiling, Victor G. 3,111,325.
- Durkee, James D., to Bell & Gossett Co. Printing telegraph selective signaling system. 3,084,219, 4-2-63, Cl. 178-23.1.
- Durkoppwerke Aktiengesellschaft: *See*—  
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- Durnal, Robert G., to Westinghouse Electric Corp. Aircraft position determining apparatus. 3,097,357, 7-9-63, Cl. 343-112.
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- Durr, Albert M., Jr., J. E. Kircher, C. E. Thompson, and O. L. Wright, to Continental Oil Co. Preparation of esters of substituted adipic acids. 3,080,416, 3-5-63, Cl. 260-485.
- Durr, Walter, to Motan G.m.b.H. Pan-type oil burner. 3,102,578, 9-3-63, Cl. 158-67.
- Durrance, O. L.: *See*—  
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- Durrer, Robert, G. Heintze, and H. Jenny, to Gesellschaft der Ludw. von Roll/Sheen Eisenwerke A.G. Process for the manufacture of steel. 3,079,247, 2-26-63, Cl. 75-12.
- Durst, George: *See*—  
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- Durst, Jack R., to The Pillsbury Co. Meat-like product and process. 3,108,873, 10-29-63, Cl. 99-14.
- Durst, Paul T., to General Electric Co. Temperature responsive control device. 3,114,813, 12-17-63, Cl. 200-140.
- Durst S.p.A. Fabbrica Macchine ed Apparecchi Fototecnici: *See*—  
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- Dury, Karl: *See*—  
Reicheneder, Franz, and Dury. 3,073,872.
- Dusenbury, Charles E., to E. I. du Pont de Nemours and Co. Apparatus and process for drawing yarn. 3,091,805, 6-4-63, Cl. 18-8.
- Dusey, Alfred E., to Motorola, Inc. Automobile speaker system. 3,106,609, 10-8-63, Cl. 179-1.
- Dussy, Paul, H. Bosshard, and W. Leutenegger, to J. R. Geigy, A.-G. Process for dyeing and printing cellulose-containing fibres and composition for same. 3,085,849, 4-16-63, Cl. 8-54.2.
- Dustex Corp.: *See*—  
Morris, Lewis D., and Brookman. 3,083,515.
- Dustin, Harold E. Animal sorter. 3,072,100, 1-8-63, Cl. 119-155.
- Dustin, Miles O., and J. C. Martin, to Bailey Meter Co. Electric to pneumatic signal converting device. 3,080,878, 3-12-63, Cl. 137-85.
- Dusza, John P.: *See*—  
Holmund, Chester E., Feldman, Evans, Bernstein, and Dusza. 3,071,580.
- Dutch, Emery. Film treating apparatus. 3,087,406, 4-30-63, Cl. 95-94.
- Dutcher, Ival G.: *See*—  
Kaldenberg, Henry J., and Dutcher. 3,090,391.
- Dutcher, James D.: *See*—  
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- Dutchess, Elmer E.: *See*—  
Drost, Wilfred, Kebler, and Dutchess. 3,077,752.
- Duthie, Robert G., to Shell Oil Co. Fluid mixer with rotating baffles and method of operating same. 3,074,786, 1-22-63, Cl. 23-310.
- Dutro, Orville V., S. H. Hewson, and D. A. Glaser. Register compensating means for rotary members in web processing apparatus. 3,103,125, 9-10-63, Cl. 74-242.1.
- Dutro, Orville V., S. H. Hewson, and D. A. Glaser. Modular apparatus for processing web material. 3,111,250, 11-19-63, Cl. 226-101.
- Dutro, Orville V., and S. H. Hewson. Folder. 3,111,310, 11-19-63, Cl. 270-86.
- Dutt, Johannes: *See*—  
Michel, Rupprecht, and Dutt. 3,106,193.
- Dutt, William H., to Albany Felt Co. Napping device for modifying the surface characteristic of a fibrous material. 3,080,637, 3-12-63, Cl. 26-31.
- Dutta, Binal K.: *See*—  
Chakravorty, Kshitish R., and Dutta. 3,088,924.
- Dutton, Leonard J., and J. E. Olsen, to Olsen Mfg. Co. Conveyor lubricating apparatus. 3,073,415, 1-15-63, Cl. 184-15.
- Dutton, Walter J., to United States of America, Navy. Rotor shaft nut. 3,112,941, 12-3-63, Cl. 287-53.
- Duva, Robert: *See*—  
Rinker, Edwin C., and Duva. 3,104,212.
- Duval, Jules L. Combined door stop and holder. 3,100,664, 8-13-63, Cl. 292-251.5.
- Duval, Leo E., to Sylvania Electric Products Inc. Coated lamp. 3,094,642, 6-18-63, Cl. 313-223.
- Du Val, Morris S. Fishing reel with electric motor drive attachment. 3,077,318, 2-12-63, Cl. 242-84.1.
- Duval Sulphur & Potash Co.: *See*—  
Atwood, George E., and Curtis. 3,102,854.  
Bourne, Douglas J., and Park. 3,093,390.  
McCarthy, James P., and Curtis. 3,114,510.
- Duval, Walter J. Privacy set. 3,105,712, 10-1-63, Cl. 292-169.
- Du Vall, Wilbur E., to The W. W. Henry Co. Analogue computer. 3,084,863, 4-9-63, Cl. 235-194.
- Du Vall, Wilbur E., to The W. W. Henry Co. Data-communication system. 3,088,099, 4-30-63, Cl. 340-167.
- DuVall, Wilbur E., to The W. W. Henry Co. Regulated power supply. 3,103,619, 9-10-63, Cl. 323-56.
- Duvoisin, Jean A., to United Aircraft Corp. Centering device. 3,074,177, 1-22-63, Cl. 33-180.
- Duxbury, Donald: *See*—  
Lloyd, James E., and Duxbury. 3,088,822.
- Dvolaitzky, Frajda: *See*—  
Ber, Esther, Dvolaitzky, and Guilbert. 3,079,441.
- Dvoracek, Stanley J. Under water venting system for marine fuel tanks. 3,081,730, 3-19-63, Cl. 114-211.
- Dvore, Christian. Fence or closure structure. 3,101,929, 8-27-63, Cl. 256-24.
- Dwinell, Dwight J.: *See*—  
Audet, Henry J., Dwinell, James, and Kingston. 3,109,751.
- Dworak, Theodore A. Exhaust-gas combustion device. 3,091,078, 5-28-63, Cl. 60-30.
- Dworetzky, Lawrence H., and J. W. Gray, to General Precision, Inc. Computer for data conversion and stabilization. 3,095,562, 6-25-63, Cl. 343-8.
- Dwyer, F. W., Mfg. Co.: *See*—  
Locke, John P. 3,091,123.
- Dwyer, John J., Jr., and W. H. Lane, to Allis-Chalmers Mfg. Co. Automatic door seal. 3,075,061, 1-22-63, Cl. 200-168.
- Dwyer, Maurice J., to L. W. Moss. Bag holding rack. 3,095,172, 6-25-63, Cl. 248-97.
- Dwyer, Russell A. Combination rescue hook and life preserver. 3,106,726, 10-15-63, Cl. 9-14.
- Dwyer, Thiel E., to Tholand, Inc. Recovery of boron compounds from boron-containing ores. 3,103,412, 9-10-63, Cl. 23-59.



- Dwyer, Walter J. Dished, annular, radio frequency absorber and method of manufacture. 3,078,461, 2-19-63, Cl. 343-18.
- Dwyer, William J.: *See*—  
Crane, Jack W., Best, Dwyer, and Seales. 3,090,295.
- Dyar, Robert L. Adhesive coating apparatus. 3,099,580, 7-30-63, Cl. 118-233.
- Dyck, Hubert I., to United States Steel Corp. Railroad crossing. 3,087,678, 4-30-63, Cl. 238-8.
- Dyck, Rudolph. Push over garage. 3,103,706, 9-17-63, Cl. 20-1.13.
- Dyck, Walter, to Agfa Aktiengesellschaft. Liquid metering device. 3,079,052, 2-26-63, Cl. 222-434.
- Dyckerhoff & Widmann Kommanditgesellschaft: *See*—  
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- Dye, Clyde V. Trailer axle spring suspension. 3,071,391, 1-1-63, Cl. 280-104.5.
- Dye, Clyde V. Trailer axle spring suspension. 3,071,392, 1-1-63, Cl. 280-104.5.
- Dye, Clyde V. Trailer stabilizing and suspension assembly. 3,097,862, 7-16-63, Cl. 280-104.5.
- Dye, Edward R., to Cornell Aeronautical Laboratory, Inc. Method of applying paint to a roadway surface and apparatus therefor. 3,103,859, 9-17-63, Cl. 94-22.
- Dye, Robert F., to Phillips Petroleum Co. Rosin acid catalyst inactivator. 3,099,648, 7-30-63, Cl. 260-94.3.
- Dye, Robert F., to Phillips Petroleum Co. Method and apparatus for wet pelleting carbon black. 3,102,005, 8-27-63, Cl. 23-314.
- Dye, Robert F., to Phillips Petroleum Co. Apparatus and method for measuring polymer concentration. 3,103,809, 9-17-63, Cl. 73-53.
- Dye, Robert F., and L. W. Morgan, to Phillips Petroleum Co. Polymerization process and apparatus. 3,074,922, 1-22-63, Cl. 260-94.9.
- Dye Sheet Metal Products, Inc.: *See*—  
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- Dyer, Arthur M. Paint machine. 3,072,937, 1-15-63, Cl. 15-22.
- Dyer, George A., to North American Aviation, Inc. Direct current threshold signal detector. 3,112,412, 11-26-63, Cl. 307-88.5.
- Dyer, Harry B., to Nashville Bridge Co. Flush type water-tight hatch or manhole. 3,084,827, 4-9-63, Cl. 220-25.
- Dyer, Henry B.: *See*—  
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- Dyer, John N., and M. Ruderfer, to Cutler-Hammer, Inc. Non-contacting ultrasonic gage. 3,108,469, 10-29-63, Cl. 73-67.1.
- Dyer, John R., Jr., to The Indium Corp. of America. Method for purifying metallic indium. 3,093,475, 6-11-63, Cl. 75-63.
- Dyer, Leroy F. Phototyping machines. 3,108,521, 10-29-63, Cl. 95-4.5.
- Dyer, Lloyd, to Westinghouse Electric Corp. Circuit interrupter. 3,077,525, 2-12-63, Cl. 200-114.
- Dyer, Norman D., and R. L. Franks, to Dresser Industries, Inc. Traveling block assembly. 3,101,928, 8-27-63, Cl. 254-194.
- Dyer, Richard F.: *See*—  
Caines, James F., Dyer, and Pannill. 3,099,594.
- Dyer, Richard F., to Eastman Kodak Co. Variable luster yarn and method of manufacture. 3,103,098, 9-10-63, Cl. 57-140.
- Dyer, Richard F., and P. Gallagher, to Eastman Kodak Co. Method and apparatus for producing tobacco smoke filters. 3,079,663, 3-5-63, Cl. 28-1.
- Dyer, Richard F., and P. Gallagher, to Eastman Kodak Co. Slot venturi puffing jet. 3,081,951, 3-19-63, Cl. 239-455.
- Dyer, Robert H., to Cosden Petroleum Corp. Hydrogenation of saturated isobutylene polymer. 3,100,808, 8-13-63, Cl. 260-683.9.
- Dyes, Alvin B., to The Atlantic Refining Co. Method for increasing recovery of oil. 3,096,821, 7-9-63, Cl. 166-9.
- Dyke, Martin T., 3rd, and E. W. Razlag, to Thermway Industries, Inc. Manufacture of electric radiant heating panels. 3,109,228, 11-5-63, Cl. 29-155.70.
- Dyke, Walter P., J. E. Henderson, and F. M. Charbonnier, to Field Emission Corp. Microwave transducer. 3,091,719, 5-28-63, Cl. 315-5.41.
- Dykeman, Edgar G. M., and J. N. Kelley, to FMC Corp. Apparatus for molding concrete T-beams. 3,092,886, 6-11-63, Cl. 25-121.
- Dykeman, George, and J. A. Milnes, to United States Steel Corp. Apparatus for visually inspecting strip travelling at high speed. 3,111,555, 11-19-63, Cl. 178-6.8.
- Dyker, John A.: *See*—  
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- Dykes, Eugene B.: *See*—  
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- Dykes, James O.: *See*—  
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- Dykes, Roy L. and J. O., to Power-Trim Co. Specific wheel support means for a combination mower and trimmer. 3,090,186, 5-21-63, Cl. 56-25.4.
- Dykinga, Donald L. Therapeutic exercise chair. 3,072,400, 1-8-63, Cl. 272-58.
- Dykinga, Richard J.: *See*—  
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- Dykman, Milton: *See*—  
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- Dyksterhouse, Robert M., to Model Engineering and Mfg. Co. Switch for turn indicating circuits. 3,079,476, 2-26-63, Cl. 200-61.3.
- Dykstra, Fred J., to Ethyl Corp. Lubricants. 3,092,586, 6-4-63, Cl. 252-49.6.
- Dykstra, Fred J., to Ethyl Corp. Boron products. 3,103,532, 9-10-63, Cl. 260-462.
- Dykzeul, Theodore J.: *See*—  
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- Dylla, Roy R. Refuse receptacle. 3,099,390, 7-30-63, Cl. 232-43.2.
- Dymek, Theodore F.: *See*—  
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- Dymo Industries, Inc.: *See*—  
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Sanders, Robert W., and Vironda. 3,091,319.  
Travaglio, Dalny. 3,083,807.  
Trippler, Otto F. 3,111,872.
- Dymott, Edwin R., and R. G. Chalmers, to National Research Corp. Apparatus for photographically forming circular scales from linear strips. 3,101,646, 8-27-63, Cl. 88-24.
- Dyna Co.: *See*—  
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- Dyna Magnetic Devices, Inc.: *See*—  
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- Dynamics Corp. of America: *See*—  
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- Dynamic Process Co., Inc.: *See*—  
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- Dynamos Co.: *See*—  
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- Dynapower Systems Corp.: *See*—  
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- Dyrkacz, Wasil W., C. R. Hastings, and R. K. Pitler, to Allegheny Ludlum Steel Corp. Austenitic alloy. 3,097,092, 7-9-63, Cl. 75-128.
- Dyson, Ernest F., to The Bristol Co. Measuring and control apparatus. 3,095,003, 6-25-63, Cl. 137-86.
- Dzenis, Visvaldis N. Apparatus for preparing cheese and the like. 3,101,540, 8-27-63, Cl. 31-42.
- Dzialis, Richard, K. Kaufmann, and C. Biedendieck, to J. M. Voith G.m.b.H. Drilling turbine. 3,101,925, 8-27-63, Cl. 253-3.
- Dzienis, Jerome J., G. R. Gillespie, F. D. Trevillian, and L. J. Weber, to General Motors Corp. Unitary vehicle body structure. 3,078,118, 2-19-63, Cl. 296-28.
- Dzierzanowski, Frank J.: *See*—  
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Haden, Walter L., Jr., and Dzierzanowski. 3,112,176.
- Dzierzanowski, Frank J., and W. L. Haden, Jr., to Minerals & Chemicals Philipp Corp. Method for making synthetic zeolitic material. 3,094,383, 6-18-63, Cl. 23-112.
- Dziki, Mieczyslaw, to Industrial Shoe Machinery Corp. Bottom ironer. 3,089,165, 5-14-63, Cl. 12-53.5.
- Dzigan, George, to Western Electric Co., Inc. Apparatus for distributing strands. 3,093,345, 6-11-63, Cl. 242-158.4.
- Dzuris, William H. Game apparatus with electrically operated play selecting means. 3,101,947, 8-27-63, Cl. 273-134.
- E.C.K. Mfg. Co. Ltd.: *See*—  
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- EFKA Plastic Corp.: *See*—  
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- E.F.-Textilien- & Apparate-Bau- & Vertriebsgesellschaft, Ellers & Witt K.G.: *See*—  
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- E.H. Research Laboratories, Inc.: *See*—  
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- E.M.I.C. Corp.: *See*—  
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- E.M.P. Electric Ltd.: *See*—  
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- E & R Hydrofoil Co.: *See*—  
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- Eade, Douglas G.: *See*—  
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- Eadie, Hugh S., to The Grigsby Co., Inc. Electrical component assembly. 3,093,713, 6-11-63, Cl. 200-14.
- Eads, Charles L., to Adams Rite Mfg. Co. Lock hold-back latch. 3,073,143, 1-15-63, Cl. 70-151.
- Eads, David K., and H. W. Haines, Jr., to Texas Gulf Sulphur Co. Recovery of sulfur from native ores. 3,102,792, 9-3-63, Cl. 23-294.
- Eads, Harold O., to McDonough Co., d.b.a. O. Ames Co. Folding chair. 3,086,812, 4-23-63, Cl. 297-30.
- Eads, Vernon M.: *See*—  
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- Eady, Hilton H., and J. N. Register. Collet chuck. 3,111,862, 11-26-63, Cl. 74-606.
- Eager, George S., Jr., to General Cable Corp. Service entrance cable. 3,105,871, 10-1-63, Cl. 174-105.
- Eagle Iron Works: *See*—
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- Eagle, John H., C. Bushnell, and H. Nerwin, to Eastman Kodak Co. Roll film for photographic cameras. 3,086,862, 4-23-63, Cl. 96-78.
- Eagle, John H., and J. E. Morse, to Eastman Kodak Co. Film strip for indexing system. 3,094,034, 6-18-63, Cl. 88-24.
- Eagle-Picher Co., The: *See*—
- Fahrig, Richard H., and Medcalf. 3,087,799.
- Fitz, Edward J. 3,079,633.
- Henley, John W. 3,084,004.
- Howe, Eugene E. 3,093,208.
- Van Dolah, Harry J., and Linhart. 3,098,753.
- Winchester, John H. 3,087,752.
- Zander, Jason M., and Delott. 3,078,180.
- Eaglesfield, Charles C.: *See*—
- Gent, Alfred W., Eaglesfield, Lawrence, and Crampton. 3,106,768.
- Eagon, Norton D., and K. O. McRee, to United States of America, Navy. Attach and release mechanism. 3,115,812, 12-31-63, Cl. 89-17.
- Eaker, Alston B., to Textile Machine Works. Means for and method of attaching yarn ends in tubular fabrics. 3,080,739, 3-12-63, Cl. 66-42.
- Eaker, Charles M., and G. A. Saul, to Monsanto Chemical Co. Chlorination of propynes. 3,094,567, 6-18-63, Cl. 260-654.
- Eakins, W. R. & J. S., Inc.: *See*—
- Eakins, William S. 3,110,444.
- Eakins, William S.,  $\frac{1}{2}$  to W. R. & J. S. Eakins, Inc., and  $\frac{1}{2}$  to The Proctor-Silex Corp. Spray drying process and apparatus. 3,110,444, 11-12-63, Cl. 239-427.
- Fames, Arvid L., to Poultry Service and Research Corp. Antibiotic method for promoting poultry growth. 3,076,745, 2-5-63, Cl. 167-53.1.
- Eames, Charles, to Herman Miller, Inc. Dual purpose furniture construction. 3,088,127, 5-7-63, Cl. 5-2.
- Eames, Charles, to Herman Miller, Inc. Pad for seating. 3,109,679, 11-5-63, Cl. 297-458.
- Eames, Charles, D. Albinson, and P. J. Pearce, to Herman Miller Inc. Folding chair. 3,093,414, 6-11-63, Cl. 297-323.
- Eames, Charles, and R. L. Staples, to Herman Miller, Inc. Seating. 3,114,575, 12-17-63, Cl. 297-248.
- Eames, Walter R., Jr., to Eaton Mfg. Co. Reversible pump. 3,091,185, 5-28-63, Cl. 103-117.
- Eannarino, George, to International Rectifier Corp. Process for the passivation of semiconductors. 3,115,424, 12-24-63, Cl. 117-213.
- Eargle, Julian R., Sr.: *See*—
- Altoz, Frank E., Eargle, and Almony. 3,093,086.
- Eargle, Verde H., to General Electric Co. Heat pump having outdoor temperature compensating control. 3,113,439, 12-10-63, Cl. 62-160.
- Earhart, Robert W., P. C. Aichenegg, and J. Hensel, to Chemagro Corp. Method of rendering soil nematocidal with halogenated sulfides. 3,095,350, 6-25-63, Cl. 167-22.
- Earl, Alfred E., to Ciba Corp. Method for the treatment of ketosis in domestic and farm animals. 3,089,813, 5-14-63, Cl. 167-53.
- Earl, Austin W.: *See*—
- Thompson, David P., and Earl. 3,091,937.
- Earl, John A., to Physical Sciences Corp. Ceramic material and method of coating. 3,106,490, 10-8-63, Cl. 117-221.
- Earl, Oliver L. Machine for harvesting trees. 3,074,446, 1-22-63, Cl. 144-3.
- Earle, Francis, Laboratories, Inc.: *See*—
- Miller, Harold A. 3,071,482.
- Miller, Harold A., and Kurtenbach. 3,082,179.
- Earley, Wilbur F.: *See*—
- Guntert, Ronald M., and Earley. 3,098,413.
- Guntert, Ronald M., and Earley. 3,098,414.
- Early, Curtis L., and I. Rozalsky, to Shell Oil Co. Quenching composition. 3,112,232, 11-26-63, Cl. 148-143.
- Early, Harold C., to Meredith Publishing Co. Spark discharge control means. 3,080,504, 3-5-63, Cl. 315-277.
- Early, Harold C., to Meredith Publishing Co. Voltage regulator for high voltage power supplies. 3,101,440, 8-20-63, Cl. 323-16.
- Early, Rex G.: *See*—
- De Ridder, Ernst J., and Early. 3,085,367.
- Early, Richard L., to Owens-Illinois Glass Co. Shape and height detection. 3,089,594, 5-14-63, Cl. 209-111.5.
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- Wolfe, Fred L., Earnest, and Johnson. 3,075,488.
- Earnshaw, Alvin R., and C. T. Whitney, Sr. Diesel engine converted into a two-cycle gas engine. 3,077,189, 2-12-63, Cl. 123-65.
- Earnshaw, John, and G. T. Jones, to Imperial Chemical Industries Ltd. Textile treatment. 3,116,162, 12-31-63, Cl. 117-138.8.
- Earp-Thomas, George L. Bacteriological digester for conversion of organic waste. 3,082,542, 3-26-63, Cl. 34-173.
- Eash, Charles D.: *See*—
- Volk, Victor F., Eash, and Olson. 3,076,865.
- Eash, John T.: *See*—
- Decker, Raymond F., Goldman, and Eash. 3,093,519.
- Easley, Gilbert J., R. L. Hess, and J. M. Telford, to Westinghouse Electric Corp. Fluid-blast circuit interrupter with improved current-transformer housing means. 3,114,815, 12-17-63, Cl. 200-148.
- Easley, K. Warren: *See*—
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- Smith, John O., and Easley. 3,113,426.
- Easley, Morris E. Toilet seat. 3,073,937, 1-15-63, Cl. 219-19.
- Eason, Ira. Folding bed device. 3,108,291, 10-29-63, Cl. 5-111.
- Eason, Robert F. Handle covering for clothes hangers. 3,112,050, 11-26-63, Cl. 225-98.
- Eastepe, Calvin W., to Morse Chain Co. Power transmission chain. 3,074,290, 1-22-63, Cl. 74-250.
- Easter, Elmer W. Fluid pump or motor. 3,101,059, 8-20-63, Cl. 103-142.
- Easterbrook, John N., to Westinghouse Electric Corp. Electrical control apparatus for generators. 3,089,996, 5-14-63, Cl. 322-25.
- Easterling, Herbert W., and C. J. Hertzler, to American Machine & Foundry Co. Bowling ball elevating apparatus. 3,110,496, 11-12-63, Cl. 273-49.
- Easterly, Donald O.: *See*—
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- Eastern Cap and Closure Co., The: *See*—
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- Eastern Co., The: *See*—
- Green, James W., Jr. 3,079,886.
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- Eastern Products Corp.: *See*—
- Lydard, Martin L. 3,081,819.
- Lydard, Martin L. 3,085,666.
- Lydard, Martin L. 3,102,614.
- Rosenbaum, Charles H. 3,099,916.
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- Znamirovski, Henry. 3,115,927.
- Eastern Research Corp.: *See*—
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- Campbell, Harris S. 3,081,121.
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- Easterwood, Vesta M., and A. M. Dowell, Jr., to The Buckeye Cellulose Corp. Manufacture of regenerated cellulose structures from viscose in the presence of modifiers. 3,108,848, 10-29-63, Cl. 18-54.
- Eastham, Frederick C. Clamp for plow attachment for hand-steered tractor. 3,088,525, 5-7-63, Cl. 172-259.
- Eastland, John B., Jr. Cable sealing device. 3,110,165, 11-12-63, Cl. 64-3.
- Eastman, Don L.: *See*—
- Hyde, George C., and Eastman. 3,113,326.
- Eastman, Donald R., to Eastman Kodak Co. Photoconductor lithography employing rubenates. 3,095,808, 7-2-63, Cl. 101-149.2.
- Eastman, Donald R., and R. F. Reithel, to Eastman Kodak Co. Electrolytic recording with organic polymers. 3,106,155, 10-8-63, Cl. 101-149.1.
- Eastman, Donald R., and R. F. Reithel, to Eastman Kodak Co. Photoconductor lithography employing electrolytic images to harden or soften films. 3,106,516, 10-8-63, Cl. 204-18.
- Eastman, Donald R., and R. F. Reithel, to Eastman Kodak Co. Photoconductor lithography employing spongy images containing gelatin hardeners. 3,106,517, 10-8-63, Cl. 204-18.
- Eastman, Du Bois: *See*—
- Dille, Roger M., Chapman, Ahlborn, and Eastman. 3,095,453.
- Eastman, Du Bois, and W. L. Slater, to Texaco Inc. Generation of reducing gas. 3,072,469, 1-8-63, Cl. 48-215.
- Eastman, Du Bois, and W. G. Schlinger, to Texaco Inc. Hydroconversion of solid carbonaceous materials. 3,075,912, 1-29-63, Cl. 208-8.
- Eastman, Du Bois, and W. G. Schlinger, to Texaco, Inc. Hydroconversion of hydrocarbons. 3,089,843, 5-14-63, Cl. 208-58.
- Eastman, Du Bois, and F. E. Guptill, to Texaco Inc. Production of synthesis gas. 3,097,081, 7-9-63, Cl. 48-215.
- Eastman Kodak Co.: *See*—
- Abbott, Thomas I., and Yackel. 3,072,480.
- Allen, Charles F. H., and Wilson. 3,106,467.
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- Akin, George A. 3,075,753.
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 Champlin, David L., and Pollock. 3,113,709.  
 Chu, Franklin Y. 3,082,123.  
 Clark, Raymond D. 3,089,896.  
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 Cobb, Phara L., Jr., and Hargrave. 3,079,978.  
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 Conrose, Charles W. 3,079,619.  
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 Coover, Harry W., Jr., and Cash. 3,072,628.  
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 Dyer, Richard F. 3,103,098.  
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 Estes, Cameron B. 3,091,167.  
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 Finch, Gaylord K., and Stringer. 3,076,021.  
 Flanagan, William C. 3,110,824.  
 Fox, Arthur B., and Tepper. 3,072,734.  
 Gates, John W., Jr., and Rees. 3,110,597.  
 Gearhart, William M., and Ball. 3,076,718.  
 Goins, Rex H., and Davis. 3,096,324.  
 Griggs, William H., Gray, and Zaffrann. 3,103,462.  
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 Guestaux, Claude L., and Léauté. 3,082,087.  
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 Hagemeyer, Hugh J., Jr., and Edwards. 3,072,632.  
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 Hanken, George H. 3,081,925.  
 Harrington, Robert C., Jr., and Smith. 3,082,110.  
 Harrington, Robert C., Jr., Smith, and Bond. 3,110,642.  
 Harvey, Douglass C., and Nerwin. 3,096,699.  
 Haynes, Carl J. 3,099,064.  
 Henn, Richard W., and Burness. 3,103,437.  
 Hephner, Martin. 3,113,910.  
 Hermanet, Marvin J. 3,089,369.  
 Heseltine, Donald W., and Lincoln. 3,094,418.  
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 Hodges, Howard T., Hughey, and Ernisse. 3,099,208.  
 Hoffmann, Edwin C. 3,072,036.  
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 Hunt, Robert W. G. 3,089,386.  
 Hutchison, Miller R., Jr., and Kindig. 3,094,051.  
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 Jenkins, Gerald L., and Finzer. 3,110,215.  
 Johnson, Dee L., and Fields. 3,072,676.  
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 Lee, Louis J. 3,113,868.  
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 Martin, William A. 3,072,035.  
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 McCall, Marvin A., and McConnell. 3,106,566.  
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 Minsk, Louis M. 3,102,028.  
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 Nail, Nelson R. 3,096,260.  
 Nations, Ronald G. 3,091,642.  
 Neely, Sanford D. 3,106,581.  
 Nerwin, Hubert. 3,083,626.  
 Newland, Gordon C., and Chaudet. 3,096,302.  
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 Pickens, Gerald F. 3,110,240.  
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 Rauner, Frederick J., Rosati, and Robertson. 3,100,702.  
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 Reithel, Raymond F. 3,106,156.  
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 Rengert, Joseph S. 3,110,060.  
 Reynolds, George A., Robertson, and Van Allan. 3,072,485.  
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 Robinson, Herbert T. 3,085,471.  
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 Sagura, John J., and Van Allan. 3,113,865.  
 Salyer, Howard C., and Fletcher. 3,103,731.  
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 Shields, Donald J., and Coover. 3,075,956.  
 Smith, John W. 3,095,632.  
 Smith, John W. 3,110,432.  
 Staehle, Henry C. 3,091,047.  
 Steisslinger, Kurt. 3,081,681.  
 Stewart, Paul H. 3,110,591.  
 Stimson, Allen G. 3,073,223.  
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 Straley, James M., and Fisher. 3,097,196.  
 Straley, James M., Fisher, and Harris. 3,096,318.  
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 Straley, James M., and Giles. 3,072,683.  
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 Swarthout, Richard J., and Klaus. 3,099,750.  
 Tholstrup, Clarence E. 3,072,603.  
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 Touey, George P., and Kiefer. 3,075,965.  
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 Trevo, Donald J., and Phillips. 3,072,483.  
 Unruh, Cornelius C., and Garber. 3,072,484.  
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- Eastman, Lester F. Vacuum tube testing device. 3,081,618, 3-19-63, Cl. 73-15.
- Eastman Machine Co.: *See*—  
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- Eastman Oil Well Survey Co.: *See*—  
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- Easton, Nelson R., and G. F. Hennion, to Eli Lilly and Co. Hindered acetylenic amines. 3,079,440, 2-26-63, Cl. 260-583.
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- Eastwood, George G. M., to Spruce Falls Power & Paper Co., Ltd. Paper making system. 3,077,924, 2-19-63, Cl. 162-259.
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- Eaton, David C., and F. Irving, to Imperial Chemical Industries Ltd. Dyeing of polyester fibers with compounds of the naphthoylene-aryl-iminazole series. 3,103,403, 9-10-63, Cl. 8-55.
- Eaton, Ernest E., to Clark Equipment Co. Synchronizer. 3,078,975, 2-26-63, Cl. 192-53.
- Eaton, Frederic N., to United States of America, Navy. Missile loader crane. 3,113,487, 12-10-63, Cl. 89-17.
- Eaton, Geoffrey K., to North American Philips Co., Inc. Photo-electric cell. 3,072,796, 1-8-63, Cl. 250-211.
- Eaton, John F., to Bethlehem Steel Co. Well-load alleviator for pumping units. 3,094,879, 6-25-63, Cl. 74-41.
- Eaton, John L., Jr.: *See*—  
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- Eaton, Mark S., to Arthur D. Little, Inc. Surface coating with metallic powder and the like. 3,085,025, 4-9-63, Cl. 117-9.
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- Ebbing, Willem, to North American Philips Co., Inc. Transistor amplifier. 3,079,566, 2-26-63, Cl. 330-20.
- Ebdon, Denis K., to Associated Electrical Industries Ltd. Dispersion hardening of lead. 3,098,293, 7-23-63, Cl. 29-528.
- Ebel, Lawrence C.: *See*—  
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- Ebeling, Lancelot D. E.: *See*—  
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- Eberhardt, George J., and F. R. Werner, to The National Cash Register Co. Totalizer selecting and control mechanisms for cash registers and accounting machines. 3,092,313, 6-4-63, Cl. 235-60.3.
- Eberhardt, Heinrich P., to Maschinenfabrik Turner Aktien-Gesellschaft. Splitting machines. 3,083,559, 4-2-63, Cl. 69-101.
- Eberhardt, James A.: *See*—  
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- Eberhardt, John F. and J. A. Stereophonic sound system. 3,113,633, 12-10-63, Cl. 181-31.
- Eberhardt, Lee E., to The Bauer Bros. Co. Counter-current pulp conditioner. 3,111,832, 11-26-63, Cl. 68-148.
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- Eberle, John. Oil-filters for internal combustion engines. 3,085,688, 4-16-63, Cl. 210-232.
- Eberle, Konrad. Drafting mechanism for textile spinning machines. 3,071,824, 1-8-63, Cl. 19-258.
- Eberle, Otto E., and J. J. Hoare, to Pre-Met Manufacturers Ltd. Finger ring with spring loaded mount for removable gems. 3,115,758, 12-31-63, Cl. 63-15.
- Eberle, William R., to Jeffrey Gailon Mfg. Co. Mining machine cutting and breaking arm having sensing means. 3,102,718, 9-3-63, Cl. 262-26.
- Eberly, David D. Collapsible pallet box. 3,104,024, 9-17-63, Cl. 217-12.
- Eberly, John H., to Sperry Rand Corp. Latch. 3,083,046, 3-26-63, Cl. 292-76.
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- Eberspächer, Karl W. Closure structure of a container. 3,076,583, 2-5-63, Cl. 222-493.
- Ebert, Edward A. Speed indicator. 3,089,335, 5-14-63, Cl. 73-184.
- Ebert, George H. Moving surface ball game. 3,101,946, 8-27-63, Cl. 273-113.
- Ebert, Heinrich. Infinitely adjustable fluid transmission. 3,074,296, 1-22-63, Cl. 74-687.
- Ebert, James P., to Xerox Corp. Xerographic chemography. 3,081,165, 3-12-63, Cl. 96-1.
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- Ebetino, Frank F., to The Norwich Pharmacal Co. New 1-acetyl-(2-chloro-ethyl)-2-(5-nitrofurfurylidene)hydrazines. 3,108,122, 10-22-63, Cl. 260-347.3.
- Eble, Joseph H., W. H. Musser, and K. T. Ward, to J. P. Stevens & Co., Inc. Shantung-effect yarn and method of production. 3,102,379, 9-3-63, Cl. 57-140.
- Eble, Thomas E.: *See*—  
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- Ebner, Karl. Bottle of plastic material and closure member therefor. 3,106,306, 10-8-63, Cl. 215-56.
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- Eburn, William H., Jr., to Polaroid Corp. Photographic product. 3,073,228, 1-15-63, Cl. 95-19.
- Eburn, William H., Jr., and O. E. Wolff, to Polaroid Corp. Photographic apparatus. 3,108,525, 10-29-63, Cl. 95-13.
- Eburn, William H., Jr., and H. T. Wills, to Polaroid Corp. Photographic apparatus. 3,113,496, 12-10-63, Cl. 95-13.
- Eburn, William H., Jr., and H. T. Wills, to Polaroid Corp. Photographic apparatus. 3,113,500, 12-10-63, Cl. 95-89.
- Eby, Harry C., to Ethicon, Inc. Surgical clip assembly. 3,086,208, 4-23-63, Cl. 1-56.
- Eby, James A., to Electro-Mechanical Research, Inc. Analog memory systems. 3,106,704, 10-8-63, Cl. 340-174.
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- Echols, Leonard S., to Shell Oil Co. Stabilized organic materials containing phenolic and phosphate compounds. 3,112,272, 11-26-63, Cl. 252-46.6.
- Echols, Wilford R. Well pumping operation control system. 3,091,179, 5-28-63, Cl. 103-25.
- Echtler, Joseph P., Jr., to Consolidation Coal Co. Sampling apparatus. 3,115,782, 12-31-63, Cl. 73-422.
- Eck, Bruno. Fans. Re. 25,365, 4-2-63, Cl. 230-125.
- Eck, Bruno. Cross flow fan arrangement. 3,096,931, 7-9-63, Cl. 230-125.
- Eck, John. Electric supply for barber chairs. 3,112,971, 12-3-63, Cl. 339-5.
- Eck, John E.: *See*—  
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- Eck, John E., and F. M. Cain, Jr., to Nuclear Materials and Equipment Corp. Apparatus and method for etching objects. 3,097,154, 7-9-63, Cl. 204-192.
- Eckardt, J. C., A.G.: *See*—  
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- Eckberg, Edwin E. Unified system vacuum pump. 3,104,802, 9-24-63, Cl. 230-45.
- Ecke, George G., to Ethyl Corp. Complexes of acyclic trienes with iron subgroup tricarbonyls. 3,111,533, 11-19-63, Cl. 260-439.
- Ecke, George G., and A. J. Kolka, to Ethyl Corp. Stabilized compositions. 3,075,832, 1-29-63, Cl. 44-78.
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- Ecke, George G., and R. L. Jacobs, to Koppers Co., Inc. Monomeric ether-olefin adducts and their preparation. 3,114,752, 12-17-63, Cl. 260-332.2.
- Eckel, Oliver C. Cable floor structure with offset connectors. 3,077,149, 2-12-63, Cl. 94-30.
- Eckel, Oliver C. Assembly of acoustical members. 3,086,325, 4-23-63, Cl. 50-101.
- Eckelmann, Willfried: *See*—  
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- Eckels, George H., to Holan Corp. Portable derrick with telescoping fluid transmission lines. 3,073,396, 1-15-63, Cl. 175-123.
- Eckels, George H., and C. W. Verrell, to Holan Corp. Derrick. 3,073,455, 1-15-63, Cl. 212-55.
- Eckenrodt, Kathleen. Skirt guarding attachment for armless chairs. 3,099,488, 7-30-63, Cl. 297-463.
- Ecker, Howard W. Electromagnetic balance. 3,092,197, 6-4-63, Cl. 177-210.
- Ecker, Leonard D.: *See*—  
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- Eckerfeld, Alfred: *See*—  
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- Eckerle, Frank A., to Northern Industrial Products Co. Writing instrument. 3,082,740, 3-26-63, Cl. 120-42.4.
- Eckermann, Alfred E., Jr., to The Bendix Corp. Rhodium diffusion process for bonding and sealing of metallic parts. 3,107,422, 10-22-63, Cl. 29-492.
- Eckert, Charles F.: *See*—  
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- Heisler, Robert Y., Hess, Eckert, and Throckmorton. 3,096,365.
- Hess, Howard V., and Eckert. 3,085,122.
- Eckert, George W., to Texaco Inc. Motor fuel containing synergistic octane appreciator. 3,082,070, 3-19-63, Cl. 44-53.
- Eckert, George W., to Texaco Inc. Anti-stalling motor fuel. 3,106,461, 10-8-63, Cl. 44-66.
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- Eckert, George W., and H. V. Hess, to Texaco Inc. Motor fuels containing keto carboxylic acids. 3,074,787, 1-22-63, Cl. 44-69.
- Eckert, George W., and H. Chafetz, to Texaco Inc. Motor fuel containing octane appreciator. 3,087,801, 4-30-63, Cl. 44-69.
- Eckert, George W., and K. M. Hall, to Texaco Inc. Method and composition for inhibiting evaporation of water. 3,095,263, 6-25-63, Cl. 21-60.5.
- Eckert, George W., H. V. Hess, and C. C. Towne, to Texaco Inc. Mono amyl and mono butyl di-hydrogen phosphate additives for synthetic ester lubricants. 3,097,171, 7-9-63, Cl. 252-49.8.
- Eckert, John. Micrometer caliper attachment. 3,114,206, 12-17-63, Cl. 33-167.
- Eckert, John P., Jr.: *See*—  
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- Eckert, John P., Jr., and T. H. Bonn, to Sperry Rand Corp. Signal translating device. 3,097,304, 7-9-63, Cl. 307-88.
- Eckert, Louis F., Jr.: *See*—  
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- Eckert, Louis F., Jr., to ACF Industries, Inc. Closure assembly. 3,079,034, 2-26-63, Cl. 220-46.
- Eckert, Robert L., and W. G. Casey, to North American Aviation, Inc. Anti-vibrating fluid control valve. 3,074,685, 1-22-63, Cl. 251-77.
- Eckert, Theodore, to Harig Mfg. Corp. Grinding fixtures. 3,094,821, 6-25-63, Cl. 51-217.
- Eckey, Eddy W., and R. O. Alderson, to The Procter & Gamble Co. Plastic glyceride fat and process for preparing it. 3,093,481, 6-11-63, Cl. 99-118.
- Eckhardt, Adrian S. Wire support and blank. 3,074,677, 1-22-63, Cl. 248-74.
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- Eckhardt, Wolfgang, to H. C. Stulcken, Sohn. Derrick construction. 3,079,006, 2-26-63, Cl. 212-3.
- Eckl, James J., to Square D Co. Electronic circuit. 3,108,258, 10-22-63, Cl. 340-174.
- Eckl, James J., and C. F. Meyer, to Square D Co. Control circuit. 3,071,699, 1-1-63, Cl. 307-88.5.
- Eckles, William J. Combined self-binging pouring spout and closure. 3,087,657, 4-30-63, Cl. 222-531.
- Eckman, Gordon, to Reiner Industries, Inc. Hair roller and clip assembly. 3,090,389, 5-21-63, Cl. 132-41.
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- Ecroyd, John W., and D. J. Lodge. Water-craft. 3,111,924, 11-26-63, Cl. 114-66.5.
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- Eddy, Charles L., to American Can Co. Container and method of handling same. 3,099,114, 7-30-63, Cl. 53-41.
- Eddy, George D. Heater and gas burner therefor. 3,087,484, 4-30-63, Cl. 126-92.
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- Eddy Match Co. Ltd.: *See*—  
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- Eddy, Theodore B., to Heli-Coil Corp. Wire coil installing tool. 3,093,895, 6-18-63, Cl. 29-240.5.
- Eddy, Theodore B., to Heli-Coil Corp. Power inserting tool. 3,111,751, 11-26-63, Cl. 29-240.5.
- Eddy, William R., C. L. Moss, to Phillips Petroleum Co. Method for forming liners for vessels. 3,087,645, 4-30-63, Cl. 220-63.
- Edelbaum, Theodore N., and E. A. Pinsley, to United Aircraft Corp. Compound propulsion system. 3,110,154, 11-12-63, Cl. 60-35.6.
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- Edelen, James L., to ACF Industries, Inc. Shaft end mounting for sealing and loop forming a pump diaphragm. 3,071,080, 1-1-63, Cl. 103-150.
- Edelman, Frank H., to Sperry Rand Corp. Magnetic devices and preparation thereof. 3,092,510, 6-4-63, Cl. 117-93.2.
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- Edelman, Oscar: *See*—  
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- Edelman, Philip, to Miltron Corp. Separable connector for high frequency coaxial cables. 3,076,158, 1-29-63, Cl. 333-97.
- Edelstein, Arthur, to Bulova Watch Co., Inc. Exposure control. 3,086,434, 4-23-63, Cl. 95-10.
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- Edens, William L., to E. I. du Pont de Nemours and Co. Process for the preparation of fluosulfonates. 3,083,220, 3-26-63, Cl. 260-456.
- Eder, Hans: *See*—  
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- Eder, Heinz, and S. Bloeck, to Wacker-Chemie G.m.b.H. Method of rendering metallic surfaces corrosion resistant. 3,101,277, 8-20-63, Cl. 117-132.
- Eder, Virgil K., to General Motors Corp. Abradable protective coating for compressor casings. 3,092,306, 6-4-63, Cl. 230-133.
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- Edgar, Lenville C., to Tube-Kote Co. Apparatus for electrically detecting discontinuities in electrically non-conductive coatings on electrically conductive materials. 3,106,677, 10-8-63, Cl. 324-54.
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- Edgemond, John W., Jr., to FMC Corp. Boat steering mechanism. 3,080,953, 3-12-63, Cl. 192-8.
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- Edgerton, Germeshausen & Grier, Inc.: *See*—  
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- Edlen, George. Puzzle. 3,107,918, 10-22-63, Cl. 273-157.
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- Edlund Co., Inc.: *See*—  
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- Edman, James L., to The Bendix Corp. Jet propelled vehicle. 3,096,616, 7-9-63, Cl. 60-35.6.
- Edminster, Lester R., and H. Czyzewski, to West Coast Alloys Co. Hard cast alloy. 3,086,858, 4-23-63, Cl. 75-128.
- Edmark, Karl W., Jr., to Physio-Control Co., Inc. Artificial heart valve. 3,113,586, 12-10-63, Cl. 137-512.1.
- Edmonds, Byron P., J. B. Dahms, and E. P. Helvenston, to Pittsburgh Plate Glass Co. Recovery of potassium chloride. 3,096,969, 7-9-63, Cl. 262-3.
- Edmonds, James T., Jr., to Phillips Petroleum Co. Olefin polymers and their method of preparation. 3,081,288, 3-12-63, Cl. 260-93.7.
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- Edmonds, Lee O., to Phillips Petroleum Co. Decorative thermoplastic resin coatings. 3,097,105, 7-9-63, Cl. 117-41.
- Edmonds, Robert H.: *See*—  
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- Edmunds, Arthur B., Jr., to Boeing Airplane Co. Mechanically driven electrical recording sphygmomanometer.
- Edmunds, Ernest R.: *See*—  
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- Edqvist, Folke E. Grinding machine for billets and the like. 3,086,331, 4-23-63, Cl. 51-122.
- Edson, William A., to General Electric Co. Waveguide system having mode converter for changing rectangular TE<sub>10</sub> mode into circular TE<sub>01</sub> at locus of waveguide window. 3,100,881, 8-13-63, Cl. 333-21.
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- Edwards, Leo K., to Grove Valve and Regulator Co. Valve body construction. 3,109,624, 11-5-63, Cl. 251-329.
- Edwards, Aubrey T., J. A. Foster, and E. F. Bradshaw; said Foster and said Bradshaw assors. to Burndy Corp. Conductor spacer-damper. 3,083,258, 3-26-63, Cl. 174-42.
- Edwards, Benjamin F. Magnetic quiz game. 3,107,436, 10-22-63, Cl. 35-9.
- Edwards, Bryant, to Illinois Tool Works, Inc. Double walled nestable plastic container. 3,079,027, 2-26-63, Cl. 220-9.
- Edwards, Bryant, to Illinois Tool Works Inc. Nestable cup. 3,091,360, 5-28-63, Cl. 220-97.
- Edwards, Bryant, to Illinois Tool Works Inc. Machine and method for curling lips of container articles. 3,096,546, 7-9-63, Cl. 18-19.
- Edwards, Bryant, to Illinois Tool Works Inc. Thin walled plastic articles and forming same. 3,105,607, 10-1-63, Cl. 220-42.
- Edwards, Charles N., to Fairchild Camera and Instrument Corp. Self-threading automatic film processing apparatus. 3,096,701, 7-9-63, Cl. 95-94.
- Edwards, Charles N., and G. H. McCutcheon. Handle for selectively usable fishing rods. 3,073,055, 1-15-63, Cl. 43-23.
- Edwards, Clarence K. and L. D. Magnet-actuated coupler for model railroad cars. 3,111,229, 11-19-63, Cl. 213-212.
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- Edwards, David J. Airborne proximity infrared firing error indicator. 3,075,726, 1-29-63, Cl. 244-14.
- Edwards, Donald W., to E. I. du Pont de Nemours and Co. Apparatus for severing fed strands and subsequent handling thereof. 3,090,268, 5-21-63, Cl. 83-100.
- Edwards, Douglas A., and J. R. Summers, to Birfield Engineering Ltd. Snap-on shaft guard. 3,111,821, 11-26-63, Cl. 64-4.
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- Edwards, George E., and N. J. Le Page, to Imperial Chemical Industries Ltd. Treatment of brine solutions. 3,102,085, 8-27-63, Cl. 204-128.
- Edwards, George E., and A. W. Ravenscroft, to Imperial Chemical Industries Ltd. Process for the production of electrolytic products by the electrolysis of brine and apparatus therefor. 3,114,686, 12-17-63, Cl. 204-99.
- Edwards, George S., and F. E. Hoffer, to E. H. Edwards Co. Composite building material. 3,073,066, 1-15-63, Cl. 50-83.
- Edwards, George Z., and G. A. Langford. Mechanism for mounting a welding shield on headgear. 3,074,072, 1-22-63, Cl. 2-8.
- Edwards, Granville D., and T. L. Keelen, to Shell Oil Co. Production of high purity diepoxide. 3,093,662, 6-11-63, Cl. 260-348.
- Edwards, Harlan H. Roof flashing assembly. 3,090,161, 5-21-63, Cl. 50-45.
- Edwards, Harold L., to Phillips Petroleum Co. Rollers for film quench bath. 3,087,198, 4-30-63, Cl. 18-15.
- Edwards, Harrison F., to Simmonds Precision Products, Inc. Capacitor sensing and rebalancing servo system. 3,080,513, 3-5-63, Cl. 313-28.
- Edwards, Jack H.: *See*—  
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- Edwards, Jack H., to Jersey Production Research Co. Pine hanging apparatus for use in multiple completed wells. 3,078,921, 2-26-63, Cl. 166-86.
- Edwards, James D., L.-P. A. Harrington, and R. D. Shapter, to Borg-Warner Corp. Control arrangement for automatic washer. 3,114,252, 12-17-63, Cl. 68-12.
- Edwards, James H., to American Machine & Foundry Co. Illuminated indicating devices. 3,103,659, 9-10-63, Cl. 340-378.
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- Edwards, John, to Syntex Corp. 6-chloromethyl derivatives of the pregnane series. 3,080,396, 3-5-63, Cl. 260—397.4.
- Edwards, John, and H. J. Ringold, to Syntex Corp. 2-fluoro- $\Delta^4$  and  $\Delta^4$ -androstenes. 3,080,392, 3-5-63, Cl. 260—397.4.
- Edwards, John A., H. J. Ringold, and F. A. Kincl, to Syntex Corp. 4-halo-6-dehydro and 4-halo-1,6-bis dehydro derivatives of 17 $\alpha$ -hydroxy progesterone. 3,093,664, 6-11-63, Cl. 260—397.4.
- Edwards, Jones B. Electric cigarette lighter and process. 3,108,172, 10-22-63, Cl. 219—32.
- Edwards, Joseph N.: *See*—  
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- Edwards, Le Roy B. Dry cleaning composition and method of use. 3,091,508, 5-28-63, Cl. 8—142.
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- Edwards, Lynn D., to Mueller Co. Combined stopping machine for service T and service tester. 3,105,521, 10-1-63, Cl. 138—90.
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- Edwards, Miles L. Modulating controller for a flow control device. 3,081,786, 3-19-63, Cl. 137—83.
- Edwards, Miles L. Vapor separating pump. 3,090,321, 5-21-63, Cl. 103—113.
- Edwards, Miles L. Heart valve. 3,099,016, 7-30-63, Cl. 3—1.
- Edwards, Robert, to Electronic Assistance Corp. Variable power drive system. 3,114,091, 12-10-63, Cl. 318—118.
- Edwards, Robert N., and L. C. Reese, Sr., to Policy-Matic Corp. of America. Vending machine for insurance contracts. 3,092,234, 6-4-63, Cl. 194—7.
- Edwards, Roy T., to Secony Mobil Oil Co., Inc. Petroleum wax-polymeric vinyl ester coating compositions and method for preparing same. 3,100,196, 8-6-63, Cl. 260—28.5.
- Edwards, Sam M.: *See*—  
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- Edwards, Theodor B. Inflatable wheel pontoons. 3,107,643, 10-22-63, Cl. 115—1.
- Edwards, Theodor B. Plural generator fed motor control system. 3,109,972, 11-5-63, Cl. 318—55.
- Edwards, Thomas C. Portable electronic musical instruments. 3,085,460, 4-16-63, Cl. 84—1.
- Edwards, William J.: *See*—  
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- Edwards, William R.: *See*—  
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- Edwards, William R., to Esso Research and Engineering Co. Production of rocket fuel. 3,098,106, 7-16-63, Cl. 260—666.
- Edwards, William R. Wave measuring apparatus. 3,113,285, 12-3-63, Cl. 340—2.
- Edwards, William R., G. W. Berner, Jr., and R. D. Wesselhoff, to Esso Research and Engineering Co. Recovery of tertiary olefins. 3,113,163, 12-3-63, Cl. 260—677.
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- Eells, Paul K., and W. F. Wright, Jr., to The Wright Buffing Wheel Co. Hoisting device. 3,109,628, 11-5-63, Cl. 254—167.
- Effeny, Allan P., to Ford Motor Co. Vehicle seat structure. 3,086,819, 4-23-63, Cl. 297—460.
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- Effinger, William L., Jr., to The A. C. Gilbert Co. Reversal inhibiting engine starter with centrifugal brake. 3,094,109, 6-18-63, Cl. 123—179.
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- Efromson, Philip C., to Ling-Temco Electronics, Inc. Flexure assembly for vibration test apparatus. 3,075,100, 1-22-63, Cl. 310—27.
- Efring, Karl E.: *See*—  
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- Egan, Charles E., to Owens-Corning Fiberglass Corp. Duct construction. 3,088,392, 5-7-63, Cl. 98—40.
- Egan, Francis J., to The Cold Forming Mfg. Co. Confined extrusion method of making hollow articles. 3,078,566, 2-26-63, Cl. 29—534.
- Egan, Richard: *See*—  
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- Egan, Richard R., to Alcolac Chemical Corp. Process and composition for retarding water evaporation. 3,085,850, 4-16-63, Cl. 21—60.5.
- Egan, Richard T., to Research-Cottrell, Inc. Gas cleaning apparatus. 3,095,289, 6-25-63, Cl. 55—293.
- Egawa, Yoshiyuki: *See*—  
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- Egbert, Earl L., and C. E. Shellman, to General Motors Corp. Transmission. 3,103,129, 9-10-63, Cl. 74—472.
- Egbert, Ervin G.: *See*—  
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- Egbert, John: *See*—  
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- Ege, Hans, to Underwriters Safety Device Co. Wire terminals and lead connector devices. 3,093,433, 6-11-63, Cl. 339—95.
- Ege, Richard M.: *See*—  
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- Ege, Sigmund, to Anaconda Wire and Cable Co. Stranding apparatus. 3,115,742, 12-31-63, Cl. 57—15.
- Ege, Sigmund, and M. D. Schnur, to Anaconda Wire and Cable Co. Method and apparatus for stranding and braiding. 3,099,932, 8-6-63, Cl. 87—1.
- Egelhaaf, C. C., Kommanditgesellschaft: *See*—  
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- Egen Electric Ltd.: *See*—  
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- Egenwall, Gustaf C.: *See*—  
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- Eger, George W., Jr.: *See*—  
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- Eger, Hans, and F.-E. Schwartzkopf, to Noblee & Thorl G.m.b.H. Process for the purification of hard fats. 3,085,101, 4-9-63, Cl. 260—425.
- Egerer, Donald F.: *See*—  
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- Egerstrand, Lennart N., to Superwood Corp. Method and apparatus for making hardboard. 3,112,243, 11-26-63, Cl. 162—225.
- Engen, Ingmar B.: *See*—  
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- Engenberger, John S., to International Business Machines Corp. Memory array. 3,089,222, 5-14-63, Cl. 29—155.5.
- Engenberger, Markus A.: *See*—  
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- Spencer, Robert C., Jr., and Engenberger. 3,098,190.
- Engenberger, Markus A., P. H. Troutman, and P. C. Callan, to General Electric Co. Turbine control system. 3,097,488, 7-16-63, Cl. 60—73.
- Engenberger, Markus A., and P. H. Troutman, to General Electric Co. Full arc-partial arc transfer mechanism for an electro-hydraulic turbine control system. 3,097,489, 7-16-63, Cl. 60—73.
- Engenberger, Markus A., P. H. Troutman, and J. J. Sauter, to General Electric Co. Electric long range speed governor. 3,098,176, 7-16-63, Cl. 317—5.
- Egger, Bernard, to Paillard S.A. Feeler device responsive to the position of the needle of a galvanometer. 3,078,773, 2-26-63, Cl. 95—10.
- Egger, Emile, to Emile Egger & Co., A.G. Diaphragm regulating slider. 3,101,736, 8-27-63, Cl. 137—242.
- Egger, Emile & Co., A.G.: *See*—  
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- Egger, Hermann: *See*—  
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- Eggers, Paul J. Molded hinge structure. 3,077,282, 2-12-63, Cl. 220—31.
- Eggert, Helmut: *See*—  
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- Eggink, Anton, H. C. Wentink, and E. Stambhuis, to de Staat der Nederlanden, te Dezen Vertegenwoordigd door de Hoofdingenieur-Directeur van de Rykswaterstaat in de Directie Algemeen Dienst en Waterhuishouding. Method for the construction of a tunnel or tunnel-part and a tunnel or tunnel-part obtained by pursuing said method. 3,111,811, 11-26-63, Cl. 61—42.
- Eggleston, Richard R.: *See*—  
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- Egglesstone, Robert W.: *See*—  
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- Mathias, Gerald E., Helmick, and Egglesstone. 3,078,402.
- Wickham, William R., and Egglesstone. 3,089,993.
- Eggmann, Jean, to Brown, Boveri & Cie., Aktiengesellschaft. Flexible suspension of a bearing. 3,113,809, 12-10-63, Cl. 308—26.
- Egi, Mario, and A. I. Novi. Percolator. 3,077,156, 2-12-63, Cl. 99—285.
- Egidi, Emil: *See*—  
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- Eging, Henry B. Automatic mail box signal. 3,102,684, 9-3-63, Cl. 232—35.



- Egizi, Eugene A.: *See*—  
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- Egle, John E., to General Electric Co. Electric motor with built-in relay. 3,116,430, 12-31-63, Cl. 310-68.
- Egleson, Granville C.: *See*—  
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- Egley, Floyd C.: *See*—  
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- Egley, Floyd C., to Western Tool and Stamping Co. Motorized lawn edger. 3,079,743, 3-5-63, Cl. 56-25.4.
- Egli, Alwin, to Schweizerische Industrie-Gesellschaft. Apparatus for the production of bags from precut leaves with thermo-plastic. 3,085,478, 4-16-63, Cl. 93-12.
- Egli, Gerhard, to Ruti Machinery Works Ltd. formerly Caspar Honegger. Double roller element for jacquard machines. 3,115,900, 12-31-63, Cl. 139-85.
- Egli, Henry O. Compensated micrometer head. 3,100,348, 8-13-63, Cl. 33-164.
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- Egli, Robert: *See*—  
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- Egnor, William D., and G. L. Romine, to United States of America, Atomic Energy Commission. Sample can handling mechanism. 3,090,480, 5-21-63, Cl. 198-209.
- Egyesult Gyogyszer-es Tapszergyar.: *See*—  
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- Ehemann, John W., to Argus Inc. Slide changer. 3,077,817, 2-19-63, Cl. 88-28.
- Ehernberger, John E.: *See*—  
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- Ehinger, Eldon E. Automobile handling apparatus. 3,101,677, 8-27-63, Cl. 104-91.
- Ehlenbeck, Georg, to Jagenberg-Werke Akt.-Ges. Method of applying labels. 3,116,193, 12-31-63, Cl. 156-215.
- Ehlers, Forrest A.: *See*—  
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- Ehlert, Harry C., to Camco, Inc. Wellhead attachment for use with wire line tools. 3,071,190, 1-1-63, Cl. 166-75.
- Ehlert, Harry C., to Camco, Inc. Magnetically actuated well working tool. 3,105,550, 10-1-63, Cl. 166-65.
- Ehlert, Harry C., to Camco, Inc. Switch influencing devices. 3,105,551, 10-1-63, Cl. 166-65.
- Ehlert, Helmut, to Schleemann Aktiengesellschaft. Die-casting or injection-moulding machines. 3,093,863, 6-18-63, Cl. 18-30.
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- Ehlke, Edward C., to Johnson Service Co. Motor current limiting apparatus. 3,103,107, 9-10-63, Cl. 62-209.
- Ehlmann, Irwin, 20% to Bilker & Moyerman. Method and apparatus for detonating radio frequency sensitive blasting caps. 3,075,461, 1-29-63, Cl. 102-1.
- Ehlscheid, Gunther, to Berkley Machine Co. Apparatus for collecting and banding envelopes. 3,086,338, 4-23-63, Cl. 53-198.
- Ehmman, Ludwig: *See*—  
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- Ehms, Hermann, to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Pressure vessel. 3,081,602, 3-19-63, Cl. 62-55.
- Ehrat, Kurt, to Gretag Aktiengesellschaft. Apparatus for the digital coding of analogue quantities as multi-place figures in the decimal system. 3,111,579, 11-19-63, Cl. 235-154.
- Ehrat, Kurt, to Gretag Aktiengesellschaft. Shaft mounted electro-magnetic decade stepping mechanism having two ratchet motors with interacting stepping pawl control reverse shaft rotation. 3,111,658, 11-19-63, Cl. 340-325.
- Ehreg, Robert J., to Ampex Corp. Inverter. 3,075,135, 1-22-63, Cl. 321-18.
- Ehrenhaft, Franz F., to Uniscan Electronics Corp. Anamorphic television system. 3,097,262, 7-9-63, Cl. 178-6.8.
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- Ehrens, Henry, to Sealed Unit Parts Co., Inc. Method of and apparatus for testing refrigerant systems. 3,086,392, 4-23-63, Cl. 73-168.
- Ehrens, Henry, and S. Weiner. Apparatus for storing and dispensing refrigerant gas. 3,093,979, 6-18-63, Cl. 62-292.
- Ehrenspeck, Hermann W. Endfire array. 3,096,520, 7-2-63, Cl. 343-834.
- Ehret, Robert J.: *See*—  
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- Ehret, Robert J., to Ampex Corp. Power supply overload protector. 3,090,905, 5-21-63, Cl. 323-22.
- Ehret, Robert J., to Ampex Corp. Voltage regulator. 3,093,790, 6-11-63, Cl. 323-22.
- Ehrhardt, Charles H., W. H. Moeller, and H. M. Grubb, to Standard Oil Co. Sample handling capsule. 3,103,277, 9-10-63, Cl. 206-46.
- Ehrhart, Dale L., to Burroughs Corp. Method and apparatus for electrolytic treatment. 3,071,521, 1-1-63, Cl. 204-16.
- Ehrhart, Gustav, I. Hennig, E. Lindner, and H. Ott, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Substituted butyric acid amide and analgesia. 3,096,244, 7-2-63, Cl. 167-065.
- Ehrhart, Gustav, I. Hennig, E. Lindner, and H. Ott, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. New carboxylic acid amides substituted at the nitrogen atom and  $\beta$ -carbon atom and process for their manufacture. 3,096,374, 7-2-63, Cl. 360-562.
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- Ehrlich, Felix F., to E. I. du Pont de Nemours and Co. Pigment. 3,085,023, 4-9-63, Cl. 166-288.
- Ehrlich, Hans, and M. Lässig, to Anschütz & Co. G.m.b.H. Measuring instrument and method and means for dampening the oscillation of a measuring member thereof. 3,099,094, 7-30-63, Cl. 33-226.
- Ehrismann, Kurt H., to C. P. Clare & Co. Relay. 3,076,880, 2-5-63, Cl. 200-104.
- Ehrlich, John: *See*—  
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- Ehrlich, John, Q. R. Bartz, and M. P. Knudsen, to Parke, Davis & Co. Hygromycin and method of producing same. 3,100,176, 8-6-63, Cl. 167-65.
- Ehrlich, Josef, to The De Havilland Engine Co. Ltd. Internal combustion engines. 3,083,702, 4-2-63, Cl. 123-73.
- Ehrlich, Joseph R. Manufacture of artificial icicles. 3,077,416, 2-12-63, Cl. 106-189.
- Ehrlich, Joseph R. Polyester printing screen. 3,085,904, 4-16-63, Cl. 117-98.
- Ehrlich, Joseph R. Coating composition comprising a vinyl acetate unsaturated carboxylic acid copolymer and an organic base dissolved in an organic solvent and article therewith. 3,100,755, 8-13-63, Cl. 260-29.6.
- Ehrlich, Paul, and D. E. Wade, to Monsanto Chemical Co. Production of powdered polyethylene. 3,090,778, 5-21-63, Cl. 260-94.9.
- Ehrlund, Stig A., to Ahlen & Akerlund Forpackning, AB. End closures for boxes and other articles. 3,112,860, 12-3-63, Cl. 229-87.
- Ehrmann, Kurt, and W. F. Soffel, to Westinghouse Electric Corp. Valve for steam iron. 3,077,900, 2-19-63, Cl. 137-604.
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- Eich, Edward D., and G. Feick III, to Anaconda Wire and Cable Co. High voltage electric power cables. 3,094,583, 6-18-63, Cl. 174-25.
- Eichacker, Homer A., and J. R. Foster, to Vonnegut Hardware Co. Panic exit device. 3,097,007, 7-9-63, Cl. 292-92.
- Eichenberger, Paul E. Portable equipment check units. 3,103,808, 9-17-63, Cl. 73-39.
- Eichelman, Francis J., to Chemetron Corp. Combination oxygen tent and nebulizer. 3,075,523, 1-29-63, Cl. 128-191.
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- Eichelman, Francis J., and E. H. Smiley, to Chemetron Corp. Intermittent vacuum regulator. 3,086,528, 4-23-63, Cl. 128-276.
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- Eichenberger, Donald L., and E. O. Schoenike, to Collins Radio Co. Squelch circuit controlled by demodulated voice signal. 3,102,236, 8-27-63, Cl. 325-478.
- Eichenberger, Edward J. Water softener salt level indicator switch. 3,102,175, 8-27-63, Cl. 200-61.05.
- Eichenberger, Hans P., to Thompson Ramo Wooldridge Inc. Method and apparatus for reducing drag on submerged vehicles. 3,075,489, 1-29-63, Cl. 114-67.
- Eichenberger, Hans P., to Thompson Ramo Wooldridge Inc. Monofuel propellant booster rocket. 3,105,350, 10-1-63, Cl. 60-35.3.
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- Eichinger, Maximilian. Clamping device. 3,080,867, 3-12-63, Cl. 128-346.



- Eichler, Herbert, to VEB Schwermaschinenbau S. M. Kirow. Vehicular tippler. 3,082,888, 3-26-63, Cl. 214-35.
- Eichler, Rolf W.: *See*—  
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- Eichler, Rolf W., R. H. Eichorn, and J. Rutkus, Jr. Sheet handling control apparatus. 3,090,616, 5-21-63, Cl. 271-3.
- Eichler, Rolf W., R. H. Eichorn, and J. Rutkus, Jr., to Xerox Corp. Clutch mechanism. 3,112,819, 12-3-63, Cl. 192-89.
- Eichman, Ellis V. Railing construction. 3,104,865, 9-24-63, Cl. 256-21.
- Eichmann, Garry G., and W. Kimel, to Hoffmann-La Roche Inc. 3-hexen-1-yl-3-hexenoate. 3,093,681, 6-11-63, Cl. 260-486.
- Eichmann, Karl. Vanes for rotary vane machine supported in balance and in stability and in less friction. 3,099,964, 8-6-63, Cl. 103-136.
- Eichorn, Robert H., R. W. Morrill, K. A. Northrup, and R. F. Osborne, to Xerox Corp. Xerographic reproducing apparatus. 3,099,943, 8-6-63, Cl. 95-17.
- Eichmann, Robert T. Apparatus for heating and cooling buildings. 3,078,043, 2-19-63, Cl. 237-1.
- Eichorn, Roger H.: *See*—  
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- Eichler, Rolf W., Eichorn, and Rutkus. 3,112,819.
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- Eichorn, Roger H., to Xerox Corp. Paper gripper mechanism. 3,100,109, 8-6-63, Cl. 70-79.
- Eichorn, Roger H., and J. A. Strommer, to Xerox Corp. Web cleaner apparatus. 3,099,856, 8-6-63, Cl. 15-256.52.
- Eichorn, Roger H., and R. F. Osborne, to Xerox Corp. Xerographic control apparatus. 3,099,944, 8-6-63, Cl. 95-17.
- Eichorn, Roger H., and J. W. Melville, to Xerox Corp. Sheet feed mechanism. 3,100,111, 8-6-63, Cl. 271-36.
- Eicken, Henri. Getter arrangement for reducing cathode-anode capacity. 3,086,137, 4-16-63, Cl. 313-181.
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- Eickhoff, Louis, to Robco Corp. Solenoid operated actuator device. 3,105,386, 10-1-63, Cl. 74-1.
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- Eickhoff, William H.: *See*—  
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- Eickmann, Karl. Control mechanism for hydraulic apparatus. 3,089,516, 5-14-63, Cl. 137-620.
- Eickmann, Karl. Casing capsule ring arrangement for a rotary vane machine. 3,111,905, 11-26-63, Cl. 103-121.
- Eickmann, Olin J.: *See*—  
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- Szwargulski, Jesse L., Eickmann, Carlson, and Korte. 3,076,639.
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- Eidinger, Adolf, to Brown, Boveri & Cie, Aktiengesellschaft. Compressed air switch with electrically controlled blasting of the switching gaps. 3,095,488, 6-25-63, Cl. 200-148.
- Eidt, Clarence M., Jr., and J. D. Koontz, to Esso Research and Engineering Co. Process for preparing liquid copolymers of butadiene and styrene. 3,093,695, 6-11-63, Cl. 260-669.
- Eifel, Paul J., to Hills-McCanna Co. Hydraulically actuated diaphragm pump. 3,075,468, 1-29-63, Cl. 103-44.
- Eifrid, Stephen L. Reel assembly. 3,101,846, 8-27-63, Cl. 206-59.
- Eig, Saul. Defensive weapon. 3,109,253, 11-5-63, Cl. 42-1.
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- Eilers, Louis H., and A. Park, to The Dow Chemical Co. Well fracturing. 3,075,463, 1-29-63, Cl. 102-21.
- Eilers, Louis H., and A. Park, to The Dow Chemical Co. Well fracturing. 3,104,706, 9-24-63, Cl. 166-42.
- Eilersen, Jack E., to Oliver Tire & Rubber Co. Adjustable extruding die. 3,093,860, 6-18-63, Cl. 18-12.
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- Schwartz, Daniel M., Hackett, and Rosenblatt. 3,085,643.
- Einarsson, Einar. Take-off and landing field for jet-propelled aircraft. 3,081,970, 3-19-63, Cl. 244-114.
- Einarsson, Einar. Flying car. 3,090,581, 5-21-63, Cl. 244-2.
- Einaudi, Giacomo, to RIV Officine di Villar Perosa Societa per Azioni. Method of manufacturing metal cages for needle bearings. 3,114,960, 12-24-63, Cl. 29-148.4.
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- Einfalt, Alfred, to Gebrüder Einfalt Blechspielwarenfabrik. Toy runways. 3,108,398, 10-29-63, Cl. 46-216.
- Einfalt Blechspielwarenfabrik, Gebrüder: *See*—  
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- Eisele, Robert L., to Lake Shore Inc. Load position indicating device for a cargo handling apparatus. 3,107,796, 10-22-63, Cl. 214-15.
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- Elemag-Anstalt: *See*—  
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- Elfarr, Johnnie A.: See—  
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- Elfs, Lee E., to Massey-Ferguson Inc. Brake assembly. 3,086,620, 4-23-63, Cl. 188—75.
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- Elford, Lionel H., to D. Napier & Son Ltd. Turbo blowers. 3,099,585, 7-30-63, Cl. 230—116.
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- Elion Instruments, Inc.: See—  
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- Elit, Sigdon A., to Olin Mathieson Chemical Corp. Apparatus and process for continuous casting. 3,099,053, 7-30-63, Cl. 22—200.1.
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- Elledge, Martin D. Lathe tool holding and operating attachment. 3,102,445, 9-3-63, Cl. 82—5.
- Elleman, Earle W., to Anchor Hocking Glass Corp. Screw cap applicator. 3,071,909, 1-8-63, Cl. 53—315.
- Ellenbogen, Leon, to American Cyanamid Co. Oral iron-glucosamine hematinic composition and therapy. 3,102,844, 9-3-63, Cl. 167—68.
- Ellenburg, George W., and H. H. Specht, to General Electric Co. Composite propulsion nozzle. 3,112,614, 12-3-63, Cl. 60—35.6.
- Ellerbeck, Grant C., to Friden, Inc. Calculating machine. 3,079,076, 2-26-63, Cl. 235—63.
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- Ellerin, Erwin H. Solution for reconditioning typewriter ribbons and the like and methods of reconditioning such ribbons. 3,105,769, 10-1-63, Cl. 117—2.
- Ellerman, Charles E., and V. C. Monahan, to Cascade Pole Co. Pole incising mechanism. 3,092,158, 6-4-63, Cl. 144—2.
- Ellert, Henry G., and E. M. Gladrow, to Esso Research and Engineering Co. Preparation of catalyst supports and catalysts. 3,074,893, 1-22-63, Cl. 252—465.
- Ellert, Henry G., and C. N. Kimberlin, Jr., to Esso Research and Engineering Co. Gas conversion process. 3,113,162, 12-3-63, Cl. 260—676.
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- Ellett, James R., to Barber Machinery Ltd. Pressure responsive device. 3,097,276, 7-9-63, Cl. 200—83.
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- Ellila, Karl L. Device in a screen filter fitted with a sloping screen. 3,112,263, 11-26-63, Cl. 210—411.
- Ellingsen, Walter R., to E. I. du Pont de Nemours and Co. Textile filament. 3,109,768, 11-5-63, Cl. 161—177.
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- Elliott, Ernest F. Continuous process of hot-forming metal. 3,080,649, 3-12-63, Cl. 29—529.
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- Elliott, Fairfield H. Method of forming drilled cast-in-place piles. 3,074,240, 1-22-63, Cl. 61—53.58.
- Elliott, Gary C.: See—  
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- Elliott, Harold E., and S. F. Lintott, to United Shoe Machinery Corp. Machines for attaching loose outsoles to the breasts of loose Louis heels. 3,075,209, 1-29-63, Cl. 12—16.4.
- Elliott, Hobert H., to Fairmont Railway Motors, Inc. Machine for driving tie plugs. 3,114,331, 12-17-63, Cl. 104—17.
- Elliott, James H., to Pittsburgh Plate Glass Co. Treating glass sheets. 3,088,300, 5-7-63, Cl. 65—288.
- Elliott, Lloyd E., Jr.: See—  
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- Elliott, Louis J., and T. C. Ward, to Kinetics Corp. Static inverter circuit. 3,096,472, 7-2-63, Cl. 321—45.
- Elliott, Martin A., to Institute of Gas Technology. Odorization of pipeline gas. 3,112,189, 11-26-63, Cl. 48—95.
- Elliott, Norman: See—  
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- Elliott, William S., to Collins Radio Co. Temperature-stabilized and distortionless semiconductor detector. 3,079,562, 2-26-63, Cl. 329—101.
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- Elliott, William S., and D. P. Viterisi, to Collins Radio Co. Filter utilizing variable capacitance junction diode. 3,079,571, 2-26-63, Cl. 333—76.
- Elliott, William Y., Jr., to International Business Machines Corp. Magnetic drum system. 3,105,228, 9-24-63, Cl. 340—174.1.
- Elliott Bay Lumber Co.: See—  
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- Ellis, Belvin B.: See—  
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- Ellis, Belvin B., Westinghouse Electric Corp. Method of making a magnetic core. 3,107,415, 10-22-63, Cl. 29—155.58.
- Ellis, Charles L.: See—  
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- Ellis, Charles W., III, and W. E. Blackburn, to Kaman Aircraft Corp. Velocity sensitive stabilizer. 3,075,727, 1-29-63, Cl. 244-17.13.
- Ellis, Charles W., III, R. B. Bossler, Jr., and N. J. Bosco, to Kaman Aircraft Corp. Rotor and pitch control mechanism for a helicopter. 3,109,496, 11-5-63, Cl. 170-160.25.
- Ellis, Clifford J. Vest. 3,105,359, 10-1-63, Cl. 61-70.
- Ellis, David A.: *See*—
- Long, Ray S., and Ellis. 3,072,461.
- Ellis, David A., to The Dow Chemical Co. Process for the separation of iron and titanium values by extraction and the subsequent preparation of anhydrous titanium dioxide. 3,104,950, 9-24-63, Cl. 23-202.
- Ellis, David H., and E. H. Guse, to The Oscar C. Rixson Co. Door closer assembly. 3,106,743, 10-15-63, Cl. 16-55.
- Ellis, Donald E.: *See*—
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- Smith, Delbert P., Ellis, and Worley. 3,104,958.
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- Jones, Addis T., and Ellis. 3,088,562.
- Ellis, Henry A., to The Dow Chemical Co. Structure for detachably mounting panels. 3,095,661, 7-2-63, Cl. 40-156.
- Ellis, Jack J. Ore reduction furnace and method. 3,108,869, 10-29-63, Cl. 75-41.
- Ellis, Jerome J. Construction members and methods of forming same. 3,108,406, 10-29-63, Cl. 50-439.
- Ellis, John H. General Motors Corp. Compressor air bleed valve. 3,107,892, 10-22-63, Cl. 251-62.
- Ellis, Kenneth C. H.: *See*—
- Sherliker, Francis R., and Ellis. 3,085,918.
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- Ellis, Ray E. Fire retardant composition and method. 3,102,821, 9-3-63, Cl. 106-15.
- Ellis, Ray G., and F. T. Vaccaro, to National Rejectors, Inc. Currency detectors. 3,108,680, 10-29-63, Cl. 198-31.
- Ellis, Robert. Dry shaver with hair pulling means to aid in cutting the hair. 3,088,205, 5-7-63, Cl. 30-34.
- Ellis, Robert. Animated figurine and means for operating same. 3,098,319, 7-23-63, Cl. 46-240.
- Ellis, Robert. Flexible permanent magnet. 3,111,735, 11-26-63, Cl. 24-201.
- Ellis, Rollo G.,  $\frac{1}{2}$  to Peter H. Wayne. Variable shading device. 3,074,127, 1-22-63, Cl. 20-62.
- Ellis, Rollo G., to Micromatic Hone Corp. Article conveying mechanism. 3,083,816, 4-2-63, Cl. 198-213.
- Ellis, Ronald, to Sterling Drug Inc. Mechanically operated fluid dispensing device. 3,090,528, 5-21-63, Cl. 222-179.
- Ellis, Roy T., and S. A. Denman; said Denman assor. to said Ellis. Safety deposit box lock. 3,103,806, 9-17-63, Cl. 70-339.
- Ellis, Thomas E.: *See*—
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- Ellis, Wayne P., and I. J. Steltz, to Benjamin Foster Co. Intumescent mastic coating. 3,090,764, 5-21-63, Cl. 260-28.5.
- Ellis, William L. Automatic door. 3,092,170, 6-4-63, Cl. 160-26.
- Ellison, James O.,  $\frac{2}{100}$  to T. B. Griffith, and  $\frac{2}{100}$  to E. Younglove. Laminated wheel. 3,099,490, 7-30-63, Cl. 301-9.
- Ellison, Lynn E., and S. E. Nuber, said Ellison assor. to The Pure Oil Co., and said Nuber assor. to Warner Electric Brake & Clutch Co. Apparatus for measuring the apparent bulk modulus of a transient-electric-potential-responsive fluid. 3,105,379, 10-1-63, Cl. 73-55.
- Ellman, Irving A. Device for cleaning a dentist's mirror. 3,075,220, 1-29-63, Cl. 15-145.
- Ellman, Irving A. Dental cleaning tool, apparatus, and method. 3,091,033, 5-23-63, Cl. 32-58.
- Ellman, Julius, and G. Lerner. Bubble pipe. 3,108,394, 10-29-63, Cl. 46-7.
- Ellman, Julius, and G. Lerner. Toy gun with attached floating target. 3,111,319, 11-19-63, Cl. 273-101.
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- Ellsworth, James P., and R. H. Flick, to Westinghouse Electric Corp. Circuit breaker. 3,073,926, 1-15-63, Cl. 200-88.
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- Elmer, Thomas H., to Corning Glass Works. Method of increasing annealing point of high silica glass. 3,113,008, 12-3-63, Cl. 65-31.
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- Elmore, William C., to Burroughs Corp. Magnetic core device. 3,101,417, 8-20-63, Cl. 307-88.
- Elms, Edwin F., to K. L. Brown. Sheet metal fastener. 3,092,884, 6-11-63, Cl. 24-73.
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- Shelley, Rulon G., and Elms. 3,075,188.
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- Eloranta, Vaito K., to Polaroid Corp. Photographic apparatus. 3,113,497, 12-10-63, Cl. 95-13.
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- Elpern, Bill, to Sterling Drug Inc. Mercury derivatives of acylamino-phenoxyacetic acids. 3,071,606, 1-1-63, Cl. 260-434.
- Elpern, Bill, to Sterling Drug Inc. Alkyl 1-(2-aryl-2-oxo-alkyl)-4-phenylpiperidine-4-carboxylates and their preparation. 3,093,652, 6-11-63, Cl. 260-293.2.
- Elpern, Bill, to Sterling Drug Inc. Lower alkyl 1-(phenyl-aminoalkyl)-4-phenyl-4-piperidyl ketones. 3,096,335, 7-2-63, Cl. 260-293.4.
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- Elpern, Bill, to Sterling Drug Inc. Preparation of lower alkyl 4-phenyl-N-phenylethylisopropenates under catalytic hydrogenation conditions. 3,109,004, 10-29-63, Cl. 260-294.3.
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- Elrick, Donald E., and W. H. Gardner, to United States of America, Navy. Apparatus for shock gelling nitrocellulose. 3,077,388, 2-12-63, Cl. 23-270.
- Elrick Industries, Inc.: *See*—
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- Boller, Arthur, Els, and Furst. 3,080,373.
- Elsas, Norman E. Camera. 3,094,055, 6-18-63, Cl. 95-31.
- Elsas, Norman E., to Nemo Industries, Inc. Die cutting machine. 3,094,889, 6-25-63, Cl. 83-529.
- Elsea, Asa J. Football kicking tee. 3,105,686, 10-1-63, Cl. 273-55.
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- Elslager, Edward F., to Parke, Davis & Co. 5-(4-amino-1-naphthylazo)-2,4-pyrimidinediol. 3,083,195, 3-26-63, Cl. 260-154.
- Elslager, Edward F., and D. F. Worth, to Parke, Davis & Co. 4,6-diamino-1,2-dihydro-2-lower alkyl-1-aryl-8-triazine salts of pamoic acid. 3,074,947, 1-22-63, Cl. 260-249.9.
- Elsner, Edwin C., to Aeroquip Corp. Grip fitting. 3,072,992, 1-15-63, Cl. 24-211.
- Elsner, Edwin C., to Aeroquip Corp. Chain load binder. 3,075,270, 1-29-63, Cl. 24-230.
- Elsner, Edwin C., to Aeroquip Corp. Adjustable loader beam. 3,075,478, 1-29-63, Cl. 105-369.
- Elsner, Edwin C. Railroad box car. 3,098,456, 7-23-63, Cl. 105-379.
- Elsner, Edwin C., to Aeroquip Corp. Automatic release hook. 3,101,213, 8-20-63, Cl. 294-83.
- Elsner, Edwin C., to Aeroquip Corp. Crane hook. 3,106,420, 10-8-63, Cl. 294-83.
- Elster, Curt C., and W. Hummitzsch, to Westphalia Union Aktiengesellschaft für Eisenunde Drahtindustrie. Rods for welding cast iron, especially high grade cast iron. 3,114,033, 12-10-63, Cl. 219-146.
- Elston, Clayton T., to du Pont of Canada Ltd. Method for improving the catalytic activity of the titanium tetrachloride-zinc dimethyl system. 3,114,718, 12-17-63, Cl. 252-429.
- Elston, Edward R.: *See*—
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- Elston, George F., G. F. Tess, and L. J. Evans, to Vickers Inc. Thermal responsive throttle valve. 3,082,787, 3-26-63, Cl. 137-468.



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- Elsworth, Robert M., to General Electric Co. Process for binding coil end turns of a dynamo-electric machine. 3,103,737, 9-17-63, Cl. 29-155.5.
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- Elwood, Sam F. Perpetual calendar assembly. 3,096,595, 7-9-63, Cl. 40-107.
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- Elzinga, Eugene R., to Jersey Production Research Co. In situ combustion process. 3,087,541, 4-30-63, Cl. 166-11.
- Embricos, Nicole J. Apparatus for curling hair. 3,107,675, 10-22-63, Cl. 132-33.
- Emblem, Harold G., to Philadelphia Quartz Co. Processes for binding particulate solid materials. 3,112,538, 12-3-63, Cl. 22-193.
- Emblem, Harold G., and E. W. Fothergill, to Philadelphia Quartz Co. Molds utilizing acid hydrolysed isopropyl silicates as binders. 3,070,861, 1-1-63, Cl. 22-193.
- Emblem, Harold G., and A. K. Harrison, to Philadelphia Quartz Co. Aminoalkyl polysilicates. 3,079,656, 3-5-63, Cl. 22-193.
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- Emblem, Harold G., and R. C. Le Fleming, to Philadelphia Quartz Co. Preparation of organo-halogeno-silanes. 3,110,721, 11-12-63, Cl. 260-448.2.
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- Emch, Paul J. Fold-away device for bed unit. 3,097,369, 7-16-63, Cl. 5-136.
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- Emerson Electric Mfg. Co., The: *See*—Ateliani, Edmond J. 3,108,669.
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- Bluth, Edward J., and Green. 3,084,210.
- Evans, William M. 3,077,559.
- Luenberger, Frederick O. 3,072,810.
- Luenberger, Frederick O. 3,075,690.
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- Leu, James C. 3,110,381.
- Quin, Murray L. 3,103,156.
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- Emerson, Gerard V.: *See*—Webster, Roland C., Spechler, and Emerson. 3,089,388.
- Emerson, John F.: *See*—Stiles, John C., and Emerson. 3,077,783.
- Emerson Mfg. Co., The: *See*—Woodward, Richard C., Jr. 3,088,326.
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- Emerson, Paul D., to Monsanto Chemical Co. Pneumatic traverse device. 3,113,737, 12-10-63, Cl. 242-43.
- Emerson, Ralph W., to Emerite Corp. Lignocellulose molding compositions. 3,097,177, 7-9-63, Cl. 260-17.3.
- Emerson, Reginald S., to Leslie Hartridge Ltd. Variable speed drive. 3,081,642, 3-19-63, Cl. 74-230.17.
- Emerson-Pryne Co.: *See*—Ford, Harold H. 3,104,832.
- Papsdorf, Robert A. 3,091,687.
- Emerson-White-Rodgers Co.: *See*—Staring, Bernardus J. 3,079,982.
- Wright, James A., and Johnson. 3,079,984.
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- Emery, Alfred H. Bore gauge. 3,103,748, 9-17-63, Cl. 33-178.
- Emery, Edgar F., to Insuloid Mfg. Co. Ltd. Plastic cable banding. 3,109,212, 11-5-63, Cl. 24-16.
- Emery, Francis V.: *See*—Bunger, Dennen J., Emery, Cavalier, Ferguson, Schmider, and Alexanderson. 3,097,824.
- Emery Industries, Inc.: *See*—Aylesworth, Robert D., Krabacher, Kadesch, and Sonntag. 3,074,981.
- Barrett, Fred O., and Goebel. 3,074,983.
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- Goebel, Charles G. 3,100,784.
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- Van Tuyle, Robert W. 3,071,546.
- Emery, Leonard W., to Sinclair Research, Inc. In-situ combustion process using surfactant. 3,115,929, 12-31-63, Cl. 166-11.
- Emery, Robert D., to Eaton Mfg. Co. Actuator device. 3,078,733, 2-26-63, Cl. 74-128.
- Emery, Robert D., to Eaton Mfg. Co. Flexible vane and grille assemblies. 3,093,060, 6-11-63, Cl. 98-110.
- Emery, William M. Bed boards. 3,087,170, 4-30-63, Cl. 5-327.
- Emery, William M., to Better Sleep Mfg. Co. Cushions. 3,115,647, 12-31-63, Cl. 5-341.
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- Wythe, Frederick J. 3,115,999.
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- Emley, Edward F., to Magnesium Elektron Ltd. Magnesium base alloys. 3,101,269, 8-20-63, Cl. 75-168.
- Emmel, David T. Traffic control equipment. 3,086,430, 4-23-63, Cl. 94-1.
- Emmel, Henry J., to Bausch & Lomb Inc. Slide changing mechanism for slide projectors. 3,106,031, 10-8-63, Cl. 40-879.
- Emmel, Ludwig F.: *See*—Frensch, Heinz, Czech, and Emmel. 3,091,564.
- Emmens, Ameling S.: *See*—Koelmans, Hein, Wanmaker, Cox, and Emmens. 3,110,680.
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- Emmons, Nelson, III, to The Sheffield Corp. Gaging apparatus. 3,111,836, 11-26-63, Cl. 73-38.
- Emmons, Robert E., to Penn Controls, Inc. Capillary element. 3,078,878, 2-26-63, Cl. 138-46.
- Emmons, William D., and R. W. White, to Rohm & Haas Co. Nitro compounds. 3,087,972, 4-30-63, Cl. 260-645.
- Emond, Joseph S. Plant support. 3,113,400, 12-10-63, Cl. 47-45.
- Emond, Joseph S., Sr. Dental cleanser in tablet form. 3,116,208, 12-31-63, Cl. 167-93.
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- Emrick, Homer R., to Emrick, Inc. Hospital bed. 3,105,246, 10-1-63, Cl. 5-63.
- Emrick, Inc.: See—  
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- Emsig Mfg. Co.: See—  
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- En Dean, Howard J., to Gulf Research & Development Co. Pipeline batching pig. 3,074,436, 1-22-63, Cl. 137-802.
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- Eng, Knut, to Norsk Lettmetall. A/S. Snow disintegrating and blowing device. 3,095,660, 7-2-63, Cl. 37-43.
- Engalitcheff, John, Jr., to Baltimore Aircoil Co., Inc. Multi-stage air moving device. 3,084,850, 4-9-63, Cl. 230-122.
- Engel, Harald A., to High Voltage Engineering Corp. High-voltage generator with solid insulation. 3,071,702, 1-1-63, Cl. 310-6.
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- Engel, Charles F. Air duct installations. 3,109,670, 11-5-63, Cl. 285-114.
- Engel, Charles R., to Canadian Patents and Development Ltd. 17- $\alpha$ -bromo-6-methyl-pregnane derivatives. 3,087,941, 4-30-63, Cl. 260-397.4.
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- Engel, John H.: See—  
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- Engel, John H., to Phillips Petroleum Co. Combined desulfurization, hydrocracking and reforming operation. 3,105,811, 10-1-63, Cl. 208-60.
- Engel, Karl, to Unipak Overseas Ltd. Cartons. 3,105,608, 10-1-63, Cl. 220-105.
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- Engel, Walter, to Siemens-Schuckertwerke Aktiengesellschaft. Transistor amplifier with tunnel diode in emitter circuit. 3,090,926, 5-21-63, Cl. 330-24.
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- Engel, Wolfgang, to Anker-Phoenix Nähmaschinen Aktiengesellschaft. Zig-zag sewing machines. 3,075,483, 1-29-63, Cl. 112-158.
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- Engelbart, Douglas C., to Stanford Research Institute. Magnetic logic device. 3,083,355, 3-26-63, Cl. 340-174.
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- Engelder, Arthur E. Apparatus for determining metabolic rates. 3,082,761, 3-26-63, Cl. 128-2.07.
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- Engelhard Industries, Inc.: See—  
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- Engelmann, Rudolph H., to United States of America, Atomic Energy Commission. Electronic integrating circuit. 3,101,406, 8-20-63, Cl. 235-183.
- Engelmann, Walter, Druckknopf- und Metallwarenfabrik A. Raymond. Securing device. 3,102,745, 9-3-63, Cl. 287-93.
- Engelmann, Walter. Spring retainer clip for grooved pin. 3,115,805, 12-31-63, Cl. 85-8-8.
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- Engle, Allen W., J. L. Casey, and A. P. Brokaw, to Dresser Industries, Inc. Acoustic well logging system. 3,112,466, 11-26-63, Cl. 340-18.
- Engle, John H. Roller tappet constraining device. 3,101,077, 8-20-63, Cl. 123-90.
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- Engle, Robert C., to Micromatic Hone Corp. Honing tool body abrasive slot insert. 3,109,266, 11-5-63, Cl. 51-184.3.
- Engle, Robert W., to Combination Pump Valve Co. Valve having heat dissipating head structure. 3,078,067, 2-19-63, Cl. 251-121.
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- Engler, John F. Mowing device. 3,115,738, 12-31-63, Cl. 56-6.
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- Engleson, Harry E., and E. D. Sramek, to Crompton & Knowles Corp. Tray forming frame for tray filling and forming apparatus. 3,086,337, 4-23-63, Cl. 53-194.
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- Englis, Clifton L. Underwater missile and activating means therefor. 3,102,525, 9-3-63, Cl. 124-11.
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- English, Douglas: *See*—  
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- English Electric Aviation Ltd., The: *See*—  
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- English Electric Co. Ltd.: *See*—  
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- English Electric Co. The: *See*—  
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- English Electric Valve Co. Ltd.: *See*—  
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- English, James F., Jr., and R. J. Stevens, to Bailey Meter Co. Radiation bolometer. 3,073,163, 1-15-63, Cl. 73-355.
- English, John A., 15% each to H. G. and P. G. Johansing; 25% each to A. B. and M. C. Slack; 5% to J. H. Lowe, and 5% to H. D. Meyer. Grip training device. 3,111,322, 11-19-63, Cl. 273-183.
- English, Lawrence P.: *See*—  
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- English, William J.: *See*—  
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- Englund, Gosta R., to Svenska Dataregister AB. Accounting machine. 3,093,305, 6-11-63, Cl. 235-60.
- Englund, Gosta R., to Svenska Dataregister AB. Data handling apparatus. 3,103,309, 9-10-63, Cl. 235-60.31.
- Englund, Lawrence P., to The American Baler Co. Apparatus for baling. 3,086,456, 4-23-63, Cl. 100-192.
- Englund, Robert A., to The Garrett Corp. Self sealing disc for spoon type valves. 3,075,738, 1-29-63, Cl. 251-86.
- Engman, Eugene G. Apparatus for making large hollow articles. 3,110,928, 11-19-63, Cl. 18-5.
- Engman, Gustaf O.: *See*—  
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- Engqvist, Erik I., and J. H. W. Adenstedt, to L. M. Ericsson, Telefonaktiebolaget. Cordless switchboard. 3,101,395, 8-20-63, Cl. 179-99.
- Engstrand, Gunnar C. Screw propellers. 3,078,925, 2-26-63, Cl. 170-159.
- Engstrom, Carl-Gunnar D. Apparatus for measuring quantities of gases. 3,075,384, 1-29-63, Cl. 73-234.
- Engstrom, Henry O. Expansion insert. 3,089,377, 5-14-63, Cl. 85-24.
- Engström, Urban, to Vasterbottens Tryckeri Aktiebolag. Expandable document box. 3,114,492, 12-17-63, Cl. 229-16.
- Engwall, Richard E.: *See*—  
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- Enk, Eduard, H. Jacob, and J. Nickl, to Wacker-Chemie G.m.b.H. Process for manufacturing indium phosphide and gallium arsenide of high purity. 3,077,384, 2-12-63, Cl. 23-204.
- Enk, Eduard, and J. Nickl, to Wacker-Chemie G.m.b.H. Process for effecting crucibleless melting of materials and production of shaped bodies therefrom. 3,098,741, 7-23-63, Cl. 75-65.
- Enk, Eduard, W. Leicher, and W. Schindelin, to Wacker-Chemie G.m.b.H. Process for making calcium oxide suitable for manufacturing calcium carbide. 3,104,158, 9-17-63, Cl. 23-186.
- Enk, George W. Positioning apparatus. 3,076,889, 2-5-63, Cl. 219-125.
- Enicks, James H., and A. A. Di Rocco, said Di Rocco assor. to said Enicks. Protective mouthpiece. 3,089,487, 5-14-63, Cl. 128-136.
- Enloe, Winfred P., Jr. Warp let-off mechanism for looms. 3,105,524, 10-1-63, Cl. 139-110.
- Ennis, Joseph F., and B. A. Peters. Cultivator. 3,095,045, 6-25-63, Cl. 172-38.
- Eno, Wilber S., and N. R. Hall, to Bell Telephone Laboratories, Inc. Telephone coin return assembly. 3,116,013, 12-31-63, Cl. 232-57.5.
- Enoch, Duard W., J. F. Bogner, and E. A. Jewell, Jr., to Interstate Bakeries Corp. Turnover cake and method of making the same. 3,115,104, 12-24-63, Cl. 107-54.
- Enochs, John R., H. M. Dimond, and H. Springer, to General Electric Co. Time switch. 3,078,358, 2-19-63, Cl. 200-38.
- Enomoto, Hajime: *See*—  
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- Enomoto, Hajime, and S. Shirai, to Kokusai Denshin Denwa Kabushiki Kaisha. Logical element. 3,098,157, 7-16-63, Cl. 307-88.
- Enos, John P., to The Singer Mfg. Co. Feeding mechanism for sewing machine work jogging attachments. 3,074,365, 1-22-63, Cl. 112-160.
- Enrick, Norbert L., and G. G. Fornes, to Institute of Textile Technology. Counting device. 3,079,713, 3-5-63, Cl. 40-68.
- Enright, James H., and V. L. Thompson, to In-Sink-Erator Mfg. Co. Shredder rotors for garbage disposers. 3,083,922, 4-2-63, Cl. 241-260.
- Ensch, Thomas B. Dispensing cap for squeeze-type containers. 3,094,256, 6-18-63, Cl. 222-536.
- Ensign, George G., G. T. Soper, and O. Lundahl, to Elgin National Watch Co. Electrically-powered time devices. 3,075,345, 1-29-63, Cl. 58-28.
- Ensign, Robert H.: *See*—  
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- Ensign, Robert H., and A. G. Jackson, to Montag, Inc. Roller clip board. 3,085,579, 4-16-63, Cl. 129-23.
- Ensign, Roy F., to American Bosch Arma Corp. Carburetor and combined carburetor and regulator. 3,081,160, 3-12-63, Cl. 48-184.
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- Ensinger, Raymond L.: *See*—  
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- Ensink, Johannes, to North American Philips Co. Inc. Variable input impedance circuit arrangement. 3,102,215, 8-27-63, Cl. 317-148.5.
- Enslein, Arthur W., deceased; G. W. Rapp, administrator. High ratio double action stepper unit. 3,095,751, 7-2-63, Cl. 74-142.
- Ensley, Irvin L., and H. M. Buckner, to E. V. Prentice Co. Veneer sheet handling and loading apparatus. 3,080,958, 3-12-63, Cl. 193-105.
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- Enterprise Mfg. Co., The: *See*—  
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- Enterprise Railway Equipment Co.: *See*—Continued  
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- Entoleter, Inc.: *See*—  
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- Entwistle, Clive. Demountable furniture. 3,104,132, 9-17-63, Cl. 297-440.
- Entwistle, George: *See*—  
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Sheldahl, David B., and Entwistle. 3,086,871.
- Entzminger, Augusto, to Les Ateliers de Construction Mecaniques C. & A. Holweg, S.a.r.l. Machine for the continuous production of flat bags. 3,114,299, 12-17-63, Cl. 93-18.
- Entzminger, Lindell B. Combined contact lens carrier and guard unit. 3,083,819, 4-2-63, Cl. 206-3.
- Enyeart, Raymond J.: *See*—  
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- Enz, Walter F., and T. E. King, to The Upjohn Co. Enteric-coated pilules. 3,081,233, 3-12-63, Cl. 167-82.
- Eolkin, Dave, to Gerber Products Co. Drum drying of food products. 3,116,124, 12-31-63, Cl. 34-122.
- Eolkin, Dave, and E. R. Allard, to Gerber Products Co. Accessory for drum drier. 3,115,433, 12-24-63, Cl. 159-11.
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- Epes, William R. Apparatus for connecting tire chain ends. 3,114,406, 12-17-63, Cl. 152-213.
- Eppenberger, Paul, to G. Buehler. Guide box. 3,083,805, 4-2-63, Cl. 193-27.
- Eppler, Helmut, to Hamilton Watch Co. Contact and index system for an electric watch. 3,095,690, 7-2-63, Cl. 58-28.
- Eppler, William R., to Esso Research and Engineering Co. Two-stage adsorption process. 3,098,814, 7-23-63, Cl. 208-91.
- Eppert, Franklin P., to General Electric Co. Ballast apparatus. 3,080,505, 3-5-63, Cl. 315-277.
- Eppink, Reno P. Stadium seating structure. 3,077,264, 2-12-63, Cl. 297-248.
- Eppler, Walter T., to Western Electric Co., Inc. Automatic centering mechanism. 3,071,302, 1-1-63, Cl. 226-191.
- Eppler, Walter T., to Western Electric Co., Inc. Diameter gages. 3,104,472, 9-24-63, Cl. 33-178.
- Epps, Aubrey W., Jr., and F. C. Winn, Jr. Television set with boom supported picture unit. 3,072,738, 1-8-63, Cl. 178-5.6.
- Epstein, Elmer S., to In-A-Wall Corp. Window and hardware therefor. 3,074,126, 1-22-63, Cl. 20-52.2.
- Eprad, Inc.: *See*—  
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Gordon, Bernard M., and Talambiras. 3,108,266.
- Epstein, Arnold, and S. M. Kulifay, to Monsanto Chemical Co. Thermoelectricity. 3,095,330, 6-25-63, Cl. 136-5.
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- Epstein, David W., P. E. Kaus, and D. D. Van Ormer, to Radio Corp. of America. Color-kinescope of the shadow mask variety. 3,109,116, 10-29-63, Cl. 313-85.
- Epstein, Henry D.: *See*—  
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- Epstein, Henry D., to Texas Instruments Inc. Thermostatic switch. 3,103,566, 9-10-63, Cl. 200-122.
- Epstein, Herman: *See*—  
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- Epstein, Irving A., and A. J. Girardy, to Independent Lock Co. Reinforced key. 3,093,920, 6-18-63, Cl. 40-330.
- Epstein, Lawrence, to Paramount Paper Products Co. Plastic core for roll labels. 3,106,363, 10-8-63, Cl. 242-68.5.
- Epstein, Martin: *See*—  
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- Epstein, Samuel, 50% to E. J. Ryan. Film drier. 3,103,420, 9-10-63, Cl. 34-58.
- Epstein, Samuel, J. W. Frame, and G. F. Melloy, to Bethlehem Steel Co. Rolling steel in ferritic state. 3,076,361, 2-5-63, Cl. 80-60.
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- Erard, Raoul H., Self-winding mechanism for timepieces, 3,086,402, 4-23-63, Cl. 74-126.
- Erb, Ernst, to Superba S.a.r.l. Etablissements. Two-bed hand-knitting apparatus, 3,103,110, 9-10-63, Cl. 66-64.
- Erba, Carlo S.p.A.: *See* —  
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- Giraldi, Piernicola, and Logemann, 3,088,947.
- Lauria, Francesco, and De Franceschi, 3,102,883.
- Erbach, Georg, to Behringwerke Aktiengesellschaft. Apparatus for the ultrafiltration of solutions, 3,085,687, 4-16-63, Cl. 210-195.
- Erbe, Otto, to C. Zeiss. Photographic objectives with distance adjustment and diaphragm adjustment, 3,106,883, 10-15-63, Cl. 95-64.
- Erbe, Otto, and O. Weiss, to C. Zeiss. Adjustable lens mount, 3,088,370, 5-7-63, Cl. 88-57.
- Erbland, Loreen H., Guide bed for sewing machines, 3,071,091, 1-1-63, Cl. 112-260.
- Erechak, Andrew, and J. C. Van Dyk, to International Business Machines Corp. Xerographic process toner and method of producing same, 3,090,755, 5-21-63, Cl. 252-62.1.
- Erick, Richard K., to Master Metal Strip Service, Inc. Sash balance, 3,077,631, 2-19-63, Cl. 16-197.
- Ercoli, Alberto, 3-enaleters of free and esterified 17 $\alpha$ -ethyl-19-nortestosterone, 3,115,440, 12-24-63, Cl. 167-74.
- Erdely, Ladislav, to Pechiney Cie de Produits Chimiques et Electrometallurgiques. Self-closing and self-opening hollow objects, 3,092,419, 6-4-63, Cl. 301-1.
- Erdelyi, Ferenc, Method and device for rolling bevel gears, 3,078,745, 2-26-63, Cl. 80-16.
- Erdman, John G., to Gulf Research & Development Co. Process for removing metals from petroleum with an aromatic sulfonic acid, 3,082,167, 3-19-63, Cl. 208-252.
- Erdman, John G., and J. H. Wright, to Gulf Research & Development Co. Irradiation destruction of complexes, 3,100,182, 8-6-63, Cl. 204-154.
- Erdmann, Hans, to Walde Kohinoor, Inc. Retaining ring assembly tools, 3,073,014, 1-15-63, Cl. 29-229.
- Erdmann, Hans, to Walde Kohinoor, Inc. Combination retaining-ring dispensing and assembling tools, 3,085,322, 4-16-63, Cl. 29-212.
- Erdmann, Hans, to Walde Kohinoor, Inc. Dispensing apparatus for spring retaining rings, 3,092,287, 6-4-63, Cl. 221-189.
- Erdmann, Hans, to Walde Kohinoor, Inc. Dispenser for retaining rings, 3,101,528, 8-27-63, Cl. 29-211.
- Erdmann, Hans, and H. Wurzel, to Walde Kohinoor, Inc. Retaining ring application and a retaining ring and an assembling and disassembling fixture for use therewith, 3,104,905, 9-24-63, Cl. 292-256.6.
- Erdmann, John F., and C. R. Welter, to Union Carbide Corp. Ethylene polymerization process, 3,092,614, 6-4-63, Cl. 260-94.9.
- Erfurter Malzerei u. Speicherbau, VEB: *See* —  
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- Erhard, Hermann, Handle constructions, 3,115,229, 12-24-63, Cl. 190-57.
- Erhardt, Edward T., and E. I. Oakes, Solenoid operator for toilet flush valves, 3,090,967, 5-28-63, Cl. 4-57.
- Erhart, Francis J., and M. W. Davis, Jr., to Consolidated Vacuum Corp. Vacuum pump, 3,075,688, 1-29-63, Cl. 230-101.
- Erickson, L-M, Telefonaktiebolaget: *See* —  
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- Ericks, Walter P., to The Upson Co. Dimensional stabilization of cellulose articles, 3,074,833, 1-22-63, Cl. 154-43.
- Ericks, Walter P., to The Upson Co. Dimensional stabilization of cellulose, 3,098,760, 7-23-63, Cl. 117-143.
- Erickson, Anton F., to General Motors Corp. Vehicle disk brake, 3,115,952, 12-31-63, Cl. 188-18.
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- Erickson, Bruce G., and A. J. Henriksen, to Nordberg Mfg. Co. Engine control, 3,091,077, 5-28-63, Cl. 60-13.
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- Erickson, Carl W., Hydraulic shock absorber wheel suspension adjustable for levelling and changing ground clearance of a vehicle, 3,103,368, 9-10-63, Cl. 280-6.
- Erickson, Clifford E., to General Electric Co. Laundry machine, 3,102,796, 9-3-63, Cl. 34-75.
- Erickson, Edward B., to United States Rubber Co. Automatic carcass loader for tire presses, 3,091,801, 6-4-63, Cl. 18-2.
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- Erickson, John W., to Westinghouse Electric Corp. Ventilating system for dynamoelectric machines, 3,075,105, 1-22-63, Cl. 310-57.
- Erickson, John W., to Westinghouse Electric Corp. No-wear unlubricated variable U-belt pulley, 3,085,446, 4-16-63, Cl. 74-230.17.
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- Erickson, Leonard A., to Big Drum, Inc. Lid-dispenser, 3,100,583, 8-13-63, Cl. 221-36.
- Erickson, Lewis C., to National Iron Co. Loading structure for skip cars and the like, 3,080,986, 3-12-63, Cl. 214-38.
- Erickson, Lewis C., to National Iron Co. Reciprocating plate feeder, 3,097,734, 7-16-63, Cl. 198-53.
- Erickson, Lewis C., to National Iron Co. Heavy burden plate feeder suspension, 3,097,738, 7-16-63, Cl. 198-220.
- Erickson, Milton E., to Horton Mfg. Co., Inc. Air actuated clutch, 3,104,000, 9-17-63, Cl. 192-85.
- Erickson, Norman R. Dental appliance, 3,090,122, 5-21-63, Cl. 32-33.
- Erickson, Paul W. Tool for use in constructing masonry walls, 3,109,193, 11-5-63, Cl. 15-235.3.
- Erickson, Robert L. Game board construction, 3,088,740, 5-7-63, Cl. 273-126.
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- Erickson, Theodore F., to C. E. Erickson Co., Inc. Collapsible rack, 3,093,247, 6-11-63, Cl. 211-149.
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- Ericson, John W., to Westinghouse Air Brake Co. Analog computers, 3,104,319, 9-17-63, Cl. 235-193.
- Ericson, Swen H., to American Flange & Mfg. Co., Inc. Closures and methods for forming the same, 3,084,826, 4-9-63, Cl. 220-24.
- Eriesson, Arvid I., and I. J. Vilcins, to Signode Steel Strapping Co. Strapping machine, 3,103,955, 9-17-63, Cl. 140-93.4.
- Eriesson, Carl G. F., to Tabougnar, Aktiebolaget. Driving roller in a roller conveyor for use at high temperatures, 3,116,053, 12-31-63, Cl. 263-6.
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- Eriksen, Monrad E.,  $\frac{1}{2}$  to said Eriksen, and  $\frac{1}{2}$  to C. O. Helton. Fish skinning machine, 3,094,739, 6-25-63, Cl. 17-2.
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- Erikson, Evans W., to Sundstrand Corp. Generator control system, 3,078,374, 2-19-63, Cl. 307-57.
- Erikson, Herman E., and H. J. Frede, to Polaroid Corp. Photographic film holder, 3,103,864, 9-17-63, Cl. 95-66.
- Eriksson, Birger, to Nordiska Maskinfilt Aktiebolaget. Paper maker's drying felt, 3,110,078, 11-12-63, Cl. 28-74.
- Eriksson, George J., to Superior Concrete Accessories, Inc. Rod-supporting chair for continuously reinforced concrete paving, 3,114,221, 12-17-63, Cl. 50-514.
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- Erke, August F., to J. F. Rhodes Co. Injection molded seal device. 3,107,935, 10-22-63, Cl. 292-325.
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- Faber, Erich. Method and apparatus for making non-gaping dentures. 3,083,460, 4-2-63, Cl. 32-2.
- Faber, Francis B., to Chrysler Corp. Window guide roller assembly. 3,078,120, 2-19-63, Cl. 296-44.5.
- Faber, Harry, to A/S Chr. Fabers Fabriker. Mechanism for automatically blocking a lifting roller in Venetian blinds. 3,089,664, 5-14-63, Cl. 242-99.
- Faberge, Inc.: *See*—  
Soloway, Saul. 3,086,914.
- Fabian, Francis G., and L. Ouder Kirk, to Dresser Industries, Inc. Explosive-actuated service T. 3,072,138, 1-8-63, Cl. 137-315.
- Fabian, Louis. Shoe heel. 3,099,096, 7-30-63, Cl. 36-24.5.
- Fabian, Robert W.: *See*—  
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- Fabish, Edward F., to Illinois Tool Works Inc. Gear hob and mounting thereof. 3,076,387, 2-5-63, Cl. 90-1.
- Fabmagic, Inc.: *See*—  
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- Fabricacion De Maquinas, S.A.: *See*—  
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- Fabricand, Burton P.: *See*—  
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- Fabrick van Chemische Producten Vondelingenplaat N.V.: *See*—  
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- Fabrick Van Electricische Apparaten Voorheen F. Hazemeijer & Co., N.V.: *See*—  
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- Fabrique de boites de montres S. Graber S.A.: *See*—  
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- Fabrique de Machines Mikron S.A.: *See*—  
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- Fabrique des Montres Zenith S.A.: *See*—  
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- Fabrique National d'Armes de Guerre, Societe Anonyme: *See*—  
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- Fabriques Movado: *See*—  
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- Fabris, Temistocle: *See*—  
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- Fabri-Tek Inc.: *See*—  
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- Fabrodynamics, Inc.: *See*—  
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- Facenda, William G.: *See*—  
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- Facer, Helen M.: *See*—  
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- Facer, Leroy H., deceased, by H. M. Facer, executrix, to G. E. Cooley, trustee. Processes for producing fertilizers and products thereof. 3,098,737, 7-23-63, Cl. 71-37.
- Fackrell, Ivan: *See*—  
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- Fader, Arthur I.: *See*—  
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- Faerber, Harry W., to Time, Inc. Web dryer. 3,071,865, 1-8-63, Cl. 34-62.
- Faerber, Harry W., to Time, Inc. Pile compressor. 3,113,506, 12-10-63, Cl. 100-53.
- Faecher, Arthur W. Vehicle operated garage door opening means. 3,097,689, 7-16-63, Cl. 160-189.
- Faerber, Hans A. Confectionery moulding machine. 3,072,078, 1-8-63, Cl. 107-1.
- Fafnir Bearing Co., The: *See*—  
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Howe, Ralph S., Jr., and Bechert. 3,085,810.  
Jones, Arthur B., Jr., and Luber. 3,082,629.
- Fagan, Brian E., and C. Cuthbert, to Nash Plastics Ltd. Shut-tlecocks. 3,100,116, 8-6-63, Cl. 273-106.
- Fagan, Donald A.: *See*—  
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- Fagan, Joseph S., to Mutual Liquid Gas & Equipment Co., Inc. Work heating apparatus. 3,088,515, 5-7-63, Cl. 158-107.
- Fagel, Roger, to Ateliers de Constructions Electriques de Charleroi. Plural motor drive with motor field control for a vehicle. 3,107,304, 10-15-63, Cl. 290-17.
- Fagel, Roger, to Ateliers de Constructions Electriques de Charleroi. Control means for electric motors supplied with current by a generator driven by an internal combustion engine. 3,116,420, 12-31-63, Cl. 290-40.
- Faget, Maxime A., A. J. Meyer, Jr., R. G. Chilton, W. S. Blanchard, Jr., A. B. Kehlet, J. B. Hammack, and C. C. Johnson, Jr., to United States of America, National Aeronautics and Space Administration. Space capsule. 3,093,346, 6-11-63, Cl. 244-1.
- Fagg, Leo W.: *See*—  
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- Fagg, Richard T., to American Metal Climax, Inc. Continuous metal casting machine. 3,110,941, 11-19-63, Cl. 22-57.4.
- Fagnant, John A., to The Kemmerer Coal Co. Calcining and ore reduction oven. 3,084,922, 4-9-63, Cl. 263-29.
- Fago, Alfred V. Color separation method and composition for use therein. 3,103,436, 9-10-63, Cl. 96-30.
- Fagus-Werk Karl Benscheldt: *See*—  
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- Fahey, Denis: *See*—  
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- Fahey, James H., Jr., to Joslyn Mfg. and Supply Co. Receptacle. 3,083,347, 8-26-63, Cl. 339-88.
- Fahey, John R.: *See*—  
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- Fahlman, Everett G., and G. O. Brown, to The Per mold Co. Piston and ring carrier therefor. 3,074,769, 1-22-63, Cl. 309-1.4.
- Fahlstrom, Per A. H. H., H. L. Lundberg, and G. I. Holmberg, to Bolidens Gruvaktiebolag. Rock grinding system. 3,094,289, 6-18-63, Cl. 241-34.
- Fahrbach, Erich: *See*—  
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- Fahrenbrück, Roy P.: *See*—  
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- Fahrenwald, Francis M. Remote control hooking and unhooking device. 3,072,430, 1-8-63, Cl. 294-83.
- Fahrig, Richard H., and W. E. Medcalf, to The Eagle-Picher Co. Process for preparation of cadmium sulfide crystals. 3,087,799, 4-30-63, Cl. 23-295.
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- Faigen, Mark R., and T. L. Myron, to United States Steel Corp. Method of cleaning rotary kilns. 3,102,055, 8-27-63, Cl. 134-5.
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- Fainberg, Arnold H.: *See*—  
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- Fainman, Morton Z., to Standard Oil Co. Method of lubricating machinery exposed to high intensity ionizing radiation. 3,077,452, 2-12-63, Cl. 252-59.
- Fairbairn, Bruce A., and G. J. Deschambault, to Canadian Celanese Ltd. Coating dispenser which applies a sheet-like jet of coating material. 3,100,161, 8-6-63, Cl. 118-325.
- Fairbairn, George A. Endless chain cutter for harvesters, mowers and other agricultural implements. 3,106,053, 10-8-63, Cl. 56-291.
- Fairbank, Murry N., to Polaroid Corp. Photographic apparatus. 3,087,399, 4-30-63, Cl. 95-31.
- Fairbanks, Avarad F., to North American Aviation Inc. Interlocked radar and infrared detector system. 3,108,270, 10-22-63, Cl. 343-6.
- Fairbanks, Avarad F., to Space Technology Laboratories, Inc. Multiphase electrical system. 3,112,433, 11-26-63, Cl. 318-231.
- Fairbanks, Avarad F., to North American Aviation, Inc. Infrared searching and tracking apparatus utilizing a spiral scan. 3,116,418, 12-31-63, Cl. 250-83.3.
- Fairbanks, Gordon J., to Stewart-Warner Corp. Heat exchanger. 3,071,187, 1-1-63, Cl. 165-170.
- Fairbanks, Gordon J., to Stewart-Warner Corp. Limited volume safety valve. 3,094,142, 6-18-63, Cl. 137-564.5.
- Fairbanks, Morse & Co.: *See*—  
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- Fairchild Camera and Instrument Corp.: *See*—  
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- Fairchild, Edwin B. Container closure. 3,106,311, 10-8-63, Cl. 220-38.5.
- Fairchild Engine and Airplane Corp.: See—  
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- Fairchild, John D., to Earl A. Thompson Mfg. Co. adjusting device. 3,087,476, 4-30-63, Cl. 123-90. Lash
- Fairchild, John D., to Earl A. Thompson Mfg. Co. adjusting device. 3,087,477, 4-30-63, Cl. 123-90. Lash
- Fairchild, John D., to Earl A. Thompson Mfg. Co. adjusting device. 3,087,478, 4-30-63, Cl. 123-90. Lash
- Fairchild Recording Equipment Corp.: See—  
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- Fairchild Stratos Corp.: See—  
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- Fairchild, Willis A. Life saving device. 3,070,818, 1-1-63, Cl. 9-316.
- Fairchilds, Bertram S. Seal means for slide fasteners. 3,102,570, 9-3-63, Cl. 150-3.
- Fairclough, John H., and H. J. Atkins, to Tootal Broadhurst Lee Co. Ltd. Manufacture of artificial leather-like material. 3,083,134, 3-26-63, Cl. 156-247.
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- Fairfield Engineering Co., The: See—  
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- Fairgrieve, Donald F., to Fairgrieve & Son, Ltd. Die set. 3,089,715, 5-14-63, Cl. 287-201.
- Fairgrieve & Son, Ltd.: See—  
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- Fairs, Geoffrey L.: See—  
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- Fairstein, Edward, and R. A. Dandi, to United States of America, Atomic Energy Commission. Pulse amplifier for altering the shape of undershoots. 3,072,851, 1-8-63, Cl. 328-53.
- Faisandler, Jacques. Unloading valve for a hydraulic pressure circuit. 3,073,331, 1-15-63, Cl. 137-108.
- Faisandler, Jacques. Hydraulic circuits. 3,087,307, 4-30-63, Cl. 60-97.
- Faison, Charles B.: See—  
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- Faison, Herbert M., Jr.: See—  
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- Fake, Harry B., to United Shoe Machinery Corp. Machines for sewing imitation moccasin seams. 3,081,719, 3-19-63, Cl. 112-37.
- Fala, Fernando. Pot for brewing coffee and method of effecting the brewing. 3,098,425, 7-23-63, Cl. 99-317.
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- Falcon Alarm Co., Inc.: See—  
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- Falcone, James F., and A. Hammer, to United States of America, Army. Cartridge belt link with removable loop closing cover. 3,078,765, 2-26-63, Cl. 89-35.
- Faler, John A., and H. G. McNay, to Kolene Corp. Sonic nozzles. 3,084,868, 4-9-63, Cl. 239-102.
- Fales, Douglas I., to General Motors Corp. Fluorescent lamp circuit. 3,092,754, 6-4-63, Cl. 315-97.
- Falgliatore, Dominic R., and A. M. Levantin, to Rohm & Haas Co. Coating composition comprising an alcohol-modified aminoplast resin and a copolymer of a B-hydroxypropyl acrylic ester and an acid, and metal coated therewith. 3,082,184, 3-19-63, Cl. 260-30.4.
- Falk Corp., The: See—  
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- Falk, Richard B., to General Electric Co. Magnetic materials. 3,073,728, 1-15-63, Cl. 148-31.55.
- Falk, Richard B., and G. D. Hooper, to General Electric Co. Magnetic material. 3,100,167, 8-6-63, Cl. 148-31.57.
- Falkenberg, Douglass R. Adjusting means for holddowns for pulleys of drapery operating cords. 3,112,103, 11-26-63, Cl. 267-71.
- Falkenblad, Nils T., and B. H. Hallstrom, to Separator, Aktiebolaget. Method and apparatus for sterilizing heat exchangers. 3,099,519, 7-30-63, Cl. 21-2.
- Falkenburg, Fritz, to P. Gossen & Co. G.m.b.H. Photoelectric exposure control. 3,107,594, 10-22-63, Cl. 95-64.
- Falkner, Dallas J. Ski rope retriever. 3,085,543, 4-16-63, Cl. 114-235.
- Falkner, Victor L., R. C. Hendrick, and R. C. K. Lee, to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,079,108, 2-26-63, Cl. 244-77.
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- Falla, Fernando. Apparatus for roasting seeds. 3,109,718, 11-5-63, Cl. 34-77.
- Faller, Rudolph A. Fruit knife. 3,086,286, 4-23-63, Cl. 30-24.
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- Fallis, Charles E.: See—  
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- Fallon, Albin F. Arbor securing device. 3,096,989, 7-9-63, Cl. 279-48.
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- Fancher, Llewellyn W., A. M. Imel, and R. C. Maxwell, to Stauffer Chemical Co. Triazine dithiocarbamate phosphates. 3,076,807, 2-5-63, Cl. 260-248.
- Fancher, Otis E., to Miles Laboratories, Inc. Anti-epileptic tertiary allicyclic urea derivative. 3,098,791, 7-23-63, Cl. 167-65.
- Fancher, Otis E., and D. A. Stauffer, to Miles Laboratories, Inc. Diagnostic composition for detecting glucose. 3,072,539, 1-8-63, Cl. 195-103.5.
- Fancher, Otis E., and S. Hayao, to Miles Laboratories, Inc. Phenylpiperazine derivatives. 3,072,653, 1-8-63, Cl. 260-268.
- Fancher, Ray C., J. G. Kay, and J. C. Lacoursiere, to F. Jos. Lamb Co. Storage units. 3,078,978, 2-26-63, Cl. 193-38.
- Fand, Theodore I., and H. B. Zimmerman, to Warner-Lambert Pharmaceutical Co. Stabilization of orally administrable methenamine mandelate sesame oil suspensions containing 12-hydroxy stearic acid triglyceride. 3,077,438, 2-12-63, Cl. 167-82.
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- Fang, Fabian T., to Rohm & Haas Co. Fibers formed from blend of polymer of monovinyl aromatic compound and polymer of alkenyl halide. 3,111,360, 11-19-63, Cl. 8-115.5.
- Fang, Fabian T., to Rohm & Haas Co. Synthetic fibers and fabrics thereof, polymers thereof, and methods of producing them. 3,111,361, 11-19-63, Cl. 8-115.5.
- Fang, Fabian T., and G. C. Murdoch, to Rohm & Haas Co. Novel cross-linked polymers, fibrous products, and methods of making them. 3,111,362, 11-19-63, Cl. 8-115.5.
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- Fann, James D., to Great Lakes Carbon Corp. Viscometer. 3,073,151, 1-15-63, Cl. 73-54.



- Fanner Mfg. Co., The: *See*—  
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- Fannin, Ray B., to Gas Engineering & Equipment Co. Vaporizing burner with temperature regulated mixer to control flame heating of retort. 3,097,687, 7-16-63, Cl. 158—79.
- Fanning, Howard J. Gas sterilizer. 3,114,599, 12-17-63, Cl. 21—98.
- Fanning, Samuel P., Jr., to Custom Plastics, Inc. Resilient clothespin. 3,087,218, 4-30-63, Cl. 24—137.
- Fanshier, Chester. Slip tube gauge. 3,113,457, 12-10-63, Cl. 73—298.
- Fanson, Robert E.: *See*—  
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- Fansteel Metallurgical Corp.: *See*—  
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- Faraday Electronic Instruments Ltd.: *See*—  
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- Farago, John, to E. I. du Pont de Nemours and Co. Process for preparing filaments from acrylonitrile polymer-containing compositions. 3,094,502, 6-18-63, Cl. 260—30.8.
- Farago, John, to E. I. du Pont de Nemours and Co. Polyphosphonamide polymers and copolymers. 3,116,268, 12-31-63, Cl. 260—77.5.
- Farbenfabriken Bayer Aktiengesellschaft: *See*—  
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Schreyer, Kenneth D., and Farren. 3,081,712.
- Farrington Machines, Inc.: *See*—  
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- Farrington Sanford Corp.: *See*—  
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- Farris, George J.: *See*—  
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- Farris, Joseph A., and G. T. Minshall, to United States of America, Air Force. Aircraft flare-out landing system. 3,081,969, 3-19-63, Cl. 244-77.
- Farris, Ralph J., and J. M. Taylor, to Whipstock Inc. Directional drilling tool. 3,092,188, 6-4-63, Cl. 175-76.
- Farris, Richard W. Engine disabling overheat protector. 3,105,480, 10-1-63, Cl. 123-148.
- Farris, William A., to American Mfg. Co., Inc. Thrust linkage supported tables. 3,110,476, 11-12-63, Cl. 254-122.
- Farrow, John R., to The Bendix Corp. Reversible vane fluid power device such as a pump or motor. 3,076,415, 2-5-63, Cl. 103-136.
- Farrow and Jackson Ltd.: *See*—  
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- Silver, Dennis S. 3,101,829.
- Silver, Dennis S. 3,101,867.
- Farrow, Ronald L., and W. F. Krasinski, to Chrysler Corp. Vehicle folding seat structure. 3,114,570, 12-17-63, Cl. 296-66.
- Farrow, William H., to Hershey-Sparling Meter Co. Pivoted check valve. 3,074,429, 1-22-63, Cl. 137-527.8.
- Farry, Otis T., to Wagner Electric Corp. Voltage regulator. 3,094,657, 6-18-63, Cl. 323-61.
- Farthing, Alan C., to Imperial Chemical Industries Ltd. New polymeric substances. 3,112,280, 11-26-63, Cl. 260-2.
- Farwell, Claude C. Loud speaker. 3,076,520, 2-5-63, Cl. 181-31.
- Fasano, Fred A. Hoop toys. 3,086,315, 4-23-63, Cl. 46-47.
- Fasold, George A., and W. V. Leibbrook, to The Philip Carey Mfg. Co. Methods of preparing asphalt shingles for adhesive attachment in roofs. 3,082,577, 3-26-63, Cl. 50-243.
- Fasold, George A., and W. V. Leibbrook, to The Philip Carey Mfg. Co. Grooved roofing. 3,091,898, 6-4-63, Cl. 50-261.
- Fassbender, Frederick A., to S. M. Frank & Co., Inc. Pipe construction with a detachable bowl and stem. 3,079,927, 3-5-63, Cl. 131-194.
- Fassbender, Frederick A., to S. M. Frank & Co., Inc. Sealing and alignment device for smokers' pipe stems. 3,079,931, 3-5-63, Cl. 131-225.
- Fassbender, Frederick A., to S. M. Frank & Co. Reamer for smokers' pipes. 3,079,932, 3-5-63, Cl. 131-246.
- Fassnacht, Arthur F.: *See*—  
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- Fassnacht, Mary A.: *See*—  
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- Fast, Clarence R., and R. B. Evans III, to Pan American Petroleum Corp. Process for fracturing formations. 3,080,920, 3-12-63, Cl. 166-42.
- Fastener Corp.: *See*—  
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- Wandel, Oscar A. 3,099,012.
- Wandel, Oscar A. 3,101,476.
- Wandel, Oscar A. 3,115,941.
- Wandel, Oscar A., and Doyle. 3,094,900.
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- Fata, Bernard. Tapered dove-tail joints. 3,090,086, 5-21-63, Cl. 20-92.
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- De Witt, Raymond H. 3,096,776.
- Fath, Douglas W., T. Kraschinsky, Jr., and G. C. Lutsch, to Cutler-Hammer, Inc. Graphic signaling and indicating system. 3,103,347, 9-10-63, Cl. 263-19.
- Fath, Douglas W., and C. E. Smith, to Cutler-Hammer, Inc. Protective system. 3,110,019, 11-5-63, Cl. 340-213.
- Fath, Joseph, to Thompson Chemical Co. Mixed esters of a trimethylolalkane and vinyl chloride resin plasticized therewith. 3,072,591, 1-8-63, Cl. 260-31.6.
- Fath, Joseph, to Thompson Chemical Co. Ester of a dicarboxylic acid and vinyl chloride resin plasticized therewith. 3,085,078, 4-9-63, Cl. 260-31.4.
- Fathauer, George H., and D. A. Williams, to Harvey-Wells Corp. Tracking error measuring device. 3,114,859, 12-17-63, Cl. 315-24.
- Fattor, Arthur P. Automatic reagent regulator. 3,073,330, 1-15-63, Cl. 137-98.
- Fatuzzo, Ennio: *See*—  
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- Faucett, James W., W. W. Windish, and R. A. De Senna, to Miles Laboratories, Inc. Enzyme precipitation process. 3,102,081, 8-27-63, Cl. 195-65.
- Faught, Harold F., to Westinghouse Electric Corp. Propulsion apparatus. 3,073,113, 1-15-63, Cl. 60-35.6.
- Faught, Melvin L.: *See—*  
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- Faul, Thomas L., to Aqua-Marine Mfg. Ltd. Combination metal-and-plastic marine hardware. 3,112,726, 12-3-63, Cl. 114-218.
- Faulds, Malcolm H., to Minneapolis-Honeywell Regulator Co. Switching device for varying output of lamp load. 3,075,123, 1-22-63, Cl. 315-240.
- Faulkner, Alfred H., to Automatic Electric Laboratories, Inc. Terminal per station identification circuit. 3,087,019, 4-23-63, Cl. 179-17.
- Faulkner, Alfred H., to Automatic Electric Laboratories, Inc. Transistor ring counting circuit. 3,087,075, 4-23-63, Cl. 307-88.5.
- Faulkner, Alfred H., to Automatic Electric Laboratories, Inc. Data storage unit. 3,114,006, 12-10-63, Cl. 179-18.
- Faulkner, Alfred H., to Automatic Electric Laboratories, Inc. Electronic detector for use with impulse regenerators. 3,114,051, 12-10-63, Cl. 307-88.5.
- Faulkner, Alfred H., and T. H. Jeffrey, to Automatic Electric Laboratories, Inc. Transistorized regular power supply. 3,109,979, 11-5-63, Cl. 323-22.
- Faulkner, Dorris C., and H. R. Swann, Jr. Knock-down sofa. 3,104,913, 9-24-63, Cl. 297-218.
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Rieppel, Perry J., Faulkner, Nelson, and Cook. 3,084,246.
- Faulkner, Willard J., and R. B. Rhoades, to V-M Corp. Self-loading reel. 3,072,355, 1-8-63, Cl. 242-74.2.
- Faulkner, William H., to Union Carbide Corp. Cold-formable predominantly cobalt alloys. 3,091,022, 5-28-63, Cl. 29-191.2.
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- Faure, Daniel. Hydraulic control device for tractors and the like. 3,113,580, 12-10-63, Cl. 137-596.13.
- Fauring, Frederik V. H. J. Rotating tying device on a machine for tying warp threads. 3,112,132, 11-26-63, Cl. 289-5.
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- Faus, Harold T.: *See—*  
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- Fausel, Charles E., to Chicago Foundry Co. Method of making cast iron. 3,113,016, 12-3-63, Cl. 75-53.
- Fausner, Donald L., C. R. Siebentritt, Jr., W. H. Smith, and W. R. Polye, to The Bendix Corp. Charged fibre radiation ratemeter. 3,110,808, 11-12-63, Cl. 250-83.3.
- Fausner, Friedrich: *See—*  
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- Faust, Charles L., and J. A. Gurklis, to Steel Improvement & Forge Co. Material removal. 3,095,364, 6-25-63, Cl. 204-143.
- Faust, Francis S., and E. R. Edmunds, to R. G. Wright Co., Inc. Washing machine for animal cages and the like. 3,110,317, 11-12-63, Cl. 134-174.
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- Faust, John A.: *See—*  
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- Faust, John A., and M. Sahyun, said Faust assor. to said Sahyun d.b.a. Sahyun Laboratories. Halocinnamyl quaternary ammonium compounds. 3,094,561, 6-18-63, Cl. 260-567.6.
- Faust, John W., Jr.: *See—*  
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- Faust, Wayne J.: *See—*  
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- Fauteux, Henri A. Clothes pins. 3,076,243, 2-5-63, Cl. 24-139.
- Fauth, Frederick E., and R. H. Breeback, to Crown Cork & Seal Co., Inc. Air free packaging. 3,088,831, 5-7-63, Cl. 99-182.
- Favaller, Jean, and C. E. G. Romiguere, to Compagnie Francaise Thomson-Houston. Electronic tuning devices for klystron valves. 3,076,917, 2-5-63, Cl. 315-5.21.
- Faverty, Clyde B., and W. R. Shaver, to Pullman Inc. Vehicle floor construction. 3,088,420, 5-7-63, Cl. 105-422.
- Favill, William A., and D. G. Taylor, to Integral Ltd. Flowmeter. 3,075,383, 1-29-63, Cl. 73-231.
- Favis, Dimitrios V., to Esso Research and Engineering Co. Novel telomerization reaction. 3,097,246, 7-9-63, Cl. 260-671.
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- Favre, Maurice, to Compagnie Generale de Telegraphie Sans Fil. Wave guiding structure and method of making the same. 3,105,285, 10-1-63, Cl. 29-155.5.
- Favret, Maxime, to Elgin National Watch Co. Self-winding watch and like device. 3,087,300, 4-30-63, Cl. 58-82.
- Favro, Lawrence D., to Clevite Corp. Method of soldering to aluminum. 3,081,536, 3-19-63, Cl. 29-495.
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- Fawcett, Sydney, to United Kingdom Atomic Energy Authority. Manipulating machines for nuclear reactors. 3,090,741, 5-21-63, Cl. 204-193.2.
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- Fawcett, Sydney, and W. Rodwell, to United Kingdom Atomic Energy Authority. Joints between tubes of dissimilar materials. 3,093,398, 6-11-63, Cl. 285-173.
- Fawell, Stanley N., to Fletcher, Brock & Collins, Ltd. Burnishing box tools. 3,115,704, 12-31-63, Cl. 29-566.
- Fawick Corp.: *See—*  
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- Fay, James P., to The Teletrak Corp. Commutator. 3,103,060, 9-10-63, Cl. 29-155.54.
- Fay, James P., to The Teletrak Corp. Anisotropic brush. 3,114,062, 12-10-63, Cl. 310-253.
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- Fazekas, Charles, to Pneumafil Corp. Dispensing equipment. 3,108,713, 10-29-63, Cl. 221-197.
- Fazio, Charles P., D. G. Greenlie, R. M. Nelson, and B. A. Nickerson, to W. R. Grace & Co. Balloon altitude control device. 3,094,246, 6-18-63, Cl. 222-52.
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- Fearnside, Kenneth, to S. Smith & Sons (England) Ltd. Actuating devices for control surfaces of moving craft. 3,071,336, 1-1-63, Cl. 244-77.



- Fearnside, Kenneth, to S. Smith & Sons (England) Ltd. Plural channel servo systems. 3,078,398, 2-19-63, Cl. 318-19.
- Fearnside, Thomas E., to Mueller Brass Co. Method of making bearing pins. 3,109,224, 11-5-63, Cl. 29-149.5.
- Fearon, Robert E., and J. M. Thayer, to Well Surveys, Inc. Well logging radiation sources. 3,071,690, 1-1-63, Cl. 250-84.5.
- Fearon, Robert E., and W. G. Ownby, to Electro Chemical Laboratories Corp. Apparatus for detecting flaws in elongated magnetic structures. 3,091,733, 5-28-63, Cl. 324-37.
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- Federal Pacific Electric Co.: *See*—  
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- Federighi, George J., to Stero Chemical Mfg. Co. Pressurized device for uncorking bottles. 3,085,454, 4-16-63, Cl. 81-3.2.
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- Fee, Graham M., to True Temper Corp. Railroad track maintenance machines. 3,098,453, 7-23-63, Cl. 104-2.
- Fee, Graham M., to True Temper Corp. Rail anchors. 3,102,690, 9-8-63, Cl. 238-327.
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- Feeley, Frank G., Jr., to Olin Mathieson Chemical Corp. Gas generating device. 3,077,736, 2-19-63, Cl. 60-39.47.
- Feeley, James P., to American Welding and Engineering Co., Inc. Automatically operable ramp unit. 3,081,470, 3-19-63, Cl. 14-71.
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- Feezel, James R. Trellis assembly. 3,094,811, 6-25-63, Cl. 47-47.
- Fefer, Morton, J. V. Fusco, and J. B. Riley, to Esso Research and Engineering Co. Treatment of a petroleum resin with a phenolic resol compound. 3,083,174, 3-26-63, Cl. 260-43.
- Fegan, Frank J., and W. H. Smith, to Shampaine Industries Inc. Overbed oxygen tents. 3,090,382, 5-21-63, Cl. 128-191.
- Fegley, Donald R., A. J. Brassaw, and C. E. Weller, to Weller Tool Corp. Vibratory sanding tool. 3,083,508, 4-2-63, Cl. 51-170.
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- Fehling, Hans R., and E. H. Harvey, to I.R.C. Ltd. Reservoir for writing or dispensing instruments. 3,106,190, 10-8-63, Cl. 120-43.4.
- Fehlmann, Werner, to Gebr. Buehler. Separator for granular goods. 3,108,949, 10-29-63, Cl. 209-36.
- Fehn, Frank P. Dual rotor electric motor. 3,075,108, 1-22-63, Cl. 310-126.
- Fehn, Frank P., to E. W. Bliss Co. Press drive control. 3,088,063, 4-30-63, Cl. 318-161.
- Fehr, Henri: *See*—  
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- Fehrenbach, Anton. Writing instrument. 3,107,654, 10-22-63, Cl. 120-42.12.
- Feibelman, Hans J., to Coro, Inc. Magnetic earring with slidably pivoted clamp members. 3,071,939, 1-8-63, Cl. 63-14.
- Feichter, Harold R., and I. A. Abernathy, to United States Ceramic Tile Co. Ceramic tile. 3,088,588, 5-7-63, Cl. 206-65.
- Feichtinger, Hans, and H. Noeske, to Ruhrchemie Aktiengesellschaft. Process for the production of olefinic acid esters. 3,095,432, 6-25-63, Cl. 260-410.9.
- Feichtinger, Hans, H. Tummes, and S. Puschhof, to Ruhrchemie Aktiengesellschaft. Chlorinated 4,5,6,7,8-hexachloro-4,7-methylene-3a,4,7,7a-tetrahydroindane. 3,110,648, 11-12-63, Cl. 167-30.
- Feichtmeier, Edmund F., and R. Blondeau, to Shell Oil Co. Preservation of cut flowers. 3,112,192, 11-26-63, Cl. 71-2.5.
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- Feid, Jack T.: *See*—  
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- Feighery, J. M., Co.: *See*—  
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- Feighner, George C.: *See*—  
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- Feigin, Franklin L., and E. Rasmanis, to Sylvania Electric Products Inc. Circuit packaging module. 3,105,868, 10-1-63, Cl. 174-68.5.
- Feigley, David A., Jr., and L. N. Ray, Jr., to Armstrong Cork Co. Binder dispersion for beater saturation processes. 3,093,609, 6-11-63, Cl. 260-23.7.
- Feik, Walter G. Water circulating device. 3,084,472, 4-9-63, Cl. 43-55.
- Feil, Vernon J.: *See*—  
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- Feilbach, Earl F. Vaporizing burner with distributor block. 3,088,514, 5-7-63, Cl. 158-53.
- Feild, George B., to Hercules Powder Co. Ethylene-propylene copolymer insulation on an electrical conductor. 3,110,623, 11-12-63, Cl. 117-232.
- Fein, Samuel, and W. Ondulich, to Westinghouse Electric Corp. Machines for forming fins within the tubes of heat exchangers. 3,080,839, 3-12-63, Cl. 113-42.
- Feinberg, Albert E., to Advance Transformer Co. Apparatus for igniting and operating gaseous discharge devices. 3,099,773, 7-30-63, Cl. 315-257.



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- Feinberg, Seymour J., to United States of America, Navy. Compressor blade locking device. 3,088,708, 5-7-63, Cl. 253-77.
- Feindt, Heinrich: *See*—  
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- Feiner, Alexander: *See*—  
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- Feiner, Alexander, to Bell Telephone Laboratories, Inc. Multiple station communication circuit. 3,108,157, 10-22-63, Cl. 179-1.
- Feinerman, Irving, to J. Feinerman. Upholstery panel. 3,099,892, 8-6-63, Cl. 45-138.
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- Feinerman, Jack. Upholstery assembly. 3,083,496, 4-2-63, Cl. 45-138.
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- Feinson, David, Inc.: *See*—  
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- Feinson, Milton M., R. E. Wise, and R. H. Bodenhamer, to The Nik-O-Lok Co. Coin controlled door lock. 3,115,962, 12-31-63, Cl. 194-65.
- Feinstein, Joseph, to S-F-D Laboratories, Inc. High power electron discharge device. 3,096,462, 7-2-63, Cl. 315-39.53.
- Feinstein, Lester. Flap closer and stop for slide fasteners. 3,110,904, 11-19-63, Cl. 2-234.
- Feist, Martha: *See*—  
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- Feist, Mildred C. Hair curler. 3,080,873, 3-12-63, Cl. 132-42.
- Feiteira, John M., Jr., to Hawaiian Development Co., Ltd. Folding conveyor. 3,085,675, 4-16-63, Cl. 198-113.
- Feland, Duane E., to Steian Mfg. Rock picker. 3,104,722, 9-24-63, Cl. 171-63.
- Felber, Fritz, and T. Bratoljic, to Brown, Boveri & Cie, Aktiengesellschaft. Alternating current amplifier machine. 3,105,943, 10-1-63, Cl. 330-58.
- Felburn, John P. Running gear for vehicles. 3,080,161, 3-5-63, Cl. 267-19.
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- Feld, Ignatz L., and B. H. Clemmons, to United States of America, Interior. Process for wet grinding solids to extreme fineness. 3,075,710, 1-29-63, Cl. 241-16.
- Felder, Ernst, H. Suter, and H. Zutter, to Eprova Ltd. New derivatives of nicotinic acid and preparation thereof. 3,105,072, 9-24-63, Cl. 260-247.2.
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- Feldhoff, Heribert. Chuck for machine tools. 3,097,860, 7-16-63, Cl. 279-113.
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- Feldkamp, Rolland F.: *See*—  
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- Feldman, Charles L., A. C. Fields, and J. A. Bergin, to Joseph Kaye & Co., Inc. Thermocouple reference junction. 3,091,940, 6-4-63, Cl. 62-3.
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- Feldman, Julian, B. A. Saffer, and E. A. Allgeier, to National Distillers and Chemical Corp. Glycol purification. 3,088,982, 5-7-63, Cl. 260-637.
- Feldman, Leonard, to Crosby Electronics, Inc. Stereo sound system. 3,079,463, 2-26-63, Cl. 179-1.
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- Pruess, Louis M., Feldman, and Rigler. 3,116,219.
- Feldman, Louis I., C. E. Holmlund, and N. L. Barbacci, to American Cyanamid Co. Process for the 1,2-hydrogenation of steroids by the use of dried thalli. 3,087,864, 4-30-63, Cl. 195-51.
- Feldman, Louis I., C. E. Holmlund, and N. L. Barbacci, to American Cyanamid Co. Method of preparing  $\Delta^4$  steroids. 3,091,575, 5-28-63, Cl. 195-51.
- Feldman, Louis I., N. E. Rigler, C. E. Holmlund, and B. E. Nielsen, to American Cyanamid Co. Method of 2-hydroxylating pregnenes and pregnadienes with streptomycetes griseus. 3,091,576, 5-28-63, Cl. 195-51.
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- Feldman, Milton D., R. Schwartz, and R. F. Feldman. Match container. 3,080,047, 3-5-63, Cl. 206-20.
- Feldman, Milton H., and H. E. Hosticka, to Westinghouse Electric Corp. Apparatus and process for forming high density compacts. 3,089,189, 5-14-63, Cl. 18-16.
- Feldman, Nathan W., to United States of America, Army. Keysender frequency selector. 3,100,245, 8-6-63, Cl. 179-90.
- Feldman, Rosella F.: *See*—  
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- Feldman, Samuel. Combination cap and scoring device. 3,077,690, 2-19-63, Cl. 40-329.
- Feldman, Sidney, and A. J. Lawes, to United States of America, Navy. Lamp positioning mechanism for searchlights. 3,096,031, 7-2-63, Cl. 240-44.2.
- Feldman, Theodore: *See*—  
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- Feldmann, Floyd M., to National Tuberculosis Association. Pellet injector. 3,072,121, 1-8-63, Cl. 128-217.
- Feldmann, Harry, to Sogespar S.A. New hypotensive pharmaceutical preparation containing  $\alpha$ -tocopheryl-quinone. 3,071,512, 1-1-63, Cl. 167-65.
- Feldmuehle, Papier- und Zellstoffwerke Aktiengesellschaft: *See*—  
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- Feldt, Charles A., and G. T. Kekish, to Nalco Chemical Co. Weakly basic anion exchange resins. 3,092,617, 6-4-63, Cl. 260-21.
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- Feliks, Joseph, to Woven Arts Corp. Machine for weaving web having relatively stiff weft. 3,100,003, 8-6-63, Cl. 139-128.
- Felix, Emil, to Mueller A.G. Depositing and stacking device for sheet material, especially veneer boards. 3,108,509, 10-29-63, Cl. 83-81.
- Felix, Joseph, and H. Davis, to Woven Arts Corp. Woven article of manufacture having relatively stiff weft and method of making same. 3,100,004, 8-6-63, Cl. 139-420.
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- Felkner, Alphonse O. Sectional boom for cranes. 3,080,068, 3-5-63, Cl. 212-144.
- Fell, Robert A., to Felmada S.A. Process of manufacture of spinnerets, particularly for spinning and extruding synthetic textiles, and a spinneret obtained by this process. 3,114,966, 12-24-63, Cl. 29-401.
- Feldin, Karl F., to Lund S.A. Transportable containers for the handling of light-weight bulk materials. 3,105,617, 10-1-63, Cl. 222-185.
- Feller, Albert, and H. Dikofsky, to Radio Corp. of America. Logic circuit with inductive self-resetting of negative resistance diode operating state. 3,115,585, 12-24-63, Cl. 307-88.5.
- Fellerman, Jerrold J.: *See*—  
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- Fellman, Morton R., to Redi Truss International, Inc. Structural truss and joint for use therewith. 3,070,923, 1-1-63, Cl. 50-55.
- Fellman, Robert P., W. E. Goode, and F. H. Owens, to Rohm & Haas Co. Polymerization process with a catalyst system of metal halide and organo-magnesium compound. 3,100,761, 8-13-63, Cl. 260-88.7.
- Fellmann, Robert P.: *See*—  
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- Bibolet, Aubert H., Brown, Richter, and Fellmann. 3,078,244.
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- Felson, Ronald. Magnetic locks. 3,111,834, 11-26-63, Cl. 70-276.
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- Felten & Guillaume Fernmeldeanlagen G.m.b.H.: *See*—  
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- Felten, Major. Animal exerciser. 3,097,626, 7-16-63, Cl. 119-29.
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- Feltham, Robert D., J. F. Anzenberger, and J. T. Carriel, to The International Nickel Co., Inc. Process of making cyclopentadienyl nickel nitrosyl compounds. 3,088,959, 5-7-63, Cl. 260-439.
- Felts, Gordon P., to Microdot Inc. Cable cutter. 3,071,033, 1-1-63, Cl. 82-76.
- Felts, Gordon P., 47½% to Microdot Inc. and 10% to L. A. Sidwell. Pigment measuring and dispensing device. 3,074,597, 1-22-63, Cl. 222-43.
- Felts, Gordon P., to Microdot Inc. Coaxial cable connector. 3,077,513, 2-12-63, Cl. 174-75.
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- Felts, James A. Anesthetic vaporizer. 3,106,917, 10-15-63, Cl. 128-188.
- Feltus, Henry J., to Goulds Pumps Inc. Submersible pump. 3,115,840, 12-31-63, Cl. 103-87.
- Fender, Clarence L. Electric piano. 3,090,274, 5-21-63, Cl. 84-209.
- Fender, Norman N., and C. S. Davidson, to Universal American Corp. Mechanism control. 3,079,809, 3-5-63, Cl. 74-542.
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- Fener, Howard, to Dyna Magnetic Devices, Inc. Hearing-aid sound transducer. 3,076,062, 1-29-63, Cl. 179-119.
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- Feng, I-Ming, J. E. Kieninger, and J. B. Hinkamp, to Ethyl Corp. New lubricants and lubricant additives. 3,109,816, 11-5-63, Cl. 252-46.7.
- Feng, Paul Y., to Armour Research Foundation of Illinois Institute of Technology. Method of making fluorinated compounds. 3,081,243, 3-12-63, Cl. 204-154.
- Fengler, Ferdinand, to Simplex Lock Corp. Permutation lock. 3,115,765, 12-31-63, Cl. 70-315.
- Fenly, Robert D., and J. E. Janssen, to Minneapolis-Honeywell Regulator Co. Freeze-thaw indicator. Re. 25,499, 12-24-63, Cl. 99-192.
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- Fenn, Raymond T., to The New Britain Machine Co. Ignition system for the afterburner of an aircraft engine. 3,078,657, 2-26-63, Cl. 60-35.6.
- Fenn, William W., to United Aircraft Corp. Radar altitude control. 3,071,766, 1-1-63, Cl. 343-13.
- Fennell, Alfred H., to Sunkist Growers, Inc. Article positioning conveyor. 3,080,955, 3-12-63, Cl. 198-33.
- Fennell, Anthony A. Burner safety control. 3,072,177, 1-8-63, Cl. 158-123.
- Fennell, John R., to McNeil Laboratories, Inc. Pharmaceutical tablet. 3,102,845, 9-3-63, Cl. 167-82.
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- Fenske, Merrell R., and J. H. Jones, to Esso Research and Engineering Co. Partial oxidation of organic compounds. 3,085,106, 4-9-63, Cl. 260-451.
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- Fentiman, Arthur E., to F. Fentiman & Sons, Ltd. Method of making a joint. 3,079,681, 3-5-63, Cl. 29-525.
- Fentiman, Arthur E., to F. Fentiman & Sons, Ltd. Multiple section vertical lift door. 3,079,989, 3-5-63, Cl. 160-189.
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- Fentiman, William P., P. H. Morton, S. L. Ames, and T. B. Marsden to Imperial Chemical Industries Ltd. Titanium-base alloys. 3,105,759, 10-1-63, Cl. 75-175.5.
- Fenton, Elton L. Feed mill. 3,083,746, 4-2-63, Cl. 146-123.
- Fenton, George D., to United States Steel Corp. Hammer device. 3,095,786, 7-2-63, Cl. 121-13.
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- Fenton, Paul M. Circumcision instrument. 3,072,126, 1-8-63, Cl. 128-305.
- Fentress, Thomas D., Jr., W. G. Shepherd, and G. E. Wurthmann, to The Bendix Corp. Thermally tuned reflex klystron. 3,089,976, 5-14-63, Cl. 315-5.23.
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- Ferdig, Earl W., to G. F. McMurray. Anti-friction bearing. 3,097,898, 7-16-63, Cl. 308-190.
- Ferdinand, Irwin J., to S. A. Hirsch Mfg. Co. Shelf fastener assembly. 3,099,931, 8-6-63, Cl. 85-40.
- Ferguson, James L., T. P. Vogl, and M. Garbuny, to Westinghouse Electric Corp. Thermal imaging devices utilizing a cholesteric liquid crystalline phase material. 3,114,836, 12-17-63, Cl. 250-83.
- Ferguson, Rector C., to Allis-Chalmers Mfg. Co. Spindle drive track assembly for cotton pickers. 3,108,419, 10-29-63, Cl. 56-42.
- Ferguson, Charles W.: *See*—  
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- Ferguson, Edgar A., Jr., to Amfre-Grant, Inc. Glyceryl mononitrate dinitrate. 3,096,336, 7-2-63, Cl. 260-295.5.
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- Ferguson, Howard W., to United States Steel Corp. Rotary screen and grinder. 3,104,069, 9-17-63, Cl. 241-83.
- Ferguson, John E., and D. Richards, to Guy F. Atkinson Co. Unit handling single load hoisting system. 3,095,988, 7-2-63, Cl. 214-38.
- Ferguson, John F., to Geigy Chemical Corp. Process for the preparation of phosphoric acid esters. 3,107,246, 10-15-63, Cl. 260-251.
- Ferguson, John L., Jr., R. C. Talbot, and J. P. Stirniman, to Textile Machine Works. Case sealing apparatus. 3,085,376, 4-16-63, Cl. 53-75.
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- Ferguson, Leroy C., A. W. Mathews, and H. Hardinge, to Hardinge Co., Inc. Method and means for segregating and recombining feed for grinding mill. 3,078,076, 2-19-63, Cl. 259-180.
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- Ferm, Glenn O., and G. W. Davison, to General Railway Signal Co. Absolute block signaling system for railroads. 3,079,495, 2-26-63, Cl. 246-33.
- Ferm, Richard L., to California Research Corp. Zinc salts of  $\text{P}_2\text{S}_5$ -olefin-chloral reaction products as extreme pressure agents. 3,093,584, 6-11-63, Cl. 252-32.7.
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- Fernald, Herbert B., to Goodrich-Gulf Chemicals, Inc. Activation of aluminum and preparation of aluminum hydrocarbyls therewith. 3,100,786, 8-13-63, Cl. 260-448.
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- Fernicola, Anthony J. Means and method for stereoscopic television viewing. 3,089,917, 5-14-63, Cl. 178-65.
- Fernicola, John D. Combination container, practice golf ball and tee. 3,099,452, 7-30-63, Cl. 273-199.
- Fernquist, Cyril L., to Transistor Electronics Corp. Miniature replaceable lamp indicator. 3,116,480, 12-31-63, Cl. 340-381.
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- Ferrand, Marcel, to Societe Parisienne d'Expansion Chimique S.P.E.C.I.A. Silica-gel powder tablet compositions. 3,101,299, 8-20-63, Cl. 167-82.
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- Ferrand, Marcelle H.: *See*—
- Mingasson, Georges R. H., and Ferrand. 3,092,615.
- Ferrante, Louis. Cooling package for beverages and food. 3,091,091, 5-28-63, Cl. 62-4.
- Ferranti, Albino. Drive assembly for the mobile equipment of hydraulic presses, and suited for exerting pressures of various intensities. 3,103,876, 9-17-63, Cl. 100-214.
- Ferranti, Ltd.: *See*—
- Angus, Ernest T., and Walker. 3,096,467.
- Butterworth, Arnold W., and Roberts. 3,095,640.
- Coady-Farley, James T., and Hampshire. 3,080,511.
- Coady-Farley, James T., Hampshire, and Walker. 3,084,315.
- Lyth, Cyril. 3,114,058.
- Spurway, Maurice A. 3,083,331.
- Turner, George C. 3,087,085.
- Turner, George C. 3,087,086.
- Williamson, David T. N., Walker, Shepherd, and Hampshire. 3,098,186.
- Ferrara, Thomas J. Bowler's posture corrective apparatus. 3,101,196, 8-20-63, Cl. 273-54.
- Ferrari, Andres, to Technicon Instruments Corp. Apparatus for treating liquids. 3,072,442, 1-8-63, Cl. 302-14.
- Ferrari, Andres, to Technicon Instruments Corp. Concentration apparatus for quantitative analysis of a substance in a liquid. 3,098,718, 7-23-63, Cl. 23-253.
- Ferrari, Andres, to Technicon Instruments Corp. Sample-supply apparatus with sample mixer. 3,107,536, 10-22-63, Cl. 73-423.
- Ferrari, Andres, and J. Israeli, to Technicon Instruments Corp. Liquid analysis apparatus with closed flow cell. 3,109,713, 11-5-63, Cl. 23-253.
- Ferrari, Andres, Jr., to Technicon Chromatography Corp. Continuous chromatographic analysis apparatus. 3,074,784, 1-22-63, Cl. 23-253.
- Ferrari, Andres, Jr., to Technicon Instruments Corp. Fluid treatment method and apparatus with double-flow colorimeter. 3,098,717, 7-23-63, Cl. 23-230.
- Ferrari, Carlo: *See*—
- De Ruggieri, Pietro, Ferrari, and Gandolfi. 3,101,358.
- Ferrari, Charles G.: *See*—
- Higashuchi, Kazuo, Kleinschmidt, and Ferrari. 3,108,878.
- Ferrari, Rodolfo D., to Spectrol Electronics Corp. Potentiometer wiper contact assembly. 3,076,162, 1-29-63, Cl. 338-167.
- Ferraris, Carlo: *See*—
- Di Cerrione, Lodovico A., and Ferraris. 3,099,678.
- Ferraris, Enrico: *See*—
- Fuortes, Corrado, Ferraris, and Wildermuth. 3,112,981.
- Ferraris, John T.: *See*—
- Allen, Oliver L., Ferraris, Ritzau, and Vermeulen. 3,108,310.
- Ferrel, Robert E.: *See*—
- Wasserman, Theodore, and Ferrel. 3,089,527.
- Ferrell, Lawrence H., Jr., and A. Kelly. Cement slab finishing device. 3,090,066, 5-21-63, Cl. 15-235.8.
- Ferrell, Robert L., and W. T. Hardison, to Bourns, Inc. Potentiometers. 3,105,217, 9-24-63, Cl. 338-174.
- Ferrell, William C. Combination outboard runabout and cabin cruiser. 3,105,248, 10-1-63, Cl. 9-2.
- Ferren, Arthur L., to Teletype Corp. Guide and retaining means for punch mechanism. 3,083,604, 4-2-63, Cl. 83-635.
- Ferreruela, Miguel R. Machine for manufacturing pipes "in situ." 3,085,146, 4-9-63, Cl. 219-60.
- Ferreruela, Miguel R. Method and machine for cold manufacturing of pipes. 3,085,147, 4-9-63, Cl. 219-60.
- Ferri, Antonio, to General Applied Science Laboratories, Inc. Device for cooling and enhancing jet engine performance of supersonic aircraft. 3,105,661, 10-1-63, Cl. 244-117.
- Ferrigno, Thomas H., to Minerals & Chemicals Philipp Corp. Kaolin clay coated with salt of polymerizable acid and polyester resins containing the same. 3,085,080, 4-9-63, Cl. 260-40.
- Ferrin, Kenneth S., to General Electric Co. Circuit protection means. 3,094,647, 6-18-63, Cl. 317-31.
- Ferriot Brothers, Inc.: *See*—
- Ferriot, Joseph V. 3,095,260.
- Ferriot, Joseph V., to Ferriot Brothers, Inc. Process for producing plastic articles. 3,095,260, 6-25-63, Cl. 18-58.3.
- Ferriot, Joseph V., to Auburn Rubber Co., Inc. Electric robot toy. 3,102,363, 9-3-63, Cl. 46-244.
- Ferris, Cyrus Y., Jr., to Rock of Ages Corp. Granite bowling alley. Re. 25,496, 12-17-63, Cl. 273-51.
- Ferris, David R.: *See*—
- Weigel, Raymond A., and Ferris. 3,099,326.
- Ferris, De Lacy F.: *See*—
- Sherman, Arthur, Ferris, and Youngquist. 3,094,837.
- Ferris, De Lacy F., to United States of America, Navy. Deformable shock absorber. 3,098,544, 7-23-63, Cl. 188-1.
- Ferris, De Lacy F., and R. Youngquist, to United States of America, Army. Valve unit for booster and sustainer thrust devices. 3,111,956, 11-26-63, Cl. 137-69.
- Ferris, Edward E. Land clearing apparatus. 3,084,747, 4-9-63, Cl. 172-39.
- Ferris, Edwin W. Electric paint removing device. 3,094,606, 6-18-63, Cl. 219-39.
- Ferris, Ernest A.: *See*—
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- Ferris, Ernest A., to Borg-Warner Corp. Non-phased one-way roller clutch. 3,095,954, 7-2-63, Cl. 192-45.
- Ferris, John T., and G. A. Ulrich, to Bausch & Lomb Inc. Illuminated endoscope. 3,090,379, 5-21-63, Cl. 128-6.
- Ferris, Lester. Coffee table. 3,088,421, 5-7-63, Cl. 108-13.
- Ferris, Maxime, to Linguadisc Corp. Recording techniques. 3,104,881, 9-24-63, Cl. 274-46.
- Ferris, Ordine C., to Schering Corp. Nozzle perforating cap for collapsible tubes. 3,109,562, 11-5-63, Cl. 222-81.
- Ferris, Robert C., to Purex Corp., Ltd. Trichloroacetic acid bleach with spray-dried base. 3,093,590, 6-11-63, Cl. 252-99.
- Ferris, Robert G., to Starline, Inc. System for handling track suspended objects. 3,071,825, 1-8-63, Cl. 20-19.
- Ferris, Robert G., to Starline, Inc. Material unloading and spreading apparatus. 3,105,693, 10-1-63, Cl. 275-3.
- Ferro, Anthony J., to Baker Perkins, Inc. Article transfer means. 3,088,575, 5-7-63, Cl. 198-24.
- Ferro Corp.: *See*—
- Boyd, Alton R. 3,082,183.
- Bush, Donald R., Howarth, and Lawrence. 3,089,782.
- Fuchsman, Charles H., and Nicholson. 3,082,187.
- Gerster, Charles W., and Pearch. 3,097,411.
- Hanson, Leroy C. 3,073,942.
- Hanson, Leroy C. 3,087,042.
- Kelly, William D. 3,089,016.
- Santhany, Leland W. 3,099,063.
- Ulrich, Clarence. 3,088,092.
- Ferro-Fab, Inc.: *See*—
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- Iding, Orville R. 3,072,231.
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- Pickles, Joseph. 3,073,395.
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- Pickles, Joseph. 3,089,676.
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- Ferstendig, Louis L., and California Research Corp. Non-drying alkyd resins, and amine-formaldehyde resin coating compositions plasticized therewith. 3,108,089, 10-22-63, Cl. 260-45.3.
- Fertig, Raymond B.: *See*—
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- Fesco, John J., to Studley Paper Company, Inc. Disposable filter bag. 3,107,989, 10-22-63, Cl. 55-381.
- Feser, Edward A.: *See*—
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- Fesser, Erich, to Hobbs Transmission Ltd. Variable ratio power transmission apparatus. 3,084,565, 4-9-63, Cl. 74-472.
- Fessler, William A., C. A. Hutter, H. L. Buckmaster, and G. O. Stricker, to Daubert Chemical Co. Transparent heat-sealable sheets carrying vapor phase corrosion inhibitors. 3,080,211, 3-5-63, Cl. 21-2.5.
- Festo, Thomas. Apparatus for spraying lawns, golf fairways and the like. 3,097,796, 7-16-63, Cl. 239-167.
- Fetkovich, Michael J., and N. L. Sargent, to Phillips Petroleum Co. Use of quaternary ammonium salts for paraffin removal. 3,077,929, 2-19-63, Cl. 166-41.
- Fetscher, Charles A.: *See*—
- Lipowski, Stanley, and Fetscher. 3,106,541.
- Fetscher, Charles A., to Nopco Chemical Co. Extraction of a metal from solutions containing same. 3,088,798, 5-7-63, Cl. 23-14.5.



- Fetscher, Charles A., to Nopco Chemical Co. Metal extraction process. 3,088,799, 5-7-63, Cl. 23-14.5.
- Fetscher, Charles A., and S. Lipowski, to Nopco Chemical Co. Stable vinyl resin containing a reaction product of epichlorhydrin and a sulfone. 3,071,560, 1-1-63, Cl. 260-45.5.
- Fetterly, Lloyd C., D. O. Collamer, and C. W. Smith, to Shell Oil Co. Polymeric reaction product of polyalkyl substituted diisocyanate compounds and polyhydroxy compound. 3,089,862, 5-14-63, Cl. 260-75.
- Fetterly, Lloyd C., D. O. Collamer, and C. W. Smith, to Shell Oil Co. Diisocyanate aromatic compounds. 3,105,845, 10-1-63, Cl. 260-45.3.
- Fetterman, Jay V., to Air Products and Chemicals, Inc. Low temperature process. 3,102,801, 9-3-63, Cl. 62-31.
- Fetterman, Roy A., Jr., to Vara-Trol Inc. Mechanism for spinning. 3,097,476, 7-16-63, Cl. 57-110.
- Fettig, Arthur J., D. M. Jenks, C. Lasdine, E. P. Maidment, and B. A. Runde, to Burroughs Corp. Combined document sorter, printer and accounting machine system. 3,089,641, 5-14-63, Cl. 235-60.13.
- Fetz, Alfred. Welding organization. 3,071,679, 1-1-63, Cl. 219-120.
- Fetzer, Maurice C., P. R. Sperry, and J. F. Murphy, to Kaiser Aluminum & Chemical Corp. Colored anodized aluminum article and alloys therefor. 3,107,159, 10-15-63, Cl. 29-195.
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- Feucht, Jacob E., to Westinghouse Air Brake Co. Fluid actuated feeding and supporting leg for rock drills. 3,088,530, 5-7-63, Cl. 175-124.
- Feucht, Robert E., J. Jarvis, and J. C. Ziegler, to The Bendix Corp. Manual control system for modifying or overcoming the auto pilot control. Re. 25,356, 3-19-63, Cl. 244-83.
- Feuer, Henry: See—  
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- Feuer, Irving, to Canrad Precision Industries. Device for rupturing glass seals. 3,084,705, 4-9-63, Cl. 137-68.
- Feuerbach, Dilver D., and D. C. Luze. Clip board with supporting and attaching means. 3,104,895, 9-24-63, Cl. 281-44.
- Feuerbacher, Gerard J., to Trine Mfg. Corp. Fastener means. 3,084,962, 4-9-63, Cl. 287-20.
- Feuereisl, Rudolf: See—  
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- Feuilly, Jules E. J., to Societe Generale "Isothermos." Automatic slack adjuster. 3,113,645, 12-10-63, Cl. 188-196.
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- Wilfert, Karl, and Fiala. 3,078,779.
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- Fiala, Ernst J. H., to Daimler-Benz Aktiengesellschaft. Equalization spring system. 3,079,169, 2-26-63, Cl. 280-104.
- Fiala, Ernst J. H., to Daimler-Benz Aktiengesellschaft. Equalization spring system for vehicles. 3,083,033, 3-26-63, Cl. 280-104.
- Fiala, Ernst J. H., to Daimler-Benz Aktiengesellschaft. Mechanism for controlling outward inclination of a vehicle body in curves. 3,089,710, 5-14-63, Cl. 280-112.
- Fiala, Ernst J. H., and R. Andres, to Daimler-Benz Aktiengesellschaft. Fluid-operable actuating system in a motor vehicle. 3,075,356, 1-29-63, Cl. 60-97.
- Fiala, Ernst J. H., and E. Kafka, to Daimler-Benz Aktiengesellschaft. Door lock. 3,090,644, 5-21-63, Cl. 292-229.
- Fiala, Richard J., to A. E. Staley Mfg. Co. Refining soybean oil. 3,093,667, 6-11-63, Cl. 260-424.
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- Fiber-Foam Marine Products, Inc.: See—  
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- Fibikar, Robert J., and W. I. Senger, to Gisholt Machine Co. Apparatus for balancing engines. 3,079,802, 3-5-63, Cl. 73-466.
- Fibish, Arthur, to Illinois Tool Works Inc. Plastic containers. 3,085,730, 4-16-63, Cl. 229-1.5.
- Fibish, Arthur, to Illinois Tool Works Inc. Cup stacking machine. 3,086,822, 4-23-63, Cl. 302-2.
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- Fichter, Harry L., Jr., and W. P. Hamilton, to Horizons Inc. Print-out process with aryl amine and polyphenylmethane carbinols. 3,102,029, 8-27-63, Cl. 96-90.
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- Fickel, Lawrence K. Ventilated pneumatic tire structure and method of fabricating the tire. 3,110,339, 11-12-63, Cl. 152-339.
- Fickler, Hans, to Industriewerk Schaeffler. Joint head for movably connecting two machine elements. 3,097,005, 7-9-63, Cl. 287-90.
- Fiddler, Theodore E. Retainer for securing a threaded member in a body aperture. 3,114,404, 12-17-63, Cl. 151-41.75.
- Fidel, Hyman, to Modcraft Co., Inc. Chair. 3,087,757, 4-30-63, Cl. 297-434.
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- Fiechter, Rene A., to American Railroad Curvelining Corp. Railway rail joint. 3,100,080, 8-6-63, Cl. 238-151.
- Fiedler, Bruce H., to Allis-Chalmers Mfg. Co. Device for slicing cylindrical bales. 3,072,165, 1-8-63, Cl. 146-98.
- Fiedler, Dean R. Machine for production of frozen confections. 3,085,520, 4-16-63, Cl. 107-8.
- Fiedler, Howard C., to General Electric Co. Grain oriented sheet metal. 3,096,222, 7-2-63, Cl. 148-31.55.
- Fiedler, Willy A., and J. E. Madden, to United States of America, Navy. Launch and underwater trajectory test vehicle. 3,075,301, 1-29-63, Cl. 35-25.
- Fiedler, Willy A., and J. E. Madden, to United States of America, Navy. Underwater pitch-over launch test vehicle. 3,075,302, 1-29-63, Cl. 35-25.
- Fiedor, Adolph J., and R. G. Rockwell, to Varian Associates. Electron discharge device. 3,104,341, 9-17-63, Cl. 315-548.
- Fiegel, Charles E., and E. H. Bostetter, to Walker Mfg. Co. Trolley. 3,086,482, 4-23-63, Cl. 105-155.
- Fiehl, Michael, to International Business Machines Corp. Stacking device. 3,107,912, 10-22-63, Cl. 271-88.
- Fiekers, Edmund J., A. A. Klose, and E. H. Schramm, to Duratite of Ohio, Inc. Connector for structural members. 3,091,822, 6-4-63, Cl. 20-94.
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- Field, Frank H., to Magna American Corp. Stabilizer stake for garden tillers. 3,074,491, 1-22-63, Cl. 172-395.
- Field, Frank H., to Magna American Corp. Radial arm saw. 3,104,687, 9-24-63, Cl. 143-6.
- Field, Frederick C., Jr., to E. I. du Pont de Nemours and Co. Fasciated yarn, process and apparatus for producing the same. 3,079,746, 3-5-63, Cl. 57-51.
- Field, Frederick C., Jr., to E. I. du Pont de Nemours and Co. Variable denier composite yarn. 3,091,913, 6-4-63, Cl. 57-140.
- Field, Frederick C., Jr., to E. I. du Pont de Nemours and Co. Process for preparing a variable denier composite multifilament yarn. 3,104,516, 9-24-63, Cl. 57-157.
- Field, Harold, and M. Daria, to Sonotone Corp. Electrode assembly for sealed rechargeable alkaline battery cells. 3,081,367, 3-12-63, Cl. 136-6.
- Field, Harry and J. Hanger support bar for garment packing case. 3,112,027, 11-26-63, Cl. 206-7.
- Field, James M., to Bell Telephone Laboratories, Inc. Repertory dialer. 3,105,121, 9-24-63, Cl. 179-90.
- Field, Joe: *See*—  
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- Field, Joseph, to Bethlehem Steel Co. Chromium-nitrogen die steel. 3,105,758, 10-1-63, Cl. 75-128.
- Field, Nathan D., to E. I. du Pont de Nemours and Co. Homopolymer of P-dioxene and preparation thereof. 3,072,623, 1-8-63, Cl. 260-88.3.
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- Field, Thomas R., to Jenn-Air Products Co., Inc. Combined skylight and ventilator. 3,085,490, 4-16-63, Cl. 98-43.
- Field, Walter P. Shoe last inserts. 3,088,147, 5-7-63, Cl. 12-140.
- Field, Wesley W. Customer loading conveyor. 3,088,544, 5-7-63, Cl. 186-1.
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- Fielden, John E., and Tremlett. 3,082,362.
- Fielden, John E., to Fielden Electronics Ltd. Means for converting a mechanical force into an electrical current. 3,087,331, 4-30-63, Cl. 73-141.
- Fielden, John E., and L. Tremlett, to Fielden Electronics Ltd. Measuring and control servosystem. 3,082,362, 3-19-63, Cl. 318-28.
- Fielden, Richard J., to Imperial Chemical Industries Ltd. Natural rubber stabilized with alkyl substituted heterocyclic compounds. 3,103,542, 9-10-63, Cl. 260-800.
- Fielder, Arthur F. Portable rabbeting and recessing tool. 3,087,520, 4-30-63, Cl. 144-136.
- Fieldgate, Ivan O., and E. S. Gwathmey, to Specialties Inc. Instrument indication system. 3,096,504, 7-2-63, Cl. 340-27.
- Fielding, Francis W., to Lengsfeld Brothers, Inc. Display package. 3,072,247, 1-8-63, Cl. 206-45.31.
- Fielding, Francis W., to B. H. Lengsfeld, Jr. Package of bottles and the like. 3,080,050, 3-5-63, Cl. 206-65.
- Fielding, Harold C.: *See*—  
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- Fielding, Harold C., and J. M. Pollock, to Imperial Chemical Industries Ltd. Isocyanates containing silicon. 3,113,146, 12-3-63, Cl. 260-448.8.
- Fielding, Max J., and D. L. Stoddard, to E. I. du Pont de Nemours and Co. Anilide nematocides. 3,108,038, 10-22-63, Cl. 167-30.
- Fieldman, Arnold, to C. Nuissl. Air jet for producing bulked stub yarn. 3,093,878, 6-18-63, Cl. 28-1.
- Fields, Arnold C.: *See*—  
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- Serres, Carl, Jr., and Fields. 3,102,907.
- Fields, Ellis K., to Standard Oil Co. Copolymer compositions of benzalalkylimine. 3,072,617, 1-8-63, Cl. 260-78.5.
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- Fields, Reuben T.: *See*—  
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- Bohres, William C., Fields, and Jordan. 3,103,409.
- Fields, Thomas L.: *See*—  
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- Fiene, Marylyn L.: *See*—  
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- Fierston, Stanley A.: *See*—  
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- Fiesselmann, Hans: *See*—  
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- Fiezell, Joseph F., to R. Hoe & Co., Inc. Saw bit. 3,091,267, 5-28-63, Cl. 143-141.
- Fife, Harold E.: *See*—  
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- Fife, Irwin L. Apparatus for maintaining the alignment of a moving web. 3,104,789, 9-24-63, Cl. 226-22.
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- Figge, Carroll C. Roofing apparatus. 3,093,936, 6-18-63, Cl. 50-538.
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- Figge, Carroll C. Renewable reservoir safety mop. 3,104,414, 9-24-63, Cl. 15-537.
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- Figley, Charles D. Grain drier. 3,092,472, 6-4-63, Cl. 34-56.
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- Filler, Abraham. Lamp adapted for mounting on music sheet support. 3,116,024, 12-31-63, Cl. 240-4.
- Filling, James H., to Courtaulds, Ltd. Papermaking process and product. 3,093,534, 6-11-63, Cl. 162-146.
- Fillingim, Josephine R. Orthopedic device. 3,086,225, 4-23-63, Cl. 5-327.
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- Finch, Gaylord K., and C. D. Stringer, to Eastman Kodak Co. Preparation of esters of aconitic acid. 3,076,021, 1-29-63, Cl. 260-485.
- Finch, Harry de V., G. W. Hearne, and J. A. Whitcombe, to Shell Oil Co. Sultone manufacture. 3,115,501, 12-24-63, Cl. 260-327.
- Finch, Robert E. Angle setting indicator. 3,087,139, 4-23-63, Cl. 340-26.
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- Findlay, Thomas M., to Johns-Manville Corp. Suspension system for ceiling panels. 3,084,401, 4-9-63, Cl. 20-4.
- Findley, Howard J. Gear finishing. 3,085,369, 4-16-63, Cl. 51-52.
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- Finelt, Aron. Vulcanizer press wax injectors for molds. 3,095,605, 7-2-63, Cl. 18-6.
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- Fingerhut, Solomon, to Minnesota Mining and Mfg. Co. Pressure vessel and method of making the same. 3,073,475, 1-15-63, Cl. 220-3.
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- Fingeroot, Max. Pressurized dispensing assembly for a windshield washer system. 3,113,704, 12-10-63, Cl. 222-373.
- Fingerut, Boris M., to Portland Wire & Iron Works. Device for collecting and stacking masonry reinforcements and the like. 3,109,543, 11-5-63, Cl. 214-6.
- Fingland, Jack A. Distribution box. 3,108,517, 10-29-63, Cl. 94-44.
- Fink, Aaron, to Essex Paper Box Mfg. Co., Inc. Display box. 3,073,434, 1-15-63, Cl. 206-45.34.
- Fink, Aaron, to Essex Paper Box Mfg. Co., Inc. Container. 3,107,841, 10-22-63, Cl. 229-52.
- Fink, Anton. Precision gear tester. 3,110,969, 11-19-63, Cl. 33-179.5.
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- Finsterwalder, Albert, to Klockner-Humboldt-Deutz Aktiengesellschaft. Hydrodynamic torque converter. 3,107,552, 10-22-63, Cl. 74-645.
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- Firth, David, to Dodge Mfg. Corp. Torque limiting mechanism. 3,111,824, 11-26-63, Cl. 64-30.
- Firth, Donald, and R. H. Y. Hancock, to Council for Scientific and Industrial Research. Hydraulic machines. 3,089,427, 5-14-63, Cl. 103-162.
- Firth, Donald, and J. D. Hamilton, to National Research Development Corp. Operation of hydraulic presses. 3,092,969, 6-11-63, Cl. 60-52.
- Firth, Donald, and J. D. Hamilton, to Council for Scientific and Industrial Research. Piston valves. 3,115,066, 12-24-63, Cl. 91-250.
- Firth, John W., to Tee-Pak, Inc. Method of producing sausage and meat casing employed therein. 3,106,471, 10-8-63, Cl. 99-109.
- Fisanick, George: See—  
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- Fiscella, Anthony J.: See—  
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- Fisch, Kirt: See—  
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- Fisch, Willy, P. Zuppinger, and H. Brueschweiler, to Ciba Ltd. Hardenable compositions comprising epoxide compounds and cyclic ethers or thioethers. 3,072,607, 1-8-63, Cl. 260-47.
- Fischbacher, Ronald E., to National Research Development Corp. Flowmeters. 3,097,526, 7-16-63, Cl. 73-194.
- Fischback, Bryant C.: See—  
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- Fischbein, Harold and I. G. Looper mechanism for a sewing machine. 3,094,955, 6-25-63, Cl. 112-199.
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- Fischbein, Irwin W. Razor blade and method of making same. 3,071,856, 1-8-63, Cl. 30-346.



- Fischel, Hans: *See*—  
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Fischer, Albert W., to Consolidated Electrodynamics Corp. Transmission. 3,084,563, 4-9-63, Cl. 74—375.  
Fischer, Andreas, G. and H. Kaiser, to H. Strunck & Co. Maschinenfabrik. Process and apparatus for cleaning and polishing containers. 3,083,683, 4-2-63, Cl. 118—106.  
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Fischer, Kurt, and H. Mund, to Bahre Metallwerk K.G. Method and apparatus for production of particle board. 3,096,542, 7-9-63, Cl. 18—4.  
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Fischer, Robert M. and C. H., and P. Steiner. Static removing hair grooming device. 3,084,700, 4-9-63, Cl. 132—148.  
Fischer, Rudolph F., to Shell Oil Co. Process for preparing high molecular weight polymers from acrolein and resulting products. 3,079,357, 2-26-63, Cl. 260—29.6.  
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Fish, Richard H.  $\frac{1}{2}$  to Evalyn Preston. Orchard spray mechanism. 3,092,327, 6-4-63, Cl. 239—77.



- Fish, Walter Y., and W. H. Conlee, Jr. Emergency sign and auxiliary power system. 3,083,317, 3-26-63, Cl. 315-87.
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- Fisher, Benjamin, to North American Aviation, Inc. Frequency control system for radio frequency discriminators. 3,092,780, 6-4-63, Cl. 329-139.
- Fisher, Byron L., and F. H. King, to International Harvester Co. Temperature responsive fuel governing means. 3,090,195, 5-21-63, Cl. 60-12.
- Fisher, Carl E., Jr., and C. H. Wilson. Pharmaceutical preparations and method and apparatus for making same. 3,092,553, 6-4-63, Cl. 167-82.
- Fisher, Charles B. Multiplex telephony. 3,098,124, 7-16-63, Cl. 179-15.
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- Fisher, Chester D., to Sprout, Waldron, & Co., Inc. Pneumatic conveying system. 3,077,365, 2-12-63, Cl. 302-28.
- Fisher, Don E., to Monsanto Chemical Co. Apparatus for texturing yarn. 3,071,917, 1-8-63, Cl. 57-34.
- Fisher, Don E., to Monsanto Chemical Co. Balloon retaining device. 3,076,304, 2-5-63, Cl. 57-106.
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- Fisher, Frank F. Boiler tube elongation measuring device. 3,072,175, 1-8-63, Cl. 153-81.
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- Fisher, Herbert. Fire escape. 3,095,946, 7-2-63, Cl. 182-43.
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- Fisher, Hiram H., Jr., and W. W. Henslee, Jr., to Baker Oil Tools, Inc. Apparatus for cementing tubing strings in well bores. 3,102,595, 9-3-63, Cl. 166-156.
- Fisher, Hollis G. Screen cleaning device. 3,087,563, 4-30-63, Cl. 180-68.
- Fisher, Howard J., to United States of America, Army. Plastic explosive composition. 3,116,189, 12-31-63, Cl. 149-92.
- Fisher, James B., and G. W. Gazaly, to California Research Corp. Defoliation of cotton plants with ammonia. 3,095,298, 6-25-63, Cl. 71-2.2.
- Fisher, James C. Stop motion for a loom having a bobbin filling-changing mechanism. 3,102,558, 9-3-63, Cl. 139-336.4.
- Fisher, James C., J. F. Clark, and F. H. Lee, to Aluminum Co. of America. Interlocking elongate articles and bundles thereof. 3,081,871, 3-19-63, Cl. 206-65.
- Fisher, James G. Floating platform lock-down mechanisms for spooler troughs and doff trucks. 3,091,503, 5-28-63, Cl. 312-71.
- Fisher, John, to The Warner & Swasey Co. Rotary switch control unit. 3,094,592, 6-18-63, Cl. 200-6.
- Fisher, John, to The Warner & Swasey Co. Record sensing devices. 3,114,503, 12-17-63, Cl. 235-61.11.
- Fisher, John C., to Am Dyne Trust. Liquid pump. 3,080,822, 3-12-63, Cl. 103-53.
- Fisher, John C., to Am Dyne Trust. Fluid rectifier. 3,099,998, 8-6-63, Cl. 137-525.3.
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- Fisher, John L.,  $\frac{1}{2}$  to R. S. Robinson and  $\frac{1}{2}$  to H. C. Nienow. Door closure apparatus. 3,103,034, 9-10-63, Cl. 16-66.
- Fisher, John R., Jr., to Industrial Metal Protectives, Inc. Protective coating. 3,102,038, 8-27-63, Cl. 106-84.
- Fisher, John R., Jr., to Industrial Metal Protectives, Inc. Metallically pigmented liquid coating. 3,110,691, 11-12-63, Cl. 260-22.
- Fisher, John T., to Stewart-Warner Corp. Butterfly valve having resilient sealing means. 3,096,071, 7-2-63, Cl. 251-306.
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- Fisher, Richard A., to The United States Bedding Co. Sofa bed. 3,090,970, 5-28-63, Cl. 5-55.
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- Taylor, Billy W., and Poli. 3,097,518.
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- Fishwick, Brian R., and E. L. Johnson, to Imperial Chemical Industries Ltd. Water-soluble monoazo benzothiazol dye-stuffs. 3,084,153, 4-2-63, Cl. 260-158.
- Fishwick, Brian R., and J. Wardleworth, to Imperial Chemical Industries Ltd. Azo dyestuffs. 3,097,198, 7-9-63, Cl. 260-207.1.
- Fisk, Hal M. Shoe display devices. 3,104,013, 9-17-63, Cl. 211-37.
- Fisk, Newton H., to Martin-Marietta Corp. Target seeking missile. 3,111,088, 11-19-63, Cl. 102-51.



- Fisk, Robert W., to Mathews Conveyor Co. Article synchronizing conveyor. 3,075,630, 1-29-63, Cl. 198—76.
- Fisk, Roy T., to Hyland Laboratories. Immunological diagnostics utilizing polystyrene latex particles of 0.15 to 0.25 micron. 3,088,875, 5-7-63, Cl. 167—84.5.
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- Fiske, Paul E. Receive lobing antenna. 3,112,482, 11-26-63, Cl. 343—16.
- Fiske, Paul E. Command guidance and tracking system. 3,113,291, 12-3-63, Cl. 340—23.
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- Fiste, Benjamin F. One-way releasable clutch mechanism. 3,112,011, 11-26-63, Cl. 182—134.
- Fister, Charles W., and C. J. Turansky, to United States of America, Air Force. Leakproof dual valve. 3,115,895, 12-31-63, Cl. 137—595.
- Fitch, Earl L. Drill collar for oil wells. 3,085,639, 4-16-63, Cl. 175—223.
- Fitch, Ellery R., and W. F. Klein, to Bendix-Westinghouse Automotive Air Brake Co. Slack adjuster. 3,084,567, 4-9-63, Cl. 74—559.
- Fitch, Frederick T., to W. R. Grace & Co. Production of ammonium hydrogen fluoride. 3,106,449, 10-8-63, Cl. 23—88.
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- Fitch, Robert B., and N. Horvath, Jr., to Stapling Machines Co. Two-size automatic box closing machine. 3,087,419, 4-30-63, Cl. 100—49.
- Fitch, Robert M., to E. I. du Pont de Nemours and Co. Aqueous emulsion of cross-linked terpolymers free of microgel and method of making same. 3,104,231, 9-17-63, Cl. 260—29.7.
- Fitchburg Paper Co.: *See—*
- Thurlow, John F. 3,083,639.
- Fitchett, James C. Modification of a dead-bolt relocking device for combination locks. 3,077,099, 2-12-63, Cl. 70—1.5.
- Fitchie, John W., to Power Jets (Research and Development) Ltd. Limitation of thermal shock in engine components. 3,089,306, 5-14-63, Cl. 60—39.09.
- Fite, Lloyd E., to United States of America, Atomic Energy Commission. Drift control in an analytical gamma ray spectrometer. 3,101,409, 8-20-63, Cl. 250—71.5.
- Fite, Luther S., to Petroleum Anchor Equipment, Inc. Multiple stage jet squeeze anchor. 3,104,719, 9-24-63, Cl. 166—243.
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- Borman, August H., Jr., Cline, and Fiteny. 3,110,198.
- Fiteny, Louis M., to General Motors Corp. Speed control systems. 3,081,837, 3-19-63, Cl. 180—82.1.
- Fites, Cyril B.: *See—*
- Cruse, Oliver B., and Fites. 3,113,489.
- Fitt, Peter W., to Normalair Ltd. Oxygen supply systems. 3,097,497, 7-16-63, Cl. 62—52.
- Fittou, David L., and G. A. Lawson, to United Aircraft Corp. Missile interstage separating device. 3,111,900, 11-26-63, Cl. 102—49.
- Fitz, Edward J., to The Eagle-Picher Co. Machine and method for molding heat-curable articles. 3,079,633, 3-5-63, Cl. 18—5.
- Fitzgerald, Albert J., to Thompson Industries, Inc. Wheel cover construction. 3,095,241, 6-25-63, Cl. 301—37.
- Fitzgerald, Charles F.: *See—*
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- Fitzgerald, Charles F., and A. J. Murphy, to United Shoe Machinery Corp. Thread severing. 3,087,448, 4-30-63, Cl. 112—252.
- Fitzgerald, Gerald, and P. R. D. Shallow, to Decca Ltd. Remote control apparatus. 3,076,194, 1-29-63, Cl. 343—118.
- Fitzgerald, Harold M. Air venting device. 3,072,924, 1-15-63, Cl. 4—215.
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- Fitzgerald, John B., and D. R. Compton, to ACF Industries, Inc. Fuel pump. 3,096,722, 7-9-63, Cl. 103—150.
- Fitzgerald, John E.: *See—*
- Mims, Bruce L., and Fitzgerald. 3,097,027.
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- Woolston, William D., and Fitzgerald. 3,093,469.
- Fitzgerald, Robert E.: *See—*
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- Fitzgerald, Robert E., to United-Carr Fastener Corp. Electrical connector. 3,098,687, 7-23-63, Cl. 339—188.
- Fitz Harris, Leo J., to Minnesota Mining and Mfg. Co. Metallic article lined with a halogenated olefin polymer film. 3,093,264, 6-11-63, Cl. 220—63.
- Fitzhugh, Andrew F., E. Lavin, and R. N. Crozier, 1/2 to Shawinigan Resins Corp., and 1/2 to Phelps Dodge Copper Products Corp. Isocyanate-polyvinyl formal resin composition and coated wire. 3,077,462, 2-12-63, Cl. 260—33.4.
- Fitzmaurice, Richard W.: *See—*
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- Fitzpatrick Inc.: *See—*
- Fitzpatrick, Bernhardt T. 3,084,562.
- Fitzpatrick, John A., and E. Lyon, III, to ACF Industries, Inc. Method and apparatus for propulsion. 3,082,666, 3-26-63, Cl. 89—1.7.
- Fitzpatrick, John T.: *See—*
- Bailey, Frederick E., Jr., Hill, and Fitzpatrick. 3,100,750.
- Fitzpatrick, John T., and E. Marcus, to Union Carbide Corp. Cyclopentenyl cyclopenteneacetic acid and derivatives. 3,072,706, 1-8-63, Cl. 260—468.
- Fitzpatrick, Robert J.: *See—*
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- Fitzsimmons, Harold C., to The Sharples Corp. Centrifuge nozzle holders. 3,075,696, 1-29-63, Cl. 233—47.
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- Fitzsimons, Alan R. Control circuits for money issuing system. 3,099,274, 7-30-63, Cl. 133—4.
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- Fjermestad, Arnold R., to National Cooperatives, Inc. Master pulsator assembly for milking machines. 3,111,140, 11-19-63, Cl. 137—624.13.
- Flach, Rolf, and E. Muller, to Xaver Fendt & Co. Selvedge chain stitch machine. 3,087,446, 4-30-63, Cl. 112—203.
- Fladeland, Vernon F., and L. P. Vanderhagen, to Wellman Co. Sole cutting method. 3,110,916, 11-19-63, Cl. 12—146.
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- Flamand, Maurice R., to Draper Corp. Filling carriers for shuttleless looms. 3,081,797, 3-19-63, Cl. 139—122.
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- Flamm, Alec: *See—*
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- Flanagan, Harry L. Vehicle brake operating means. 3,101,823, 8-27-63, Cl. 192—3.
- Flanagan, James E. Material handling and transfer device. 3,073,462, 1-15-63, Cl. 214—17.
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- Flanders, George S.: *See—*
- Taylor, Francis A., and Flanders. 3,082,824.



- Flanders, Theodore A., to United Aircraft Corp. Normal and emergency fuel control for a re-expansion gas turbine engine. 3,104,524, 9-24-63, Cl. 60—39.16.
- Flanigan, Eugene E., and R. M. Zeek, to General Motors Corp. Gas turbine fuel nozzle cooling. 3,095,706, 7-2-63, Cl. 60—39.66.
- Flanigan, Eugene E., and R. M. Zeek, to General Motors Corp. Gas turbine fuel nozzle air supply system. 3,095,707, 7-2-63, Cl. 60—39.74.
- Flannery, Frank A. Micrometrically adjustable insert for boring bar. 3,073,186, 1-15-63, Cl. 77—58.
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- Flavan, David B., Jr. Multi-sequence pulse code transmitter. 3,074,059, 1-15-63, Cl. 340—365.
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- Fleischer, Svend S. C. Method to draw one or several threads of a loom through each interstice in a reed, and an apparatus thereto. 3,083,438, 4-2-63, Cl. 28—45.
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- Fleissner, Hans, and G. 3,081,556.
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- Fleming, Howard B., to H. B. Fleming, Inc. Concrete form and bracket therefor. 3,077,645, 2-19-63, Cl. 20—95.
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- Fleming, Jack F., and O. Lehre, to Sterling Plastics Co. Pencil sharpener for cosmetic pencils. 3,097,629, 7-16-63, Cl. 120—93.
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- Fleming, James E., 1/2 to T. Boyce. Truck trailer decking mounting means. 3,101,969, 8-27-63, Cl. 296—24.
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- Fleming, Robert W., and Y. J. L'italien, to Parke, Davis & Co. 1-(2-phenoxy-2-phenylethyl) pyrrolidine. 3,106,564, 10-8-63, Cl. 260—326.5.
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- Fleysher, Maurice H., and W. B. Richards, to Allied Chemical Corp. Process of preparing metal-containing phthalocyanine sulfonic acids. 3,091,618, 5-28-63, Cl. 260-314.5.
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- Flick, Francis S., to Flick-Reedy Corp. Actuator valve construction. 3,106,939, 10-15-63, Cl. 137-625.69.
- Flick, Francis S., to Flick-Reedy Corp. Shock absorber. 3,108,661, 10-29-63, Cl. 188-94.
- Flick, Francis S., and W. J. Kudlaty, to Flick-Reedy Corp. Removable check unit. 3,084,709, 4-9-63, Cl. 137-454.5.
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- Flick, Robert H.: See—
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- Thomas, Glenn R., and Flick. 3,073,925.
- Flickinger, Don H., to Pan American Petroleum Corp. Testing wells. 3,107,725, 10-22-63, Cl. 166-3.
- Flickinger, Wayne H.: See—
- Weinreich, Charles F., and Flickinger. 3,112,047.
- Flieder, Robert A., to American Speedlight Corp. Electrical systems including capacitors. 3,098,947, 7-23-63, Cl. 315-188.
- Flieg, Werner. Spring type clutch or brake. 3,087,587, 4-30-63, Cl. 192-26.
- Flieg, Werner, to Invac Corp. Data recorder. 3,096,016, 7-2-63, Cl. 234-108.
- Flieg, Werner, and S. F. Plaisance, to Invac Corp. Data processing apparatus. 3,092,310, 6-4-63, Cl. 234-52.
- Flegler, Michel J., H. C. Fasini, H. A. Spitzner, and R. P. Zupa, to Analogue Controls, Inc. Temperature compensated pendulum potentiometer. 3,113,283, 12-3-63, Cl. 338-46.
- Flinco, Inc.: See—
- Fletcher, Charles F. 3,101,159.
- Flindt, Charles B., to Short Brothers & Harland Ltd. Fault detection means. 3,095,783, 7-2-63, Cl. 121-41.
- Flinn, George E., to Borg-Warner Corp. Self adjusting brake mechanism. 3,103,991, 9-17-63, Cl. 188-77.
- Flinn, Richard A.: See—
- Beuther, Harold, Flinn, Henke, and McKinley. 3,078,221.
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- Domash, Lionel, and Flinn. 3,074,830.
- Flinn, Richard A., B. A. Kerns, and O. A. Larson, to Gulf Research & Development Co. Process of removing nitrogen compounds by oxidation. 3,105,812, 10-1-63, Cl. 208-254.
- Flinn, Willard R.: See—
- Rowell, Douglas C., Klaczynski, and Flinn. 3,070,993.
- Flint, Duane L.: See—
- McKinnis, Art C., and Flint. 3,114,679.
- Flint, Hyland C., to American Metal Products Co. Spring cushion construction. 3,087,719, 4-30-63, Cl. 267-85.
- Flint, Hyland C. Vehicle seat. 3,087,756, 4-30-63, Cl. 297-340.
- Flint, Hyland C., and R. K. McLean, to American Metal Products Co. Seat construction. 3,071,413, 1-1-63, Cl. 297-456.
- Flint, James A., III: See—
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- Flint, Thomas, and J. M. Fluke, to American Machine & Foundry Co. Bowling pin spotting mechanism. 3,077,348, 2-12-63, Cl. 273-43.
- Flint, Thomas, and J. M. Fluke, to American Machine & Foundry Co. Bowling pin respotting mechanism. 3,084,937, 4-9-63, Cl. 273-43.
- Flinth, Rune: See—
- Agerman, Erik, and Flinth. 3,103,810.
- Flintkote Co., The: See—
- Arceement, Louis M. 3,076,582.
- Cacossa, Frank G. 3,083,506.
- Palement, Georges E. 3,089,521.
- Ring, Jack A. 3,101,886.
- Schmidt, Jack H. 3,089,805.
- Wengenroth, Edgar R., Jr. 3,104,184.
- Flitterman, Harry. Braided rug. 3,098,281, 7-23-63, Cl. 28-78.
- Floating Floors Inc.: See—
- Spiselman, Joseph W. 3,084,911.
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- Flock, Karl W.: See—
- Gill, Edwin R., Jr. 3,105,954.
- Floodberg, Gerhard A., to Raytheon Co. Assembly apparatus. 3,114,199, 12-17-63, Cl. 29-203.
- Floodberg, Gerhard A., and R. D. Corwin, to Raytheon Co. Assembly apparatus. 3,104,451, 9-24-63, Cl. 29-25.19.
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- Roth, Karl M., and Floden. 3,074,103.
- Floehr, Walter L., to Unitcast Corp. Sliding hopper gate assembly. 3,089,435, 5-14-63, Cl. 105-282.
- Flohr, William P., Jr., to Landis Tool Co. Wheel approach control with feed safety device. 3,097,455, 7-16-63, Cl. 51-165.
- Flomen, Edward, S. V. Brich, and H. A. Osberg, to Hygrade Food Products Corp. Sausage casing packaging. 3,115,240, 12-24-63, Cl. 206-46.
- Flood, Carl A., to Dennison Mfg. Co. Apparatus for labeling articles. 3,079,979, 3-5-63, Cl. 156-542.
- Flood, Carl A., to Dennison Mfg. Co. Label applying machines. 3,111,446, 11-19-63, Cl. 156-475.
- Flood, Eugene W., deceased, by R. T. Flood, administratrix, to R. Flood. Bowling ball return. 3,099,445, 7-30-63, Cl. 273-47.
- Flood, John E.: See—
- Foot, George H., and Flood. 3,084,222.
- Flood, Rosalie: See—
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- Flora, John W., to North American Aviation, Inc. Liquid homogeneous fuel element and reactor therefor. 3,085,966, 4-16-63, Cl. 204-193.2.



- Florence, Nilo K. Aquatic tow rope with shock absorber. 3,094,096, 6-18-63, Cl. 114-235.
- Florence, Robert T., to A. B. Dick Co. Duplicating method and element for use therein. 3,076,406, 2-5-63, Cl. 101-149.5.
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- Flores, Ivan: *See*—  
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- Flores, Minerva C., and B. Loev, to Smith Kline & French Laboratories. Process for the preparation of carbamates. 3,072,710, 1-8-63, Cl. 260-482.
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- Florida Tile Industries, Inc.: *See*—  
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- Florio, Patrick A., to Johnson & Johnson. Surgical sponge and method of making same. 3,089,495, 5-14-63, Cl. 128-296.
- Florschutz, Fritz E.: *See*—  
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- Floseal Corp.: *See*—  
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- Flournoy, John H., to South Laboratories, Inc. Method of charging carbon dioxide cylinders. 3,078,685, 2-26-63, Cl. 62-47.
- Flower, Archibald T. Anode connector. 3,098,027, 7-16-63, Cl. 204-196.
- Flower, Joseph A. Bridge score device. 3,114,552, 12-17-63, Cl. 273-143.
- Flower, Robert A., to General Precision, Inc. Low altitude doppler system. 3,090,950, 5-21-63, Cl. 343-8.
- Flower, Robert A., to General Precision, Inc. Hybrid pulse-continuous wave doppler radio navigation system. 3,102,264, 8-27-63, Cl. 343-9.
- Flower, Walter T., and D. C. Green, to Wesel Mfg. Co. Proof press for curved printing plates. 3,098,435, 7-23-63, Cl. 101-212.
- Flowers, Ab, to Crucible Steel Co. of America. Heat treating apparatus. 3,109,044, 10-29-63, Cl. 266-3.
- Flowers, Ab, and D. S. Foote, to Crucible Steel Co. of America. Sheet handling apparatus. 3,114,991, 12-24-63, Cl. 51-277.
- Flowers, John W., J. S. Luce, and W. L. Stirling, to United States of America, Atomic Energy Commission. Ion source with space charge neutralization. 3,075,115, 1-22-63, Cl. 313-63.
- Flowers, Ralph G., and P. W. Juneau, Jr., to General Electric Co. Thermally stable layer insulation. 3,083,119, 3-26-63, Cl. 117-155.
- Flowers, Thomas H., to Her Majesty's Postmaster General. Binary digital number storing and accumulating apparatus. 3,098,218, 7-16-63, Cl. 340-174.
- Flowers, Thomas H., to Her Majesty's Postmaster General. Demodulators for amplitude modulated current pulses. 3,110,867, 11-12-63, Cl. 329-102.
- Flowmatic Controls Inc.: *See*—  
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- Floyd, Charles C., Jr., to United States Steel Corp. Expanding mandrel. 3,085,763, 4-16-63, Cl. 242-72.1.
- Floyd, Earl C., to Admiral Corp. Noise cancellation circuit. 3,090,832, 5-21-63, Cl. 178-7.3.
- Floyd, Edwin, Jr., to AMP Inc. Crimping apparatus. 3,101,766, 8-27-63, Cl. 153-1.
- Floyd, Edwin, Jr., and R. J. Perme, to AMP Inc. Crimping machine. 3,076,490, 2-5-63, Cl. 153-1.
- Floyd, Frederick K. Mechanical drive mechanism. 3,071,018, 1-1-63, Cl. 74-198.
- Floyd, George W., to Rheem Electronics Corp. Tape handling apparatus. 3,097,777, 7-16-63, Cl. 226-39.
- Floyd, Peter G. Vibration responsive system for stopping motor driven machines. 3,095,532, 6-25-63, Cl. 318-460.
- Floyd, J. F. Rabardy, and R. H. Lapp, to United States of America, Navy. Fire extinguisher for a rocket motor. 3,084,506, 4-9-63, Cl. 60-35.6.
- Floyd, James F. Wellhead equipment. 3,084,745, 4-9-63, Cl. 166-89.
- Floyd, John D., to Hercules Powder Co. Aqueous dispersion comprising a maleic anhydride divinyl ether copolymer. 3,085,077, 4-9-63, Cl. 260-29.7.
- Floyd, Sherman H., and A. J. Smith, Jr., to J. P. Stevens & Co. Machine for slitting a fabric into narrow widths. 3,103,319, 9-10-63, Cl. 242-56.2.
- Floyd, Terence J., to Audley Engineering Co. Ltd. Valves having sealed means restrained against axial expansion. 3,090,594, 5-21-63, Cl. 251-183.
- Fluck, Linton A., to American Cyanamid Co. Durable fluorochemical-melamine resin textile finish. 3,087,905, 4-30-63, Cl. 260-29.4.
- Fluck, Ronald O. Door seal. 3,114,946, 12-24-63, Cl. 20-69.
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- Fluegel, Dale A.: *See*—  
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- Fluegel, Dale A., to Phillips Petroleum Co. Low level voltage to frequency converter. 3,094,875, 6-25-63, Cl. 73-359.
- Fluegel, Dale A., to Phillips Petroleum Co. Capacitance measuring bridge utilizing voltage sensitive capacitors for rebalancing the bridge. 3,115,603, 12-24-63, Cl. 324-60.
- Fluge, Sylvester L., and E. Glaser, to Continental Can Co., Inc. Method of and apparatus for curing internal coatings on can bodies. 3,094,396, 6-18-63, Cl. 34-13.
- Fuhr, Frederick R., to United States of America, Navy. Differential mode of detection of a voltage source. 3,076,119, 1-29-63, Cl. 315-26.
- Fuhr, Frederick R. Analog-to-digital instantaneous converter. 3,100,298, 8-6-63, Cl. 340-347.
- Fuhr, Frederick R., and D. J. McLaughlin. Digitalized pick-off display converter. 3,102,926, 9-3-63, Cl. 178-18.
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- Fluke, Jefferson M.,  $\frac{1}{2}$  to R. D. Bennett. Image transfer apparatus. 3,112,685, 12-3-63, Cl. 95-89.
- Fluke, John M.: *See*—  
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- Flurschutz, Glenn E., to Combustion Engineering, Inc. Resilient sector plate for rotary regenerative heat exchanger. 3,100,014, 8-6-63, Cl. 165-9.
- Flury, Karl, to Defensor Aktiengesellschaft. Spray-producer. 3,107,857, 10-22-63, Cl. 239-216.
- Flury, Karl. Apparatus for humidifying air. 3,108,147, 10-22-63, Cl. 261-29.
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- Flymo, Aktiebolaget: *See*—  
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- Flynn, Edward L., to General Electric Co. Treating agent dispenser arrangement. 3,092,124, 6-4-63, Cl. 134-93.
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- Flynn, Frank M., to Seary Mfg. Co. Apparatus for folding transparency mounts. 3,109,642, 11-5-63, Cl. 270-61.
- Flynn, Gregory, Jr., and W. H. Percival, to General Motors Corp. Heat storage operated stirling cycle engine. 3,080,706, 3-12-63, Cl. 60-24.
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- Flynn, Robert W. Pressure lacquer dispenser. 3,079,044, 2-26-63, Cl. 222-2.
- Flynn, Thomas M., to The Bendix Corp. Hydrogen liquefaction. 3,109,725, 11-5-63, Cl. 62-9.
- Flynn, William, and W. W. Wilson, to Metal Edge Industries. Box assembly apparatus. 3,078,769, 2-26-63, Cl. 93-41.1.
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- Fobiano, Frank E., to Premier Carton Co. Partitioned carton and blank for forming same. 3,088,648, 5-7-63, Cl. 229-27.
- Focht, John R.: *See*—  
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- Focht, John R., to Precision Valve Corp. Dispensing head connectable to the valve stem of an aerosol dispenser. 3,096,002, 7-2-63, Cl. 222-394.
- Focht, John R., to Precision Valve Corp. Method of and apparatus for pressure charging aerosol dispensers with push buttons attached. 3,103,956, 9-17-63, Cl. 141-3.
- Focht, John R., to Precision Valve Corp. Protector for dispenser caps. 3,107,823, 10-22-63, Cl. 222-182.
- Focht, Louis R., to Philco Corp. Electron beam-intercepting structure for color image-producing cathode ray tubes. 3,102,967, 9-3-63, Cl. 313-92.
- Focht, Robert M., to E. J. Lavino and Co. Apparatus for joining refractory brick channels and hangers. 3,111,868, 11-26-63, Cl. 78-46.
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- Fodor, Ferenz H. Non-vibrational dental tool. 3,101,542, 8-27-63, Cl. 32-27.



- Fodrea, James W., to General Motors Corp. Transmission. 3,088,336, 5-7-63, Cl. 74-745.
- Foecking, Ralph M.: *See—*  
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- Foerster, George S., to The Dow Chemical Co. Magnesium-base alloy. 3,092,492, 6-4-63, Cl. 75-168.
- Foerster, Hans-Joachim M., to Daimler-Benz Aktiengesellschaft. Speed-change transmission, particularly for motor vehicles. 3,080,772, 3-12-63, Cl. 74-688.
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- Fogarty, John D., to Sperry Rand Corp. Drive circuit for magnetic heads. 3,076,969, 2-5-63, Cl. 346-74.
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- Fogle, Mark V., to The National Cash Register Co. Transferable magnetic coating composition and transfer web coated therewith. 3,087,832, 4-30-63, Cl. 117-364.
- Fogle, Merald C., R. G. Goldthwait, S. J. Kwolek, and T. Rice, to Gulf Research & Development Co. Process for hydroisomerization of paraffins. 3,105,859, 10-1-63, Cl. 260-683.68.
- Fogle, Russell F., Jr.: *See—*  
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- Fogleman, Harry F., to Genistron, Inc. Temperature reference apparatus. 3,109,910, 11-5-63, Cl. 219-20.
- Fogleman, Sam F. and G. A. Fogleman, Jr. Multistage centrifugal gas compressor. 3,102,680, 9-3-63, Cl. 230-130.
- Fogleman, Sam F. and G. A. Centrifugal refrigeration compressor motor. 3,106,334, 10-8-63, Cl. 230-117.
- Foglia, Henry R., to International Business Machines Corp. Pulse generator. 3,114,843, 12-17-63, Cl. 307-88.
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- Foglia, Sebastian, to Commissariat a l'Energie Atomique. Devices for removing fissionable material rods from nuclear reactors. 3,105,034, 9-24-63, Cl. 204-193.2.
- Fogt, Thomas H.: *See—*  
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- Fohn, Jack E., to Aurora Steel Products Co. Steel shelving construction. 3,104,627, 9-24-63, Cl. 108-157.
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- Kaufeld, Don B. 3,077,709.
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- Sher, Fred D., and Stueck. 3,080,936.
- Fokker, Theodor W. H., J. G. van Wijngaarden, and A. Versnel, to North American Philips Co., Inc. Travelling-wave tube with connectors for the end turns of the helix. 3,114,857, 12-17-63, Cl. 315-3.5.
- Foldec Industries Ltd.: *See—*  
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- Folding Carrier Corp.: *See—*  
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- Foldomatic Door Co., Inc.: *See—*  
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- Foley, Daniel E., to W. F. Hogan. Information display means. 3,106,696, 10-8-63, Cl. 340-154.
- Foley, Daniel E., and A. Skrobisch, to Data Presentations, Inc. Printing device. 3,099,711, 7-30-63, Cl. 178-30.
- Foley, Francis. Apparatus for cleaning automatic transmission converter. 3,103,937, 9-17-63, Cl. 134-111.
- Foley, Jessie E. Device for handling and squeezing sections of fruit. 3,111,083, 11-19-63, Cl. 100-235.
- Foley, John R.: *See—*  
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- Foley & Lavish Engineering Co.: *See—*  
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- Foley, Russell W., and G. G. Wood, to Foley & Lavish Engineering Co. Connector device. 3,090,088, 5-21-63, Cl. 20-92.
- Foley, William H., to Brunswick Union Inc. Spiral wound antenna with controlled spacing for impedance matching. 3,102,268, 8-27-63, Cl. 343-895.
- Folger, Philip M.: *See—*  
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- Folkenroth, Earl E.: *See—*  
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- Folkenroth, Earl E., to AMP Inc. Insulation stripping applicator. 3,084,574, 4-9-63, Cl. 81-9.51.
- Folkers, Karl, to Merck & Co., Inc. Process for the preparation of lipids. 3,089,821, 5-14-63, Cl. 167-78.
- Folkers, Karl, to Merck & Co., Inc. Antiulcer concentrate and process for preparing same. 3,108,040, 10-22-63, Cl. 167-55.
- Folkers, Karl, and H. B. Woodruff, to Merck & Co., Inc. Preparation of methoxynovobiocin. 3,093,549, 6-11-63, Cl. 195-80.
- Folkers, Karl A.: *See—*  
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- Folkerts, Walter E., to Chrysler Corp. Power steering gear. 3,099,167, 7-30-63, Cl. 74-388.
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- Folkins, Hillis O., to The Pure Oil Co. Lubricating oil process. 3,083,151, 3-26-63, Cl. 204-154.
- Folkins, Hillis O., to The Pure Oil Co. Process for hydrocarbon conversion. 3,083,152, 3-26-63, Cl. 204-162.
- Folley, Cranston W., to Saco-Lowell Shops. Grinding wheel and dresser. 3,076,295, 2-5-63, Cl. 51-90.
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- Folsom, Fletcher. Cotton screeners for cotton pickers of the type using rotary spindles and doffers. 3,114,997, 12-24-63, Cl. 56-44.
- Folsom, Robert W., to Comtek Inc. Magnetron cathode structure. 3,090,891, 5-21-63, Cl. 315-39.51.
- Folsom, Theodore R., and R. A. Cramer, to The Regents of the University of California. Computing apparatus. 3,110,799, 11-12-63, Cl. 235-61.8.
- Folt, Vernon L., to The B. F. Goodrich Co. Stable, high softening vinyl cyclobutane homopolymers and method for preparing same. 3,111,509, 11-19-63, Cl. 260-91.5.
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- Foltis, Anastis, and P. Kates. Umbrellas. 3,074,419, 1-22-63, Cl. 135-22.
- Foltis, Anastis C., and M. Kraft. Auxiliary lifter arm for presser foot on sewing machines. 3,093,101, 6-11-63, Cl. 112-237.
- Foltis, Anastis C., and M. Kraft. Thread cutters or snippers. 3,106,902, 10-15-63, Cl. 112-252.
- Foltz, Jack W., to The Yoder Co. Quick disconnect coupling. 3,088,763, 5-7-63, Cl. 287-129.
- Foltz, Robert E., to Lawrence Bros., Inc. Swinging door hinge. 3,083,402, 4-2-63, Cl. 16-153.
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- Fonnesbeck, Byron C. Hydraulic dredge production sustaining control. 3,111,778, 11-26-63, Cl. 37-58.
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- Ford, Charles L., to Sprayers & Nozzles, Inc. Sprayers. 3,088,679, 5-7-63, Cl. 239-318.
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- Ford, Curry E., and C. V. Mitchell, to Union Carbide Corp. Fibrous graphite. 3,107,152, 10-15-63, Cl. 23-209.2.
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- Bookout, Charles C., and Taylor. 3,085,645.
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- Camp, John W. A. 3,099,340.
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- Cota, John A. 3,086,607.
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- Foxwell, William J. 3,112,798.
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- Frey, Stuart M. 3,078,945.
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- Gropp, Karl H. 3,082,755.
- Hair, Benjamin F. 3,095,213.
- Heischman, Frederick E. 3,088,921.
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- Hollowell, John R. 3,083,034.
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- Knowles, James. 3,113,470.
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- Foris, Peter L., to The National Cash Register Co. Process including a light filter. 3,105,761, 10-1-63, Cl. 96—27.
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- Forniti, Philip M., to Hupp Corp. Control system for gas burners. 3,108,630, 10-29-63, Cl. 158—123.
- Forniti, Philip M., and F. B. Smith, to Hupp Corp. Picnic grill. 3,103,160, 9-10-63, Cl. 99—339.
- Forquignon, Werner, and C. Tiedemann, to Wefo Pyrotechnische Fabrik Wistedt W. Forquignon. Smoke candle and cup discharger for firing the smoke candle. 3,081,701, 3-19-63, Cl. 102—37.6.
- Forrer, Edward E. A tree lighting fixture. 3,096,943, 7-9-63, Cl. 240—10.
- Forrer, Homer W., to The Mead Corp. Article carrier. 3,083,865, 4-2-63, Cl. 220—113.
- Forrer, Homer W., to The Mead Corp. Article carrier. 3,083,891, 4-2-63, Cl. 229—40.
- Forrer, Max P., to General Electric Co. Binary logic circuits utilizing diverse frequency representation for bits. 3,077,564, 2-12-63, Cl. 328—92.
- Forrest, Andrew G. : *See*—  
Zouareff, Peter, and Forrest. 3,115,249.
- Forrest, Charles D. : *See*—  
De Maris, Elbert E., Forrest, and Noddin. 3,089,796.
- Forrest, David C. Medical applicator. 3,086,527, 4-23-63, Cl. 128—263.
- Forrest, John W., to Acton Laboratories, Inc. Adjustable slip clutch. 3,105,371, 10-1-63, Cl. 64—30.
- Forrest, Michael L. N. : *See*—  
Holmes, Brian J., Lloyd, Krajewski, Parker, and Forrest. 3,103,602.
- Forrester, Charles W. Machines for making crumpets and the like. 3,093,062, 6-11-63, Cl. 99—423.
- Forrester, Christie R. : *See*—  
Swindells, Harry, and Forrester. 3,108,700.
- Forrester, Clyde : *See*—  
Guise, Arthur B., and Forrester. 3,092,183.
- Forrester, Gilbert, to S. D. Warren Co. Pneumatic void detector. 3,115,037, 12-24-63, Cl. 73—159.
- Forrester, Gilbert, and C. P. Grant. Web caliper measuring apparatus. 3,110,110, 11-12-63, Cl. 33—149.
- Forrester, Joseph J., 3rd, to Olin Mathieson Chemical Corp. Liquid high energy fuels. 3,114,614, 12-17-63, Cl. 44—76.
- Forrester, Robert A., to Ashland Oil & Refining Co. Preparation of black masterbatch. 3,113,119, 12-3-63, Cl. 260—41.5.
- Fors, Dolores M. : *See*—  
Fors, James A. and D. M. 3,078,614.
- Fors, James A. and D. M. String toy. 3,078,614, 2-26-63, Cl. 46—1.
- Forsberg, Arthur R. Screener. 3,087,617, 4-30-63, Cl. 209—319.
- Forsberg, Arthur R. Seed hulling and separating machine. 3,098,515, 7-23-63, Cl. 146—253.
- Forsberg, Arthur R. Apparatus for hulling seeds. 3,102,569, 9-3-63, Cl. 146—253.
- Forsberg, Axel A., to Electrolux, Aktiebolaget. Centrifuge. 3,080,061, 3-5-63, Cl. 210—249.
- Forsberg, Ernest S., to Hodgman Rubber Co. Pump for air mattresses. 3,112,502, 12-3-63, Cl. 5—348.
- Forsberg, Karl S. O., to Morgardshammars Mekaniska Verkskads Aktiebolag. Hot rolled material steering device. 3,112,021, 11-26-63, Cl. 198—24.
- Forsberg, Karl V., to Antonsson Avery AB. Computing means for weighing scales. 3,093,201, 4-11-63, Cl. 177—25.
- Forschungszentrum der Luftfahrtindustrie : *See*—  
Schmidt, Wilhelm. 3,111,928.
- Forsen, Harold K. : *See*—  
Schupp, Arthur A., Jr., and Forsen. 3,075,162.
- Forsha, Herbert E., and S. M. Kapell, to Westinghouse Electric Corp. Frequency multiplier. 3,099,784, 7-30-63, Cl. 321—7.
- Forshall, Frank E., and F. W. Engelmann. Combined receptacle cover and server. 3,102,656, 9-3-63, Cl. 220—24.
- Forshee, Shelia M. Collapsible shaft for disposable paint spray curtain. 3,071,060, 1-1-63, Cl. 98—115.
- Forslund, Herbert B. : *See*—  
Hoehn, Walter G., Forslund, and Fulton. 3,073,722.
- Forsman, Arnold H. Water ski binding. 3,097,376, 7-16-63, Cl. 9—310.
- Forsman, James P., to Jersey Production Research Co. Resinuos seal for a borehole. 3,087,544, 4-30-63, Cl. 166—33.
- Forspads Inc. : *See*—  
Bruce, John A. 3,101,847.
- Forst, Frank W. Method of and means for controlling earth moving equipment. 3,092,921, 6-11-63, Cl. 37—129.
- Forster, Barrington : *See*—  
Ritz, Hugo H., Engel, and Forster. 3,085,964.
- Forster, Franz : *See*—  
Kaup, Otmair, and Forster. 3,107,491.
- Forster, George A., to United States of America, Atomic Energy Commission. Positional data system. 3,105,189, 9-24-63, Cl. 323—52.
- Forster, Gerhard, to North American Philips Co. Inc. Television receiver with contrast control and AGC-controlled video amplifier. 3,095,474, 6-25-63, Cl. 178—7.5.
- Forster, Hans-Joachim M., and K. Heinrich, to Daimler-Benz Aktiengesellschaft. Reversible transmission, particularly for maritime purposes. 3,093,013, 6-11-63, Cl. 74—788.
- Forster, Jakob, and E. Grünke. Zig-zag sewing machines. 3,089,444, 5-14-63, Cl. 112—159.
- Forster, John H., and J. F. Grandner, to Bell Telephone Laboratories, Inc. Semiconductor device. 3,116,443, 12-31-63, Cl. 317—234.
- Forster, Milton : *See*—  
Davenport, William A. 3,074,722.
- Forster, Milton P., S. J. Peck, and H. W. Tanner, to Pen Dee, Inc. Folding stroller with telescopic handle. 3,084,949, 4-9-63, Cl. 280—36.
- Forster, Robert, to Sarco International Corp. Slide type mixing valve with interchangeable inlet and outlet connections. 3,089,505, 5-14-63, Cl. 137—270.
- Forster, Wolfgang C., and A. Salgado, to Reichhold Chemicals, Inc. 2-mercapto thiazoline accelerator in filled polyester resins. 3,077,463, 2-12-63, Cl. 260—40.
- Forstner, Inc. : *See*—  
Gaupp, Kurt. 3,075,266.
- Forstner, Wilfred F. 3,073,133.
- Forsyth, Albert J. C., to Courtesy Products Corp. Liquid measuring and dispensing machine. 3,089,618, 5-14-63, Cl. 222—60.
- Forsyth, Emil J., and W. J. Weigle, Jr., to Mathews Conveyor Co. Article handling apparatus. 3,089,611, 5-14-63, Cl. 221—7.
- Forsyth, James M. Barring jack. 3,096,077, 7-2-63, Cl. 254—93.
- Forsyth, John I. M. : *See*—  
Brooks, Harold, Forsyth, and Lewis. 3,070,881.
- Forsythe, Alan K. : *See*—  
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- Forsythe, Edwin C., and R. N. Vandekieft, to Safway Steel Products, Inc. Self-supporting structure. 3,077,642, 2-19-63, Cl. 20—1.126.
- Fort, Kenneth W. : *See*—  
Young, Donald C., Backlund, and Fort. 3,072,460.
- Fort, Russell M. : *See*—  
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- Fort Wayne Tool and Die, Inc. : *See*—  
Eminger, Robert J. 3,090,641.
- Eminger, Robert J. 3,098,616.
- Forte-Fairbairn Inc. : *See*—  
Breen, Stanley, and Mason. 3,090,004.
- Forte, Francis J. Overhead exercising apparatus. 3,115,339, 12-24-63, Cl. 272—81.
- Forte, Frank M., to Automatic Switch Co. Pilot operated valve. 3,103,337, 9-10-63, Cl. 251—30.
- Forte, Manuel F. Method of making paper bag. 3,082,717, 3-26-63, Cl. 112—10.
- Forte, Robert R. Necktie holder. 3,070,806, 1-1-63, Cl. 2—153.
- Fortescue, Peter, to General Dynamics Corp. Compressor blade structure. 3,112,866, 12-3-63, Cl. 230—122.
- Fortescue, Peter, C. Rickard, and D. Rose, to United States of America, Atomic Energy Commission. Reactor system and control valve. 3,072,550, 1-8-63, Cl. 204—193.2.
- Fortescue, Peter, and D. Nicoll, to United States of America, Atomic Energy Commission. Fuel element interlocking arrangement. 3,072,552, 1-8-63, Cl. 204—193.2.
- Fortescue, Peter, and D. Nicoll, to United States of America, Atomic Energy Commission. Heat transfer device. 3,115,449, 12-24-63, Cl. 204—193.2.
- Fortess, Fred : *See*—  
Salvin, Victor S., Sprague, and Fortess. 3,101,236.
- Schoeneberg, Werner A. P., and Fortess. 3,077,371.
- Fortess, Fred, and N. Van Gorder, to Celanese Corp. of America. Composition comprising an organopolysiloxane and colloidal silica, and textile treated therewith. 3,077,460, 2-12-63, Cl. 260—29.2.
- Forth, Frank F. : *See*—  
Merritt, Willie M., and Forth. 3,090,354.
- Forthmann, Frederick F., Jr. Web material severing, folding and packing device. 3,106,809, 10-15-63, Cl. 53—116.
- Fortier, Andre. Heat exchanger. 3,109,485, 11-5-63, Cl. 165—1.
- Fortier, Paul : *See*—  
Archambault, Maurice, Olivier, Panneton, and Fortier. 3,112,172.
- Fortin, Antoine : *See*—  
Leroy, Rene, A. Fortin, Vertut, and M. Fortin. 3,082,045.
- Fortin, Bernard. Sectional folding camp bed. 3,110,041, 11-12-63, Cl. 5—112.
- Fortin, Guy : *See*—  
Keirstead, Karl F., Giguere, and Fortin. 3,094,515.
- Fortin, Henry C. Valve grinding device. 3,092,938, 6-11-63, Cl. 51—241.
- Fortin, Marcel : *See*—  
Leroy, Rene, M. Fortin, Vertut, and A. Fortin. 3,082,045.
- Fortin, Louis P., and E. Lemieux, 66% to E. Beaupre, and 33% to said Fortin. Telescopic tube. 3,098,669, 7-23-63, Cl. 287—58.



- Fortline, Inc.: *See*—  
Franzene, Robert D. 3,080,202.
- Fortna, Henry F.: *See*—  
Cootes, Harold E., Folkenroth, Fortna, Fuller, and Ullman. 3,086,282.
- Fortriede, Charles J.: *See*—  
Gentry, Hermond G., Radzins, and Fortriede. 3,983,035.
- Fortson, Richard M., and J. J. Creskoff, to Vacuum Concrete Corp. of America. Portable handling implement. 3,089,723, 5-14-63, Cl. 294-65.
- Fortuna-Werke Spezialmaschinenfabrik A.G.: *See*—  
Braun, Dieter, Focke, and Hacker. 3,109,339.  
Koppenwallner, Georg. 3,112,583.  
Voller, Rolf. 3,095,676.
- Fortune, William S. Solder removing tool. 3,114,026, 12-10-63, Cl. 219-26.
- "42" Products Ltd., Inc.: *See*—  
Klein, Paul S. 3,094,219.  
Klein, Paul S. 3,107,007.
- Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Fluid operated circuit breaker. 3,087,035, 4-23-63, Cl. 200-148.
- Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Air blast circuit breaker having a series connected breaking gap in a bushing. 3,093,717, 6-11-63, Cl. 200-145.
- Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Operating device for the movable contact of the main breaking gap in an air blast circuit breaker. 3,094,601, 6-18-63, Cl. 200-148.
- Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Pneumatically operated air blast valve. 3,100,001, 8-6-63, Cl. 137-596.1.
- Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Oil circuit breaker. 3,100,248, 8-6-63, Cl. 200-150.
- Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Air blast valve particularly for electric circuit breakers. 3,107,692, 10-22-63, Cl. 137-625.27.
- Forwald, Haakon, to Allmänna Svenska Elektriska Aktiebolaget. Device for air blast circuit breaker. 3,108,168, 10-22-63, Cl. 200-148.
- Forward Industries, Inc.: *See*—  
Hurley, Frederick A. 3,114,554.  
Hurley, Frederick A. 3,114,555.
- Forward, Robert W.: *See*—  
Mathues, Thomas O., Beck, Davis, and Forward. 3,088,539.
- Forward Slant Sole Co., The: *See*—  
Russell, Lawrence E. 3,087,261.  
Russell, Lawrence E. 3,087,262.
- Fosdick Machine Tool Co., The: *See*—  
Knosp, Robert N., and Gecks. 3,100,406.  
Knosp, Robert N., and Gecks. 3,109,329.
- Foseco International Ltd.: *See*—  
Bauer, Ferdinand. 3,092,879.  
Boddey, Ronald F. 3,104,996.
- Foseid, Torodd. Convertible sofa beds. 3,088,129, 5-7-63, Cl. 5-24.
- Fosnacht, Fred: *See*—  
Goldberg, Harry, Siwek, and Fosnacht. 3,110,998.
- Foss, Clifton T., and J. J. Giba, to American Bosch Arma Corp. Remote control switching system. 3,080,514, 3-5-63, Cl. 318-29.
- Foss, David W., to Varian Associates. Tunable microwave cavity resonator with calibrated dial. 3,085,199, 4-9-63, Cl. 324-81.
- Foss, David W., to Varian Associates. Reference cavity resonator. 3,090,018, 5-14-63, Cl. 333-83.
- Foss, George J.: *See*—  
Roberts, Cecil F., and Foss. 3,107,468.
- Foss, George J., and D. D. Acton, to Anchor Hocking Glass Corp. Closure cap and method of making same. 3,071,275, 1-1-63, Cl. 215-40.
- Foss, George J., and D. D. Acton, to Anchor Hocking Glass Corp. Closure cap, container and sealed package therefor. 3,077,280, 2-12-63, Cl. 215-44.
- Foss, Harry A.: *See*—  
Bireley, Frank W., and Foss. 3,094,919.
- Foss, Orlando W., to General Box Co. Method for making a cardboard box. 3,113,492, 12-10-63, Cl. 93-36.
- Fossa, Joseph, to United Shoe Machinery Corp. Apparatus for preparing baseball cover pieces for sewing. 3,099,147, 7-30-63, Cl. 69-8.
- Fossil Fuels, Inc.: *See*—  
Levene, Harold D., Stephenson, and Montes. 3,093,420.
- Foster Alice E.: *See*—  
Foster, Ezra M. 3,077,994.
- Foster, Allan D., to Almor Corp. Cart having a removable load carrier. 3,083,978, 4-2-63, Cl. 280-47.34.
- Foster, Arthur A., to Gorman-Rupp Industries, Inc. Temperature control for therapeutic apparatus. 3,074,410, 1-22-63, Cl. 128-400.
- Foster, Arthur E. Chalk line holder. 3,078,581, 2-26-63, Cl. 33-87.
- Foster, Benjamin, Co.: *See*—  
Ellis, Wayne P., and Steltz. 3,090,764.
- Foster, Boutwell H., to United States Rubber Co. Wire fabrics and methods of producing the same. 3,087,699, 4-30-63, Cl. 245-2.
- Foster, Boutwell H. Method and apparatus for covering thread. 3,097,471, 7-16-63, Cl. 57-12.
- Foster, Charles H., and J. D. Lewis, to Western Electric Co., Inc. Apparatus for sensing the flow of a substance through a liquid medium. 3,114,257, 12-17-63, Cl. 73-45.5.
- Foster, Charles V., and J. A. Acciarri, to Continental Oil Co. Purification of organo-aluminum compounds by spray stripping. 3,104,251, 9-17-63, Cl. 260-448.
- Foster, Christopher J. Gates for graving docks. 3,083,539, 4-2-63, Cl. 61-64.
- Foster, Christopher J. Offshore mooring platforms. 3,086,367, 4-23-63, Cl. 61-46.
- Foster, Donald J.: *See*—  
Murray, James V., Jr., and Foster. 3,072,662.
- Foster, Donald J., to Union Carbide Corp. Preparation of polycyclic arylsodium compounds. 3,085,118, 4-9-63, Cl. 260-665.
- Foster, Donald J., and E. Tobler, to Union Carbide Corp. Divinylzinc and method of making. 3,087,947, 4-30-63, Cl. 260-129.
- Foster, Donald J., and E. Tobler, to Union Carbide Corp. Process of making vinylthioethers. 3,087,952, 4-30-63, Cl. 260-433.
- Foster, Donald J., and E. Tobler, to Union Carbide Corp. Process of making vinyl aryl ethers. 3,090,814, 5-21-63, Cl. 260-612.
- Foster, Donald J., and E. Tobler, to Union Carbide Corp. Production of high-purity vinyl alkali metal compounds. 3,113,160, 12-3-63, Cl. 260-665.
- Foster, Edwin E. Sash balance. 3,084,377, 4-9-63, Cl. 16-197.
- Foster, Edwin E. Toy gun. 3,087,481, 4-30-63, Cl. 124-11.
- Foster, Edwin E. Film magazine and drive means therefor. 3,095,779, 7-2-63, Cl. 88-17.
- Foster, Ezra M., 3% to R. O. Lane, 9% to R. A. Byrd, 9% to E. W. Wilson, 6% to E. A. Feser, 3% to M. T. Brown, 70% to E. M. Foster, and A. E. Foster, as joint tenants. Vehicle parking apparatus. 3,077,994, 2-19-63, Cl. 214-16.1.
- Foster, Francis J. Pumps. 3,074,351, 1-22-63, Cl. 103-152.
- Foster, Frank M., to Seas, Ltd. Ignition system for internal combustion engines. 3,116,379, 12-31-63, Cl. 200-30.
- Foster, George B., to Industrial Nucleonics Corp. Mass distribution analyzer. 3,092,724, 6-4-63, Cl. 250-83.3.
- Foster, George B., to Industrial Nucleonics Corp. Radiation dosage limiter. 3,100,843, 8-13-63, Cl. 250-52.
- Foster, George B., and W. H. Canter, Jr., to Industrial Nucleonics Corp. Radioactive thickness gauge. Re. 25,353, 3-19-63, Cl. 250-83.3.
- Foster, Gerald L.: *See*—  
Monroe, Roger F., Lowes, Foster, and Oakes. 3,079,345.
- Foster Grant Co., Inc.: *See*—  
Crane, James E., and Richards. 3,104,425.  
Goodman, Leonard. 3,082,900.
- Foster, Harold E. W.: *See*—  
Lamburn, Alan S., and Foster. 3,072,339.
- Foster, Harry C.: *See*—  
Wakefield, Ralph V., and Foster. 3,098,442.  
Wakefield, Ralph V., and Foster. 3,109,371.
- Foster, Harry C., to Olin Mathieson Chemical Corp. Blasting cartridges. 3,087,426, 4-30-63, Cl. 102-25.
- Foster, Harry C., to Olin Mathieson Chemical Corp. Target throwing apparatus. 3,088,452, 5-7-63, Cl. 124-43.
- Foster, Harry C., to Olin Mathieson Chemical Corp. Gas operated devices. 3,100,446, 8-13-63, Cl. 102-25.
- Foster, Harry C., to Commercial Solvents Corp. Blasting cartridges. 3,111,898, 11-26-63, Cl. 102-25.
- Foster, Harry R., and E. E. Crump, to Omega Laboratories. Combined transmission line termination and power feed. 3,089,057, 5-7-63, Cl. 315-39.
- Foster, Harry R., and E. E. Crump, to Omega Laboratories. Frequency modulated crystal oscillator. 3,098,981, 7-23-63, Cl. 332-26.
- Foster, Herbert G., Jr., and E. H. Cornwell, to Swift & Co. Manufacture of cheese curd. 3,079,263, 2-26-63, Cl. 99-116.
- Foster, Herbert R., Jr.: *See*—  
Garrett, Donald E., Weck, Marsh, and Foster. 3,111,383.
- Foster, Hoyt K., to S. W. Farber, Inc. Electric cooking utensil having a detachable thermostatic control means. 3,095,498, 6-25-63, Cl. 219-44.
- Foster, Jack A.: *See*—  
Edwards, Aubrey T., Foster, and Bradshaw. 3,083,258.
- Foster, James A., Sr., and J. Papa. Tube joints and means and method of making the same. 3,071,993, 1-8-63, Cl. 81-15.
- Foster, James A., Sr., and A. D. Butler, to Miles Laboratories, Inc. Unloading device. 3,072,273, 1-8-63, Cl. 214-810.
- Foster, James L., and F. L. Laymon, to Diamond Alkali Co. Aqueous emulsion of an organic solvent-siloxane mixture. 3,076,773, 2-5-63, Cl. 260-29.2.
- Foster, Jerry F.: *See*—  
Bewley, Lawrence L., and Foster. 3,072,328.
- Foster, John A., to J. L. Clark Mfg. Co. Container with plug type closure. 3,095,995, 7-2-63, Cl. 220-60.
- Foster, John R.: *See*—  
Eichacker, Homer A., and Foster. 3,097,007.
- Foster, John R., to Vonnegut Hardware Co. Coupling. 3,079,185, 2-26-63, Cl. 287-114.
- Foster, John R., to Vonnegut Hardware Co. Mortise-type, reverse-pivoted latch mechanism. 3,087,323, 4-30-63, Cl. 70-92.



- Foster, Kenneth, and J. H. Longley, to A. C. Cossor, Ltd. Wavemeter having strip-line resonator capacitively coupled to feed, with movable dielectric effectively varying resonator length. 3,105,947, 10-1-63, Cl. 333-82.
- Foster, Kenneth W.: *See—*  
De Vries, Douwe, and Foster. 3,103,976.
- Foster, Lawrence H., and H. E. Bush, to Foster Refrigerator Corp. Control for refrigerators including alarm means. 3,100,383, 8-13-63, Cl. 62-126.
- Foster, Luther M., and G. Long, to Aluminum Co. of America. Aluminum nitride refractory and method of making. 3,113,879, 12-10-63, Cl. 106-65.
- Foster-Mallard Ltd.: *See—*  
Churchill, John A. 3,096,095.  
Churchill, John A. 3,103,363.  
Churchill, John A., and Williams. 3,096,094.  
Williams, Garnet M. E. 3,086,780.
- Foster, Manus R.: *See—*  
Lawrence, Philip L., and Foster. 3,076,177.
- Foster, Melville E. Catalog cover binder. 3,083,714, 4-2-63, Cl. 129-23.
- Foster, Newton C., to Westinghouse Electric Corp. Resinous glycidyl polyether compositions. 3,099,638, 7-30-63, Cl. 260-45.5.
- Foster-Pegg, Richard W., to Her Majesty The Queen in the right of Canada, as represented by the Minister of Mines and Technical Surveys. Combined steam-gas turbine plant. 3,086,362, 4-23-63, Cl. 60-39.18.
- Foster, Raymond H.: *See—*  
Robertson, John D., and Foster. 3,071,157.  
Robertson, John D., and Foster. 3,095,131.
- Foster, Raymond O.: *See—*  
Rosner, Lawrence, and Foster. 3,116,223.
- Foster Refrigerator Corp.: *See—*  
Foster, Lawrence H., and Bush. 3,100,383.
- Foster, Richard A., to Beckman Instruments, Inc. Detector for gas chromatography. 3,087,113, 4-23-63, Cl. 324-33.
- Foster, Robert D. Pipe tongs. 3,097,011, 7-9-63, Cl. 294-104.
- Foster, Robert D., to Crutcher-Rolfs-Cummings, Inc. Bending pipe. 3,105,537, 10-1-63, Cl. 153-39.
- Foster, Robert L.: *See—*  
Chambers, Robert A., Sanford, Patinkin, and Foster. 3,109,869.
- Foster, Walter E.: *See—*  
Ashby, Eugene C., Foster, Mangham, and Pearson. 3,106,560.
- Foster, Walter E., to Ethyl Corp. Transmetalation process. 3,090,819, 5-21-63, Cl. 260-665.
- Foster Wheeler Corp.: *See—*  
Bell, Alan. 3,076,444.  
Ceely, Frederick J. 3,115,851.  
Gotch, Ronald W. 3,084,243.  
Perl, Alexander I. 3,112,842.  
Row, Ronald H. P. 3,098,469.  
Stern, Tobias. 3,086,343.
- Fostey, James W.: *See—*  
Booth, Harvey J., Ernest, and Fostey. 3,100,028.
- Fostoria Corp.: *See—*  
Borkovitz, Henry S. 3,102,226.  
White, Howard T. 3,111,090.
- Foth, Herbert S., to International Vibro, Inc. Method of processing waste material. 3,113,014, 12-3-63, Cl. 71-9.
- Fothergill, Earl W.: *See—*  
Emblem, Harold G., and Fothergill. 3,070,861.
- Foti, Arem, to I-T-E Circuit Breaker Co. Isolating switch arrangement. 3,089,927, 5-14-63, Cl. 200-48.
- Fotiades, Spyros M. Bookbinding machine. 3,088,142, 5-7-63, Cl. 11-1.
- Fotis, Peter, and E. K. Fields, to Standard Oil Co. Separation of heterocyclic amines. 3,112,322, 11-26-63, Cl. 260-283.
- Fotomatic Corp.: *See—*  
Rogers, Elwood C., Jr. 3,087,379.
- Foucar, Harry G., to Koppers Pittsburgh Co. Production of phthalic anhydride. 3,112,324, 11-26-63, Cl. 260-346.4.
- Fouche, Jean C.: *See—*  
Jacob, Robert M., and Fouche. 3,075,986.
- Fougea, Edouard, to Construtions Edmond Coignet. Supporting device for a working platform. 3,101,127, 8-20-63, Cl. 182-147.
- Fougea, Edouard, to Construtions Edmond Coignet. Anchorage of assemblies of wires or cables. 3,112,544, 12-3-63, Cl. 24-126.
- Foulke, Donald G., and E. C. Rinker, to Sel-Rex Corp. Gold plating. 3,092,559, 6-4-63, Cl. 204-43.
- Foulke, Donald G., W. B. Stoddard, Jr., O. Kardos, and W. B. Kleiner, to Hanson-Van Winkle-Munning Co. Electrodeposition of nickel. 3,111,466, 11-19-63, Cl. 204-49.
- Foulkes, John D., to Bell Telephone Laboratories, Inc. Magnetic core matrix apparatus. 3,111,651, 11-19-63, Cl. 340-174.
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- Foundas, George J., to Raytheon Co. Magnetostrictive filter apparatus having multiple magnetostrictive rods stacked in parallel. 3,078,426, 2-19-63, Cl. 333-71.
- Fountain, Harold, and A. A. Fischer, to United Merchants and Manufacturers, Inc. Puckering and decorating fabrics or the like. 3,079,212, 2-26-63, Cl. 8-114.5.
- Fourcade, Robert, to Houilleres du Bassin du Nord & du Pas-de-Calais. Method of preparing polyformaldehyde material having improved characteristics. 3,093,560, 6-11-63, Cl. 204-154.
- Fourie, Robert W.: *See—*  
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- Fourie, Robert W., G. D. Lichtenwalter, and G. H. Riesser, to Shell Oil Co. Storage-stable 3,4-dihydro-1,2-pyran-2-carboxaldehyde. 3,084,169, 4-2-63, Cl. 260-345.9.
- Fourie, Robert W., K. B. Cofer, and D. M. Sheets, to Shell Oil Co. Production of high purity diepoxide. 3,093,661, 6-11-63, Cl. 260-348.
- Fourier, Walter A.: *See—*  
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- Fournet, Andre, and A. Rio, to Chimiques Rhone-Poulenc, Societe des Usines. Blend of an  $\alpha$ -methyl styrene/acrylonitrile copolymer with a copolymer of  $\alpha$ -methyl styrene and a diolefin having a styrene and acrylonitrile grafted thereon. 3,100,198, 8-6-63, Cl. 260-45.5.
- Fournier, Lawrence E., to Sprague Electric Co. Preparation of anode bodies. 3,111,428, 11-19-63, Cl. 117-200.
- Fournier, Roger H., to Norton Co. Grinding machine. 3,098,328, 7-23-63, Cl. 51-165.
- Fouron, Pierre, to Societe Civile d'Etudes pour Materiel de Fonderie. Handling system. 3,114,463, 12-17-63, Cl. 214-1.
- Fourroux, Melvin M.: *See—*  
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- Fouse, Frederick Z., and J. F. Kidwell, to Anchor Hocking Glass Corp. Automatic container inspection machine. 3,098,564, 7-23-63, Cl. 209-75.
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- Foust, Charles E., and R. G. Mathews. Tool for pulling together and spreading spaced flanges. 3,108,783, 10-29-63, Cl. 254-67.
- Foust, Charles W.: *See—*  
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- Foust, Floyd J., O. W. Childress, Jr., and J. L. Snowden, to General Motors Corp. Battery testing device. 3,082,371, 3-19-63, Cl. 324-29.5.
- Fouts, H. D., and A. D. McCarver. Heating device for aerosol shaving lather dispensers and the like. 3,098,925, 7-23-63, Cl. 219-39.
- Foutz, Clinton R. Condenser. 3,095,923, 7-2-63, Cl. 257-28.
- Foutz, Clinton R., deceased; D. F. Foutz, administrator, 1/2 to E. F. Lundstrom. Salt water converting apparatus. 3,096,257, 7-2-63, Cl. 202-205.
- Foutz, David F.: *See—*  
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- Fowle, Leonard E.: *See—*  
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- Fowle, Merrill J., O. H. Hariu, and G. P. Masologites, to The Atlantic Refining Co. Method for separating solid oxides from ion exchange resins. 3,085,070, 4-9-63, Cl. 252-420.
- Fowler, Aubrey A., Jr., and H. O. McKee. Horizontal band saw. 3,092,155, 6-4-63, Cl. 143-19.
- Fowler, Aubrey A., Jr., and H. O. McKee. Vacuum sign producing apparatus. 3,107,396, 10-22-63, Cl. 18-19.
- Fowler, Bruce V., to Varian Associates. Nuclear induction fluxmeter and magnet control apparatus. 3,081,428, 3-12-63, Cl. 324-5.
- Fowler, F. Robert J., to General Motors Corp. Friction fan drive. 3,077,298, 2-12-63, Cl. 230-271.
- Fowler, Frank, and L. Golberg, to Bengel Laboratories Ltd. Antimony preparations. 3,085,943, 4-16-63, Cl. 167-68.
- Fowler, Frank C. Process for detecting the interface between two adjacent fluids. 3,077,104, 2-12-63, Cl. 73-53.
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- Fowler, Harlan D. Convertible VTOL aircraft. 3,093,347, 6-11-63, Cl. 244-12.
- Fowler, Joseph W., and J. S. Hamel, to Walt Disney Productions. Submarine amusement ride. 3,114,333, 12-17-63, Cl. 104-71.
- Fowler, Leslie L., to Inflico Inc. Filter for contaminated liquids. 3,083,831, 4-2-63, Cl. 210-111.
- Fowler, Mark S., and E. J. Dewender, to Johns-Manville Corp. Ceiling construction. 3,082,487, 3-26-63, Cl. 20-4.
- Fowler, Max J., J. B. Smith, J. W. Stuart, and E. P. Nagel, to Pneumafil Corp. Means for dissipating drive motor heat. 3,086,348, 4-23-63, Cl. 57-56.
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- Fowler, Peter H., to Raytheon Co. Coil spooldriver vibration test equipment. 3,106,653, 10-8-63, Cl. 310-27.
- Fowler, Peter H., and A. H. King, to Raytheon Co. Shock pulse generators. 3,079,786, 3-5-63, Cl. 73-12.
- Fowler, Robert M., and A. R. Gahler, to Union Carbide Corp. High-purity titanium production. 3,091,526, 5-28-63, Cl. 75-84.5.
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- Fowler, William J., to Chicago Rawhide Mfg. Co. Seal installation tool. 3,092,902, 6-11-63, Cl. 29-275.
- Fowler, William T., to Corning Glass Works. Electric light bulbs and sockets therefor. 3,112,972, 12-3-63, Cl. 339-12.
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- Fox, Daniel W., to General Electric Co. Treatment of laminated material. 3,110,299, 11-12-63, Cl. 125-24.
- Fox, Donald K., and W. J. Reichenacker, to Westinghouse Electric Corp. Copper base alloys. 3,097,093, 7-9-63, Cl. 75-156.5.
- Fox, Donald L. Device for dispensing water or fabric conditioning substances in clothes washers. 3,095,722, 7-2-63, Cl. 68-207.
- Fox, Edward C., to Radio Corp. of America. Magnetic recording and reproducing head. 3,106,617, 10-8-63, Cl. 179-100.2.
- Fox, Edward W. Animal actuated poultry nest appliance. 3,071,110, 1-1-63, Cl. 119-22.
- Fox, Elton B. Pressure responsive safety control for internal combustion engines. 3,115,951, 12-31-63, Cl. 185-37.
- Fox, Frank J., to Wiedemann Machine Co. Adapter for punch tools. 3,086,419, 4-23-63, Cl. 83-640.
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- Fox, Harold K., to Bemis Bro. Bag Co. Inclined feeding auger unit. 3,074,599, 1-22-63, Cl. 222-180.
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- Fox, John J. Releasable bottle sealing caps. 3,080,991, 3-12-63, Cl. 215-41.
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- Fraipont, Donald F., to Radio Corp. of America. Bidirectional load current switching circuit. 3,078,395, 2-19-63, Cl. 317-148.5.
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- Francis, Alfred W., to Socony Mobil Oil Co., Inc. Removal of aromatic hydrocarbons from jet fuel mixtures. 3,092,570, 6-4-63, Cl. 208-323.
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- Franges, Oton, now by change of name H. M. Franges. Hand protecting handle. 3,083,366, 3-26-63, Cl. 16-114.
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- Frank, Richard J.: *See—*
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- Frank, Robert E. Convertible container. 3,100,576, 8-13-63, Cl. 215-1.
- Frank, Robert K., to Holley Carburetor Co. Ignition distributor. 3,098,366, 7-23-63, Cl. 64-25.
- Frank, Robert L., to Sperry Rand Corp. Pulse burst compression radar. 3,090,953, 5-21-63, Cl. 343-17.1.
- Frank, Robert L., to Sperry Rand Corp. Phase coded communication system. 3,099,795, 7-30-63, Cl. 325-30.
- Frank, Robert L., and S. Zadoff, to Sperry Rand Corp. Phase coded signal receiver. 3,096,482, 7-2-63, Cl. 325-41.
- Frank, Robert L., and S. Zadoff, to Sperry Rand Corp. Phase coded hyperbolic navigation system. 3,099,835, 7-30-63, Cl. 343-103.
- Frank, S. M., & Co., Inc.: *See—*
- Fassbender, Frederick A., 3,079,927.
- Fassbender, Frederick A., 3,079,931.
- Fassbender, Frederick A., 3,079,932.
- Frank, Simon, and D. C. Wehner, to American Cyanamid Co. Preservation of cellulosic materials. 3,105,773, 10-1-63, Cl. 117-72.
- Frank, Wallace E., to Spitz Laboratories, Inc. Projecting means for planetariums. 3,074,183, 1-22-63, Cl. 35-45.
- Frank, Wallace E., to The Franklin Institute. Method and apparatus for improving images. 3,110,762, 11-12-63, Cl. 178-6.
- Frank, Wallace J., to Jersey Production Research Co. Removal of hydrogen sulfide from water. 3,111,983, 11-26-63, Cl. 166-8.
- Frank, Walter J., Jr.: *See—*
- Reischer, Walter, Frank, and Malkin, 3,087,530.
- Frank, William R., to Deere & Co. Offset disk harrow. 3,101,792, 8-27-63, Cl. 172-596.
- Frank, Edward L., Jr., G. E. Hartranft, and M. W. Richter, to Western Electric Co., Inc. Method of and apparatus for reversing spring cords. 3,087,199, 4-30-63, Cl. 18-19.
- Frank, Ernst P.: *See—*
- Breuing, Wilhelm, Franke, and Spolders, 3,099,699.
- Franke, Franz: *See—*
- Budnick, Arno, and Franke, 3,107,579.
- Franke & Heidecke, Fabrik Photographischer Präzisions-Apparate: *See—*
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- Heidecke, Reinhold, Brethauer, and Madge, 3,073,230.
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 Frankel, Burton L., to United States of America, Navy. Sonic simulator. 3,092,684, 6-4-63, Cl. 35-10.4.  
 Frankel, Gerald, to Caps Ltd. Means for producing or controlling movements. 3,098,416, 7-23-63, Cl. 95-4.5.  
 Frankel, Milton B., to Aerojet-General Corp. Polynitro nitraza-carbamates and method of preparing same. 3,109,020, 10-29-63, Cl. 260-482.  
 Frankel, Milton B., and K. Klager, to Aerojet-General Corp. Nitramines, nitrosamines and their preparation. 3,098,873, 7-23-63, Cl. 260-533.  
 Frankel, Theodor, to General Dynamics Corp. Multiplex communication system crosstalk suppression. 3,071,651, 1-1-63, Cl. 179-15.  
 Frankel, Theodor, and W. H. Black, to General Dynamics Corp. Time division multiplex telephone switching system having single and multiple party pre-address and priority check circuitry. 3,105,878, 10-1-63, Cl. 179-18.  
 Frankel, Theodor, and M. P. Tubinis, to General Dynamics Corp. Automatic communication system. 3,112,371, 11-26-63, Cl. 179-18.  
 Frankenhoff, Charles A. Marking playing fields. 3,107,591, 10-22-63, Cl. 94-22.  
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   Butterworth, Clifford. 3,077,205.  
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   Jones, Samuel F. 3,073,440.  
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   Frank, Wallace E. 3,110,762.  
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   Underhay, George F., Franklin, and Wells. Re. 25,358.  
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   Dawkins, Kenneth. 3,079,887.  
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   Hess, John J., Jr. and J. T. 3,071,964.  
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   Frantz, Clarence G. 3,082,940.  
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   Wolf, Cecil R., Holland, and Sharp. 3,104,699.  
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   Franzen, Donald E. 3,088,609.  
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   Freud, Herbert M., and Frasch. 3,073,726.  
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 Fraser, Hugh D., to Westinghouse Electric Corp. Press sealing process and apparatus. 3,073,137, 1-15-63, Cl. 65-59.  
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- Frate, Domenico C., and V. A. Rayburn, to Western Electric Co., Inc. Apparatus for unwinding strands. 3,073,545, 1-15-63, Cl. 242-128.
- Fratelli Borletti S.p.A.: *See—*  
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- Frater, George G.: *See—*  
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- Fray, Gordon I., R. H. Jaeger, and E. D. Morgan, to Shell Oil Co. Recovery of 10-hydroxydecanoic. 3,084,178, 4-2-63, Cl. 260-418.
- Fraylick, James A., G. Machek, and B. S. Stawinski, to General Motors Corp. Molding strip installation. 3,077,251, 2-12-63, Cl. 189-88.
- Fraylick, James A., G. Machek, and B. S. Stawinski, to General Motors Corp. Molding strip installation. 3,115,225, 12-24-63, Cl. 189-88.
- Frazer, Alan. Operating automatic coupler for toy and model railroad equipment. 3,112,036, 11-26-63, Cl. 213-212.
- Frazer, August H., and J. C. Shivers, Jr., to E. I. du Pont de Nemours and Co. Segmented polymers. 3,071,557, 1-1-63, Cl. 260-32.6.
- Frazer-Nash, Archibald G. Fluid shut-off valves. 3,101,096, 8-20-63, Cl. 137-628.
- Frazier, Henry D., and P. W. Richey, to Pacific Semiconductors, Inc. Single station fusion machine for making semiconductor device. 3,080,738, 3-12-63, Cl. 65-154.
- Frazier, John F.: *See—*  
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- Frazier, Russel B., to Overhead Door Corp. Counterbalance and stop means for upwardly acting closures. 3,095,922, 7-2-63, Cl. 160-191.
- Frazier, William R., to The Hoover Co. Tilted axis twin disc paint sprayer. 3,086,712, 4-23-63, Cl. 239-15.
- Frech, Harry E., Jr., to Olin Mathieson Chemical Corp. Explosive propelling device. 3,087,428, 4-30-63, Cl. 102-39.
- Frech, Kenneth J.: *See—*  
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- Freda, Tullio. Sealing joint for bottle closure capsules. 3,088,616, 5-7-63, Cl. 215-40.
- Fredd, John V., to Otis Engineering Corp. Valve. Re. 25,471, 11-5-63, Cl. 251-31.
- Fredd, John V., to Otis Engineering Corp. Anchoring and sealing device. 3,100,533, 8-13-63, Cl. 166-125.
- Frede, Herbert J.: *See—*  
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- Frederich, Emil G.: *See—*  
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- Frederick, Harold M., to Burroughs Corp. Self-energized sheet transferring apparatus. 3,075,760, 1-29-63, Cl. 271-71.
- Frederick, Harold M., to Burroughs Corp. Record handling and reading apparatus. 3,109,924, 11-5-63, Cl. 235-61.11.
- Frederick, Harold M., and I. M. Sheaffer, Jr., to Burroughs Corp. Mounting device for a magnetic transducer head. 3,091,669, 5-28-63, Cl. 179-100.2.
- Frederick, James E., to Westinghouse Electric Corp. Electric speed governor for prime movers. 3,110,817, 11-12-63, Cl. 290-40.
- Frederick, Kenneth L. Current interrupter for automotive distributors. 3,078,357, 2-19-63, Cl. 200-28.
- Frederick, Philip, to Supreme Steel Equipment Corp. Roller drawer suspension device. 3,095,250, 6-25-63, Cl. 312-341.
- Frederick, Robert E., to Link Engineering Co. Coil winding machine. 3,082,966, 3-26-63, Cl. 242-1.1.
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- Frederick, William A., to Westinghouse Electric Corp. Variable fuel neutronic reactor. 3,077,445, 2-12-63, Cl. 204-193.2.
- Fredericks, George W., and W. J. Lamneck, to Bell Telephone Laboratories, Inc. Parallel-to-serial converter apparatus. 3,090,034, 5-14-63, Cl. 340-172.5.
- Fredericks, Robert W., to Erlen Products Co. Water treatment apparatus. 3,107,156, 10-15-63, Cl. 23-267.
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- Frederickson, Gustav O., to The Superior Electric Co. Electric motor. 3,077,555, 2-12-63, Cl. 318-254.
- Fredette, Joseph H., to American Can Co. Dispensing container. 3,075,673, 1-29-63, Cl. 222-108.
- Fredette, Joseph H., to American Can Co. Reclosure container. 3,115,272, 12-24-63, Cl. 220-94.
- Fredette, Raymond O., to Cook Electric Co. Hypersonic wind tunnel. 3,111,843, 11-26-63, Cl. 73-147.
- Fredette, Raymond O., and A. R. Anderson, to Cook Electric Co. Supersonic wind tunnel. 3,111,842, 11-26-63, Cl. 73-147.
- Fredkin, Edward, to Bolt Beranek and Newman Inc. Coded card selector apparatus. 3,105,593, 10-1-63, Cl. 209-110.
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- Fredrick, Russell E., to Minnesota Mining and Mfg. Co. Control systems. 3,112,790, 12-3-63, Cl. 158-131.
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- Fredrickson, Leslie B. Two-part dispensing cap with registerable openings. 3,091,367, 5-28-63, Cl. 222-48.
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- Free, Albert H., to Miles Laboratories, Inc. Diagnostic composition. 3,099,605, 7-30-63, Cl. 195-103.5.
- Free, Alfred H. and H. M., to Miles Laboratories, Inc. Chemical test for differentiating leucocytes from erythrocytes chemical test. 3,087,794, 4-30-63, Cl. 23-253.
- Free, Alfred H., and M. L. Kercher, to Miles Laboratories, Inc. Diagnostic composition. 3,095,277, 6-25-63, Cl. 23-253.
- Free, Helen M.: *See—*  
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- Freebairn, Darwin L., Jr.: *See—*  
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- Freeberg, Benjamin F., to Vapor Heating Corp. Alloys of mercury. 3,087,811, 4-30-63, Cl. 75-169.
- Freebody, Ruth A.: *See—*  
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- Freeborn, James E. Drive mechanism for reciprocating elements and for a mower having an oscillatory drive. 3,112,652, 12-3-63, Cl. 74-44.
- Freeborn, John C., to Minneapolis-Honeywell Regulator Co. Low frequency oscillator utilizing saturable magnetic timing core. 3,104,333, 9-17-63, Cl. 307-88.5.
- Freed, Jacob B., to The Duriron Co., Inc. Seals. 3,074,728, 1-22-63, Cl. 277-3.
- Freedman, Arthur J.: *See—*  
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- Freedman, Arthur J., and G. Reid, to Standard Oil Co. Conductometric corrosion test probe with replaceable probe insert. 3,085,426, 4-16-63, Cl. 73-86.
- Freedman, Arye L., to Ericsson Telephones Ltd. Electrical translators. 3,098,222, 7-16-63, Cl. 340-347.
- Freedman, Bernard, to Monsanto Chemical Co. Water bearing novolac resin binders for foundry sands. 3,106,540, 10-8-63, Cl. 260-25.
- Freedman, Bernard, and R. M. Huck, to Monsanto Chemical Co. Water bearing resin binders, process for preparing same and sand coated therewith. 3,091,596, 5-28-63, Cl. 260-19.
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- Freedman, Emiel, to Trifari, Krussman and Fishel, Inc. Process for producing gold cyanide solutions of high gold content. 3,112,174, 11-26-63, Cl. 23-77.
- Freedman, Harold H., to The Dow Chemical Co. Cis, cis butadienyl metal halides. 3,090,797, 5-21-63, Cl. 260-429.
- Freedman, Harold P.: *See—*  
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- Freedman, Harold P., to Avel Corp. Geneva. Apparatus for the avoidance of collision. 3,071,767, 1-1-63, Cl. 343-112.
- Freedman, Lawrence I., and J. W. Tone, to Ronson Corp. Hair-drying hood. 3,084,446, 4-9-63, Cl. 34-99.
- Freedman, Louis: *See—*  
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- Shapiro, Seymour L., and Freedman. 3,074,955.
- Shapiro, Seymour L., and Freedman. 3,098,008.
- Shapiro, Seymour L., and Freedman. 3,115,524.
- Shapiro, Seymour L., Freedman, and Soloway. 3,081,302.
- Shapiro, Seymour L., Freedman, and Soloway. 3,093,651.
- Freedman, Louis H. Warning device for linear Speedometer. 3,082,413, 3-19-63, Cl. 340-263.
- Freedman, Melvin H. 50% to Jayme Products, Inc. Attachments for commodity jars and glasses. 3,101,857, 8-27-63, Cl. 215-100.
- Freedman, Paul. Vehicle seat. 3,075,736, 1-29-63, Cl. 248-400.
- Freedman, Richard C.: *See—*  
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- Freedman, Robert H. and R. C. Variable stable frequency standard. 3,114,113, 12-10-63, Cl. 331-19.
- Freeland, Leonor Z. Fluid sustained aircraft. 3,072,366, 1-8-63, Cl. 244-23.



- Freeland, Stanley R.: *See*—  
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- Freeman, Ardee H., to Bell Intercontinental Corp. Abrasive tumbling machine. 3,073,077, 1-15-63, Cl. 51-163.
- Freeman, Ardee H., to Bell Intercontinental Corp. Link and flight bar assembly. 3,079,735, 3-5-63, Cl. 51-163.
- Freeman, Ardee H., and F. J. Pichard, to Bell Intercontinental Corp. Rough cleaning and finishing cleaning machine and method. 3,097,450, 7-16-63, Cl. 51-13.
- Freeman, Ardee H., and F. J. Pichard, to Bell Intercontinental Corp. Blast machine system and method. 3,097,451, 7-16-63, Cl. 51-13.
- Freeman, Ardee H., and F. J. Pichard, to Bell Intercontinental Corp. Casting core knock-out and cleaning machine and method. 3,097,452, 7-16-63, Cl. 51-13.
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- Freeman, Daniel F.: *See*—  
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- Freeman, Frank G., to Joseph Lucas (Industries) Ltd. Quick connect coupling. 3,076,671, 2-5-63, Cl. 285-277.
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- Freeman, George B. Lapidary turning apparatus. 3,113,564, 12-10-63, Cl. 125-30.
- Freeman, George V. H., to Litton Precision Products, Inc. Pass through window. 3,109,585, 11-5-63, Cl. 232-1.6.
- Freeman-Goodridge Ltd.: *See*—  
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- Freeman, Harold P. and J. P. Mountable and dismountable grip and holder assembly. 3,090,614, 5-21-63, Cl. 269-273.
- Freeman, Horace, to Freeman Corp. Apparatus for reducing metal oxides without melting. 3,080,156, 3-5-63, Cl. 263-33.
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- Freeman, John F.: *See*—  
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Freeman, Louis G., Jr. 3,073,141.
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- Freeman, Max. Camera. 3,115,078, 12-24-63, Cl. 95-11.
- Freeman, Norman H.: *See*—  
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- Freeman, Peter D. J.: *See*—  
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- Freeman, Philip R.: *See*—  
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- Freeman, Ronald F. J., to British Nylon Spinners Ltd. Manufacture of polyamide filaments. 3,093,445, 6-11-63, Cl. 18-54.
- Freeman, Samuel. Hair curlers. 3,094,994, 6-25-63, Cl. 132-24.
- Freeman, Stephen T. Dental matrix retainer and separator band. 3,074,169, 1-22-63, Cl. 32-63.
- Freeman, Stephen T. Dental impression tray. 3,107,428, 10-22-63, Cl. 32-17.
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- Simons, Courtney S. 3,082,080.
- Freer, Clyde P., to The Halsey W. Taylor Co. Fluid dispensing device. 3,086,373, 4-23-63, Cl. 62-389.
- Freer, Jay P.: *See*—  
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- Free-Roll Tester Corp.: *See*—  
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- Freers, Sidney L., and F. Rosky, to Ford Motor Co. Vehicle independent suspension system. 3,075,786, 1-29-63, Cl. 280-96.2.
- Freese, Royce G., to General Mills, Inc. Compositions containing N-alkyl-beta-amino propionates and germicidal quaternary ammonium compounds. 3,093,591, 6-11-63, Cl. 252-106.
- Freese, Samuel A., to Container Corp. of America, Sefton Fibre Can Co. Division. Container opening provision. 3,093,293, 6-11-63, Cl. 229-51.
- Freevol, Ralph H., to Garden City Fan Co. Fan. 3,081,019, 3-12-63, Cl. 230-47.
- Freevol, Ralph H., to Garden City Fan & Blower Co. Fan construction. 3,103,392, 9-10-63, Cl. 308-77.
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- Freeze, William L., J. Cocker III, and T. F. Suggs, to Cocker Machine and Foundry Co. Method for treatment of textile materials with liquids. 3,076,724, 2-5-63, Cl. 117-115.
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- Frege, Johannes, and K. Sachse, to W. Krefft Aktiengesellschaft. Safety system for gas burners. 3,111,161, 11-19-63, Cl. 158-125.
- Fregeolle, Oscar, to Draper Corp. Method of knitting. 3,094,854, 6-25-63, Cl. 66-108.
- Fregeolle, Oscar, to Draper Corp. Yarn lever control mechanism. 3,102,405, 9-3-63, Cl. 66-138.
- Fregeolle, Oscar, to Draper Corp. Knitting machine. 3,104,537, 9-24-63, Cl. 66-108.
- Fregeolle, Oscar, and H. White, to The Banner Co. Picking mechanism. 3,115,021, 12-24-63, Cl. 66-47.
- Fregeolle, Oscar, and H. White, to Draper Corp. Knitting mechanism. 3,115,022, 12-24-63, Cl. 66-48.
- Frei, Arthur, to J. Bobst and Son S.A. Folding and gluing machines operating on sheets. 3,079,144, 2-26-63, Cl. 270-69.
- Frei, Arthur, to Bobst and Son S.A. Folding processes by compressed air blast applicable to a folding gluing machine and devices for setting this process into operation. 3,110,232, 11-12-63, Cl. 93-49.
- Frei, Arthur J., to General Motors Corp. Freezing device. 3,093,980, 6-18-63, Cl. 62-367.
- Frei, Ephraim H., M. Schieber, and S. Shtrikman, to The Weizmann Institute of Science. Ferrite material containing fluorine. 3,093,453, 6-11-63, Cl. 23-50.
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- Freidel, Russell, and W. L. Upton. Portable dock. 3,106,826, 10-15-63, Cl. 61-48.
- Freier, Gerald H., and N. G. Roth, to Whirlpool Corp. Method of cleaning rubber articles such as gloves. 3,080,252, 3-5-63, Cl. 117-18.
- Freifelder, Morris, to Abbott Laboratories. Process for the preparation of acetylamino phenols. 3,076,030, 1-29-63, Cl. 260-562.
- Freifelder, Morris, to Abbott Laboratories. Preparation of cyclohexyl-sulfamates. 3,082,247, 3-19-63, Cl. 260-500.
- Freifelder, Morris, and R. M. Robinson, to Abbott Laboratories. Catalytic hydrogenation of nitrophenol. 3,079,435, 2-26-63, Cl. 260-562.
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- Freimann, Frank M., and W. A. Fordeck, to The Magnavox Co. Whistle remote transmitter. 3,102,509, 9-3-63, Cl. 116-137.
- Freimann, Frank M., and D. R. Graef, to The Magnavox Co. Sound reproducing system. 3,102,605, 9-3-63, Cl. 181-31.
- Freire, Edward. Method of fabricating a hull and the product hull. 3,103,019, 9-10-63, Cl. 9-6.
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- Freiser, Marvin J., and J. C. Swihart, to International Business Machines Corp. Superconductive transmission line memory utilizing reflectrons. 3,114,895, 12-17-63, Cl. 340-173.1.
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- Frejaces, Claude. Method of nitrating cellulose. 3,085,086, 4-9-63, Cl. 260-220.
- Frelich, Paul D., to Raytheon Co. Phase measuring devices. 3,078,415, 2-19-63, Cl. 324-88.
- Frelich, Paul D., to Raytheon Co. Doppler navigation system. 3,099,832, 7-30-63, Cl. 343-8.
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- Fremstad, Viles K., and H. B. Gorton, to Ajax Hardware Mfg. Corp. Drawer slide. 3,094,363, 6-18-63, Cl. 312-343.



- Fremuth, Winfried J.: *See*—  
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- French, Alfred W., to The French Oil Mill Machinery Co. Apparatus for recovery of juice from sucrose bearing materials. 3,086,452, 4-23-63, Cl. 100—75.
- French, Alfred W., to The French Oil Mill Machinery Co. Expressing press. 3,093,065, 6-11-63, Cl. 100—127.
- French, Alfred W., and E. E. Potts, to The French Oil Mill Machinery Co. Liquid expressing press. 3,092,017, 6-4-63, Cl. 100—93.
- French, Alfred W., and F. Starrett, Jr., to The French Oil Mill Machinery Co. Screw press. 3,111,080, 11-19-63, Cl. 100—37.
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- French, Barry T., E. M. Nakaji, and S. Schneider, to Beckman Instruments, Inc. Method of making thin layer semiconductor devices. 3,082,124, 3-19-63, Cl. 117—211.
- French, Charles: *See*—  
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- French, James A. T., to Her Majesty's Postmaster General. Time division multiplex communication systems. 3,100,243, 8-6-63, Cl. 179—15.
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- French, Richard W., to General Electric Co. Regulated pedestal grid bias supply. 3,089,094, 5-7-63, Cl. 328—225.
- French, Richard W., to Tinius Olsen Testing Machine Co. Balancing equipment. 3,101,620, 8-27-63, Cl. 73—471.
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- French, Warren F., to William H. Field Co., Inc. Radius cutter grinding machine. 3,073,076, 1-15-63, Cl. 51—122.
- Frenk, Helmut. Shutter for photographic apparatus. 3,092,002, 6-4-63, Cl. 95—58.
- Frenk, Helmut, and K. Weber, to Ernst Leitz Gesellschaft mit beschränkter Haftung. Arrangement for measuring exposure time. 3,106,129, 10-8-63, Cl. 88—24.
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- Frenkel, Meyer S. 3,102,717.
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- Frenkel, Meyer S., to Frenkel C-D Aktiengesellschaft Apparatus for mixing and crushing. 3,102,694, 9-3-63, Cl. 241—251.
- Frenkel, Meyer S., to Frenkel C-D Aktiengesellschaft Apparatus for mixing. 3,102,716, 9-3-63, Cl. 259—3.
- Frenkel, Meyer S., to Frenkel C-D Aktiengesellschaft. Enforced order mixing apparatus. 3,102,717, 9-3-63, Cl. 259—7.
- Frensch, Heinz, M. Czech, and L. F. Emmel, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Insecticidal compositions. 3,091,564, 5-28-63, Cl. 167—30.
- Frentzel, Herman C.: *See*—  
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- Fresard, Marcel, to Meffina S.A. Process for the projection of water for washing dishes and a washing machine for carrying out said process. 3,102,666, 9-3-63, Cl. 222—373.
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- Freudling, Erwin, H. Eisinger, P. Grönert, and W. Rauch, to Knotex Maschinenbau G.m.b.H. Process and device for the automatic tying of parcels. 3,080,811, 3-12-63, Cl. 100—2.
- Freund, Dean H., and J. E. Davis, to Whirlpool Corp. Frameless range. 3,096,753, 7-9-63, Cl. 126—39.
- Freund, Erich A. Method of printing. 3,098,438, 7-23-63, Cl. 101—426.
- Freund, Hans W. M., to Maschinenfabrik Hilma G.m.b.H. Pneumatic hydraulic vise. 3,095,190, 6-25-63, Cl. 269—28.
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- Freure, Benjamin T., to Union Carbide Corp. Process for the production of diisopropyl ketone. 3,098,100, 7-16-63, Cl. 260—596.
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- Frey, Edward, and E. J. Kies, to The Massillon-Cleveland-Akron Sign Co. Banner mounting construction. 3,089,268, 5-14-63, Cl. 40—128.
- Frey, Hans H., to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Blends of vinylidene chloride/acrylonitrile copolymers and chlorinated polyolefins. 3,076,781, 2-5-63, Cl. 260—45.5.
- Frey, Horst E., to The General Tire & Rubber Co. Flexible laminates of polyvinyl chloride and method of making same. 3,075,863, 1-29-63, Cl. 154—46.
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- Freyermuth, Harlan B., and H. R. Mautner, to General Aniline & Film Corp. Process for dyeing fibers with reactive dyestuffs. 3,100,131, 8-6-63, Cl. 8—1.
- Freyholdt, Helmut A. Heat exchanger core structure. 3,103,971, 9-17-63, Cl. 165—165.
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- Friant, David R., to Ingersoll-Rand Co. Method of removing impurities from a compressed gas. 3,091,097, 5-28-63, Cl. 62—85.
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- Frick, Chester A., to Harvey Aluminum (Inc.). Prefabricated partitioning. 3,078,968, 2-26-63, Cl. 189—34.
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- Fricke, Roger F., to Westinghouse Electric Corp. Two-speed single-phase electric motor. 3,114,093, 12-10-63, Cl. 318-221.
- Fricke, Wilhelm, to Hamburger Flugzeugbau GmbH. Jet propulsion system. 3,099,425, 7-30-63, Cl. 244-74.
- Fricke, William A. Aero drop for use with kites and other objects. 3,088,701, 5-7-63, Cl. 244-155.
- Frickert, Philip J., to Owens-Corning Fiberglas Corp. Method of and apparatus for forming strands of filaments. 3,070,981, 1-1-63, Cl. 65-4.
- Frickert, Philip J., to Owens-Corning Fiberglas Corp. Strand package method. 3,107,411, 10-22-63, Cl. 28-72.
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- Fried, Benjamin. Yarn tensioning device. 3,072,359, 1-8-63, Cl. 242-153.
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- Fried, George, to American Machine & Foundry Co. Bowling ball handling and return mechanism. 3,107,917, 10-22-63, Cl. 273-49.
- Fried, Henry B., and J. Sherman. Timing device. 3,077,300, 2-12-63, Cl. 235-61.
- Fried, John, and T. S. Bry, to Merck & Co., Inc. Novel 6-chloro-17 $\alpha$ -haloethynyl-19-nor-androstadienes and processes. 3,072,646, 1-8-63, Cl. 260-239.55.
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- Fried, Josef, to Olin Mathieson Chemical Corp. 9 $\alpha$ -halo- $\Delta^4$ -androstene derivatives. 3,072,684, 1-8-63, Cl. 260-397.3.
- Fried, Josef, to Olin Mathieson Chemical Corp. 12-alkyl steroids of the pregnane series. 3,078,285, 2-19-63, Cl. 260-397.45.
- Fried, Josef, to Olin Mathieson Chemical Corp. 8,14-oxido  $\Delta^4$ -pregnenes and process therefor. 3,082,205, 3-19-63, Cl. 260-239.55.
- Fried, Josef, to Olin Mathieson Chemical Corp. 9 $\alpha$ -halo- $\Delta^4$ -steroids of the pregnane series. 3,101,332, 8-20-63, Cl. 260-239.55.
- Fried, Josef, to Olin Mathieson Chemical Corp. 9-halo-4,6-pregnadienes. 3,105,832, 10-1-63, Cl. 260-239.55.
- Fried, Josef, and M. A. Guiducci, to Olin Mathieson Chemical Corp. Steroids of the 19-norpregnane series. 3,077,471, 2-12-63, Cl. 260-239.55.
- Fried, Josef, and R. W. Thoma, to Olin Mathieson Chemical Corp. 6-oxygenated testololactones. 3,083,211, 3-26-63, Cl. 260-343.2.
- Fried, Josef, and M. A. Guiducci, to Olin Mathieson Chemical Corp. 19-nor-progesterone. 3,089,880, 5-14-63, Cl. 260-397.3.
- Fried, Josef, and G. H. Thomas, to Olin Mathieson Chemical Corp. 9 $\alpha$ -halo-11 $\beta$ -hydroxy-11 $\alpha$ -alkyl steroids of the pregnane series and intermediates therefor. 3,116,288, 12-31-63, Cl. 260-239.55.
- Fried, Louis: See—  
Walsh, James J., and D'Andrea. 3,089,610.
- Fried, Louis; fractional interest to various assignees. Frangible closure for cans. 3,115,985, 12-31-63, Cl. 220-48.
- Fried, Morton J. Capacitance voltage divider. 3,101,443, 8-20-63, Cl. 323-74.
- Fried, Robert P. Environmental planter. 3,077,053, 2-12-63, Cl. 47-17.
- Friedel, Murray, to Visual Graphics Corp. Visible photo composer. 3,080,802, 3-12-63, Cl. 95-4.5.
- Friedel, Murray, to Visual Graphics Corp. Photographic composing device and method. 3,115,815, 12-31-63, Cl. 95-4.5.
- Friedell, Morley V., to C. A. Norgren Co. Apparatus for generating an aerosol. 3,074,697, 1-22-63, Cl. 261-16.
- Friedell, Morley V., M. Dunn, and J. Vander Horst, to C. A. Norgren Co. Fluid pressure controller with relief valve. 3,071,146, 1-1-63, Cl. 137-116.3.
- Friedell, Morley V., and A. W. Dewberry, to C. A. Norgren Co. Lubricating apparatus and control valve. 3,071,209, 1-1-63, Cl. 184-55.
- Friedell, Morley V., and R. Schaffranke, to C. A. Norgren Co. Lubricator assembly. 3,085,654, 4-16-63, Cl. 184-55.
- Frieder, Leonard P.: See—  
Aileo, Jackson A. 3,110,034.
- Frieder, Leonard P., and D. Fedak, to Gentex Corp. Spirally wrapped heat resistant hose. 3,109,460, 11-5-63, Cl. 138-132.
- Frieder, Leonard P., and J. V. Weinberger, to Gentex Corp. Coupling cover. 3,111,143, 11-19-63, Cl. 138-124.
- Friederich, Herbert: See—  
Fust, Klaus J., Fischer, Friederich, and Stummeyer. 3,116,139.  
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- Friederich, Herbert, and W. Lehnerer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of polymers of olefinically unsaturated hydrocarbons with a catalyst of aluminum, aluminum trichloride and a titanium tetrahalide. 3,093,625, 6-11-63, Cl. 260-88.2.
- Friedland, Martin, and F. W. Schneider, to Wiedemann Machine Co. Workholder. 3,076,644, 2-5-63, Cl. 269-152.
- Friedland, Morris. Automatic fishing shore boat. 3,106,796, 10-15-63, Cl. 43-26.1.
- Friedland, Stephen S.: See—  
Denney, Joseph M., Friedland, and Keywell. 3,110,806.
- Friedlander, Samuel B., to Production Machinery Corp. Strip stitcher. 3,114,151, 12-17-63, Cl. 1-66.
- Friedlander, William, to Mono-Cam Ltd. Fuel injection pumps. 3,075,509, 1-29-63, Cl. 123-140.
- Friedlander, William S.: See—  
Wright, Charles D., and Friedlander. 3,072,616.
- Friedlander, William S., to Minnesota Mining and Mfg. Co. Fluorocarbon-substituted mercaptans. 3,088,849, 5-7-63, Cl. 117-127.
- Friedler, Max H., to Saf-A Products, Inc. Cleaning protective device. 3,098,375, 7-23-63, Cl. 68-235.
- Friedman, Abraham. Shopping cart. 3,084,948, 4-9-63, Cl. 280-33.99.
- Friedman, Alex. Molding of seat cushions. 3,094,716, 6-25-63, Cl. 5-345.
- Friedman, Benjamin. Hypodermic needle. 3,080,866, 3-12-63, Cl. 128-218.
- Friedman, Benjamin. Syringes and/or hypodermic needles, and cartridges therefor. 3,092,108, 6-4-63, Cl. 128-218.
- Friedman, Bernard S., and R. P. Zmitrovic, to Sinclair Research, Inc. Process for the conversion of paraffin hydrocarbons with isobutane utilizing hydrogen fluoride as a catalyst. 3,097,155, 7-9-63, Cl. 208-66.
- Friedman, Daniel, and R. G. Steiner. Apparatus for controlling body temperature. 3,074,401, 1-22-63, Cl. 128-214.
- Friedman, Elliott A. Cargo stowing arrangement. 3,087,453, 4-30-63, Cl. 114-72.
- Friedman, Frederica: See—  
Friedman, Howard, and L. 3,077,688.
- Friedman, George J., to I. Friedman. Locking device. 3,102,411, 9-3-63, Cl. 70-100.
- Friedman, George J., and L. A. De Bottari, to Servo Mechanisms, Inc. High altitude transducers. 3,105,382, 10-1-63, Cl. 73-180.
- Friedman, Harry J. Combined calendar backing panel and writing implement holder. 3,113,559, 12-10-63, Cl. 120-108.
- Friedman, Howard, deceased (F. Friedman, administratrix), and L. Friedman; said F. Friedman assor. to said L. Friedman. Photographic mount. 3,077,688, 2-19-63, Cl. 40-158.
- Friedman, Ira J., and E. G. Martin, to Chas. Pfizer & Co., Inc. Production of bacitracin adsorbate and process of administration to animals for promoting growth. 3,074,795, 1-22-63, Cl. 99-2.
- Friedman, Iris: See—  
Friedman, George J. 3,102,411.
- Friedman, Jack N. Aerosol metering valve assembly. 3,073,489, 1-15-63, Cl. 222-394.
- Friedman, Jerome. Heat stamping devices. 3,097,592, 7-16-63, Cl. 101-6.
- Friedman, Joseph, to Sperry Rand Corp. Electrical assembly of modules. 3,113,248, 12-3-63, Cl. 317-101.
- Friedman, Leonard: See—  
Friedman, Howard, and L. 3,077,688.
- Friedman, Lester, 25% to J. T. Basseches. Synthesis of aldehydes. 3,076,033, 1-29-63, Cl. 260-598.
- Friedman, Lester, to Weston Chemical Corp. Poly phosphorus ester condensates and their preparation. 3,081,331, 3-12-63, Cl. 260-461.



- Friedman, Lester, to Weston Chemical Corp. 2-hydroxyalkane phosphonate and polyphosphonate hydroxyalkyl esters. 3,092,651, 6-4-63, Cl. 260-461.
- Friedman, Lester, and H. Gould, to Weston Chemical Corp. Mixtures of secondary and tertiary phosphite esters of ether alcohols. 3,088,917, 5-7-63, Cl. 252-182.
- Friedman, Louis D., to Texaco Inc. Method for recovering oil from oil-bearing minerals. 3,074,877, 1-22-63, Cl. 208-11.
- Friedman, Milton, and I. P. Magasiny, to Schaeffitz Engineering. Sampling switch. 3,078,356, 2-19-63, Cl. 200-24.
- Friedman, Morris, to Miner Industries, Inc. Toy nursing bottle. 3,105,324, 10-1-63, Cl. 46-1.
- Friedman, Raymond: *See*—
- Rumble, Keith E., Scurlock, and Friedman. 3,107,187.
- Scurlock, Arch C., Rumbel, and Friedman. 3,092,959.
- Scurlock, Arch C., Rumbel, and Friedman. 3,092,968.
- Friedman, Richard, J. Rudnick, and M. S. Rosenfeld. Random spectrum loud sequencer and controller. 3,103,118, 9-10-63, Cl. 73-88.
- Friedman, Robert H., L. H. Robinson, Jr., and J. H. Edwards, to Jersey Production Research Co. Rotary drilling of wells using explosives. 3,083,778, 4-2-63, Cl. 175-2.
- Friedman, Robert H., L. H. Robinson, Jr., and J. H. Edwards, to Jersey Production Research Co. Drilling fluid containing explosive composition. 3,112,233, 11-26-63, Cl. 149-4.
- Friedman, Sol. Magnetic game apparatus. 3,082,004, 3-19-63, Cl. 273-130.
- Friedman, Eric H., and H. Cancerinus, to Harmonic Gears (Proprietary) Ltd. Variable speed transmission mechanism. 3,082,646, 3-26-63, Cl. 74-681.
- Friedrich, Egon: *See*—
- Binder, Hermann, and Friedrich. 3,070,909.
- Friedrich, Eugene W. Composite structure. 3,114,612, 12-17-63, Cl. 29-195.
- Friedrich, Frank D.: *See*—
- Mitchell, Earland R., and Friedrich. 3,078,839.
- Friedrich, Kevin F., and F. D. Kaiser, to Westinghouse Electric Corp. Control for an electric power translation system. 3,099,786, 7-30-63, Cl. 321-20.
- Friedrich, Paul H., to V. W. Jones. Process for stripping paints. 3,106,929, 10-15-63, Cl. 134-38.
- Friedrich, Ralph E., to The Dow Chemical Co. N-vinyl-3-morpholinone-acrylamide copolymers. 3,072,620, 1-8-63, Cl. 260-80.3.
- Friedrich, Robert J.: *See*—
- Gorin, Everett, and Friedrich. 3,073,751.
- Friedrich, Siegfried, to Felten & Guillaume Fernmeldeanlagen G.m.b.H. Control arrangement for preventing improper regulation of an intermediate amplifier station. 3,106,679, 10-8-63, Cl. 325-2.
- Friedsman, Lawrence W., to The Sherwin-Williams Co. Bivalent metal hydroxide treatment of drying oil modified alkyd resins. 3,110,690, 11-12-63, Cl. 260-22.
- Friedwald, David: *See*—
- Chafin, William L., and Friedwald. 3,099,990.
- Frielinghaus, Klaus H.: *See*—
- Kendall, Hugh C., Auer, Bolton, and Frielinghaus. 3,110,008.
- Frielinghaus, Klaus H., to General Signal Corp. Ultrasonic vehicle detector. 3,110,007, 11-5-63, Cl. 340-38.
- Friend, Dawson, to Stant Mfg. Co., Inc. Depressed pressure cap. 3,071,285, 1-1-63, Cl. 220-44.
- Friend, Dawson, to Stant Mfg. Co., Inc. Safety pressure cap with safety release mechanism. 3,082,905, 3-26-63, Cl. 220-44.
- Friend, Eugene: *See*—
- Mann, Malden, and Friend. 3,075,236.
- Friend, Harry J.: *See*—
- Zebarth, Ralph S., Friend, and Churchill. 3,090,486.
- Friend, Lindsay C., to The Bendix Corp. Method of making compound gear. 3,100,333, 8-13-63, Cl. 29-159.2.
- Fries, Edward W., and H. B. Kaufman, Jr., to DCA Food Industries Inc. Apparatus for coating comestibles. 3,097,967, 7-16-63, Cl. 118-19.
- Fries, Nikolaus, to International Standard Electric Corp. Selector circuits. 3,115,617, 12-24-63, Cl. 340-166.
- Fries, Walter, and H. Sinner, to Henkel & Cie G.m.b.H. Detergent composition including dust inhibiting agent. 3,079,344, 2-26-63, Cl. 252-113.
- Friese, Charles L., to Martin-Marietta Corp. Method of permanently marking Teflon. 3,085,912, 4-16-63, Cl. 117-212.
- Friese, Gunter, to Metallgesellschaft A.-G. Process for producing hydraulic limes from oil shale. 3,098,886, 7-23-63, Cl. 263-53.
- Friese, Karl-Hermann, E. Justi, and A. Winsel, to Accumulatoren-Fabrik Aktiengesellschaft and Siemens-Schuckert Werke Aktiengesellschaft. Process for producing double-skeleton catalyst electrodes by hot-pressing. 3,073,697, 1-15-63, Cl. 75-208.
- Friesen, Aron E., to National Dairy Products Corp. Display device. 3,111,096, 11-19-63, Cl. 108-115.
- Frigo, John M.: *See*—
- Rambo, Elvind M., and Frigo. 3,071,859.
- Frigyes, István, and G. Almássy, to Budavox Budapesti Híradástechnikai Vállalat. Cavity resonator having a variable quality factor. 3,087,128, 4-23-63, Cl. 333-83.
- Frilette, Vincent J., and G. T. Kerr, to Socony Mobil Oil Co., Inc. Process for making crystalline zeolites. 3,071,434, 1-1-63, Cl. 23-113.
- Frink, Russell E., to Westinghouse Electric Corp. Circuit breaker. 3,072,764, 1-8-63, Cl. 200-106.
- Frink, Russell M., to Calumet & Hecla, Inc. Tubing. 3,104,464, 9-24-63, Cl. 29-566.
- Frint, William R., and W. D. Smith, to FMC Corp. Method of producing soda ash from crude trona. 3,084,026, 4-2-63, Cl. 23-38.
- Frirsz, Max: *See*—
- Havivi, Mosa, and Frirsz. 3,096,676.
- Frisbey, Margaret H.: *See*—
- Howe, Earl E. 3,115,797.
- Frisbie, Marshall H., to The A. C. Gilbert Co. Spring impulsive engine starter. 3,102,523, 9-3-63, Cl. 123-179.
- Frisbie, Marshall H., and M. G. Kretzmer, Jr., to A. C. Gilbert Co. Road traffic toy remote controlled. 3,086,319, 4-23-63, Cl. 46-244.
- Frisby, Thomas M., to Eastman Oil Well Survey Co. Hydraulically actuated orienting device. 3,095,924, 7-2-63, Cl. 166-4.
- Frisch, Eberhard, to Continental Elektroindustrie A.G., Askania-Werke. Method and apparatus for digital indication of shaft position. 3,099,090, 7-30-63, Cl. 33-46.
- Frisch, Erling: *See*—
- McGeary, Robert K., and Frisch. 3,089,830.
- Frisch, Erling, to Westinghouse Electric Corp. Control rod coupling for nuclear reactors. 3,107,209, 10-15-63, Cl. 204-193.2.
- Frisch, Franz, to Sandoz Ltd. Acid monoazo dyestuffs. 3,104,237, 9-17-63, Cl. 260-196.
- Frisch, Franz, and C. Ryffel, to Sandoz Ltd. (also known as Sandoz A.G.). Acid monoazo dyestuffs. 3,116,280, 12-31-63, Cl. 260-199.
- Frisch, Kurt C.: *See*—
- Gromacki, Richard E., and Frisch. 3,112,281.
- Frisch, Paul P.: *See*—
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- Frischmann, Peter G., and J. L. Walter, to General Electric Co. Magnetic material. 3,108,912, 10-29-63, Cl. 148-31.55.
- Frisina, John. Load indicating device. 3,084,298, 4-2-63, Cl. 336-30.
- Frissell, Warren J., Jr.: *See*—
- Pazinski, Henry J., Griesser, and Frissell. 3,075,940.
- Frissora, Joseph R., and J. L. King; said King assor. to Acton Laboratories, Inc. Screw controlled relative positioning unit. 3,080,770, 3-12-63, Cl. 74-568.
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- Bertin, Daniel, and Fritel. 3,108,125.
- Bertin, Daniel, Fritel, and Nedelec. 3,094,524.
- Frito-Lay, Inc.: *See*—
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- Fritsch, Felix, to Simmering-Graz-Pauker Aktiengesellschaft für Maschinen-, Kessel- und Waggonbau. Epicyclic gear. 3,080,775, 3-12-63, Cl. 74-801.
- Fritsch, Helmut, to International Standard Electric Corp. Electrical condenser. 3,115,596, 12-24-63, Cl. 317-230.
- Fritsch, Margaret C.: *See*—
- Tsu, Ignatius, and Fritsch. 3,111,463.
- Fritsch, Wallace J. Golf cart. 3,096,992, 7-9-63, Cl. 280-47.31.
- Fritsch, Werner, W. Haede, H. Scherer, and W. Kempe, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for stabilizing anionic and cationic ester salts of 21-hydroxy-20-keto-steroids in an aqueous solution. 3,079,410, 2-26-63, Cl. 260-397.45.
- Fritts, Earl W. Self-balancing wheel for automotive vehicle. 3,077,914, 2-19-63, Cl. 152-330.
- Fritts, Robert W., and J. D. Richards, to Minnesota Mining and Mfg. Co. Bonding of lead based alloys to silicate based ceramic members. 3,080,261, 3-5-63, Cl. 117-212.
- Fritzsche Brothers, Inc.: *See*—
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- Fritz, Charles G., E. P. Moore, Jr., and S. Selman, to E. I. du Pont de Nemours and Co. Fluorinated vinyl ethers and their preparation. 3,114,778, 12-17-63, Cl. 260-614.
- Fritz, Georges: *See*—
- Metzetal, Jean-Claude, and Fritz. 3,095,095.
- Fritz, Henry E., to Union Carbide Corp. Synthesis of polycyclic alkanolic acid compounds. 3,114,768, 12-17-63, Cl. 260-515.
- Fritz, Rudolph A., to Chase Industries, Inc. Door control apparatus. 3,099,438, 7-30-63, Cl. 268-66.
- Fritz, Stewart J., to Rocket Power, Inc. Ballistic actuated device for reeling in an elongated flexible element. 3,109,615, 11-5-63, Cl. 244-138.
- Fritz, Stewart J., to Rocket Power, Inc. Thruster. 3,111,808, 11-26-63, Cl. 60-26.1.
- Fritz, William A. No-tip tractor safety. 3,071,663, 1-1-63, Cl. 200-61.52.
- Fritz, William E.: *See*—
- Koranda, Clarence J., and Fritz. 3,090,519.
- Fritz, William E., and D. W. Laviana, to General Motors Corp. Electric speedometer drive. 3,108,216, 10-22-63, Cl. 321-49.
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- Fritze, Curtis W., and V. E. Herzfeld, to Sperry Rand Corp. Data processing system with remote input-output device. 3,071,753, 1-1-63, Cl. 340-153.
- Fritze, Ulrich, to Farbenfabriken Bayer Aktiengesellschaft. Means for indicating or recording the liquid level in narrow, long measuring vessels. 3,100,347, 8-13-63, Cl. 33-126.6.
- Fritzscheier, Harke, and H. J. Leijser, to American Enka Corp. Process for treating viscose rayon yarn. 3,073,003, 1-15-63, Cl. 28-76.



- Fritzinger, George H., to McGraw-Edison Co. Sheet-record machine. 3,089,705, 5-14-63, Cl. 274-20.
- Fritzinger, George H. Double-coated tape dispenser. 3,106,324, 10-8-63, Cl. 225-26.
- Fritzmeier, Georg: *See*—  
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- Fritzmeier, Georg, Jr., to G. Fritzmeier. Resilient supports for vehicle roofs. 3,101,215, 8-20-63, Cl. 296-102.
- Fritzmeier, Rupert: *See*—  
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- Fritzsche Brothers, Inc.: *See*—  
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- Fritzweiler, Rupprecht: *See*—  
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- Frodge, Robert W.: *See*—  
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- Frodge, Theodore, and R. W. to Bobbi-Lou Shoe Co., Division of Shoo-Zees Mfg. Co. Method of making infant's shoe. 3,114,160, 12-17-63, Cl. 12-142.
- Froede, Walter, to NSU Motorenwerke Aktiengesellschaft, and Wankel G.m.b.H. Rotary-piston engine having temperature-corrected sealing arrangement. 3,102,519, 9-3-63, Cl. 123-8.
- Froede, Walter, and E. Hoppner, to NSU Motorenwerk Aktiengesellschaft, and Wankel G.m.b.H. Port construction for rotary combustion engine. 3,075,505, 1-29-63, Cl. 123-8.
- Froede, Walter, and H. Paschke, to NSU Motorenwerke Aktiengesellschaft, and Wankel G.m.b.H. Rotary internal combustion engine and method of operation thereof. 3,097,632, 7-16-63, Cl. 123-8.
- Froede, Walter G.: *See*—  
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- Froede, Walter G., to NSU Motorenwerke Aktiengesellschaft and Wankel G.m.b.H. Multiple arrangement of rotary combustion engines. 3,077,867, 2-19-63, Cl. 123-8.
- Froede, Walter G. Rotary mechanism. 3,083,699, 4-2-63, Cl. 121-68.
- Froehlich, Bernard F. Table locking construction for a machine tool. 3,100,636, 8-13-63, Cl. 269-83.
- Froehlich, Fritz E.: *See*—  
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- Froehlich, Harold E.: *See*—  
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- Froehlich, Harold E., to General Mills, Inc. Underseas vehicle. 3,104,641, 9-24-63, Cl. 114-16.
- Froehlich, Harold E., R. A. Kizzek, D. F. Melton, and R. L. Schwoebel, to United States of America, Navy. Air sampling means. 3,077,779, 2-19-63, Cl. 73-421.5.
- Froehlig, Rudolph A., to Modern Album and Finishing, Inc. Container. 3,077,263, 2-12-63, Cl. 206-62.
- Froelich, Ronald W. and W. F., to Sierra Electric Corp. Valve cap transmitter. 3,111,644, 11-19-63, Cl. 340-58.
- Froelich, Walter F.: *See*—  
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- Frohardt, Melvin W., to The Bendix Corp. Instrument systems. 3,083,575, 4-2-63, Cl. 73-384.
- Frohardt, Roger P., H. W. Dion, and J. Ehrlich, to Parke, Davis & Co. Glutarimide compounds and methods for their production. 3,111,523, 11-19-63, Cl. 260-281.
- Frohlich, Adolf, and E. J. Harris, to The Cleveland Trust Co. Inner bead forming and sealing ring for vulcanizing presses. 3,113,344, 12-10-63, Cl. 18-17.
- Frohlich, Adolf H., and E. J. Harris, to The Cleveland Trust Co., as trustee. Tire building machine. 3,093,531, 6-11-63, Cl. 156-400.
- Frohman, Harley R. Orthopedic braces. 3,086,522, 4-23-63, Cl. 128-80.
- Frohner, Fritz. Driving device for machines, particularly winding machines. 3,083,801, 4-2-63, Cl. 193-3.5.
- Frohr, Fritz: *See*—  
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- Frois, Mauricio S., and I. Sherman, to Timely Service, Inc. Animated display with a figure on a wheel. 3,111,781, 11-26-63, Cl. 40-28.6.
- Froland, Olav, to McGraw-Edison Co. Circuit interrupting device. 3,080,466, 3-5-63, Cl. 200-146.
- Froll, Joseph R.: *See*—  
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- Frölich & Klnpfel: *See*—  
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- Frolík, Antonín, to Československá akademie zemědělských věd. Implement hitch device. 3,077,232, 2-12-63, Cl. 172-450.
- Fromandi, Guido: *See*—  
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- Fromm, Charles W.: *See*—  
Crownfield, William K., Sachs, and Fromm. 3,078,021.  
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- Fromm, Frederick W., and Sweet, to Lockheed Aircraft Corp. Air-drop platform azimuth control. 3,081,971, 3-19-63, Cl. 244-138.
- Fromm, Marvin M., and R. C. Lauro, to Motor Coils Mfg. Co. Epoxy resin impregnation of electrical members. 3,071,496, 1-1-63, Cl. 117-218.
- Frommelt, Cyril P., and S. J., to Dubuque Awning & Tent Co. Weather shield. 3,095,886, 7-2-63, Cl. 135-5.
- Frommelt, Sylvan J.: *See*—  
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- Frommer, Joseph C., and U. R. Furst, to Electric Eye Equipment Co. Web guide control. 3,090,534, 5-21-63, Cl. 226-21.
- Fromson, Howard A. Method of forming sheet metal panels. 3,077,031, 2-12-63, Cl. 29-421.
- Fromson, Howard A. Process for producing colored oxide coatings. 3,077,425, 2-12-63, Cl. 148-6.1.
- Fromson, Howard A. Method of making composite seamless tubing. 3,077,661, 2-19-63, Cl. 29-470.9.
- Fromson, Howard A. Method of forming thin-walled metal tubing. 3,078,567, 2-26-63, Cl. 29-544.
- Fromson, Howard A. Method of dyeing anodized aluminum articles. 3,092,523, 6-4-63, Cl. 148-6.1.
- Frontier Chemical Co., Division of Vulcan Materials Co.: *See*—  
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Yates, Claire H., and Thompson. 3,076,029.
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- Frost, Elmer F., Jr., to FMC Corp. Container filling apparatus. 3,093,203, 6-11-63, Cl. 177-120.
- Frost, James, to Pickering & West Ltd. Measuring dispenser. 3,082,916, 3-26-63, Cl. 222-168.5.
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- Frushour, Russel E., O. A. Costello, S. E. Farekas, and W. B. Irish, to Amsted Industries Inc. Machine tools. 3,095,072, 6-25-63, Cl. 192-82.
- Fry, Carroll B. Cartesian diver toy. 3,077,697, 2-19-63, Cl. 46-92.
- Fry, Charles L. Endless belt for a conveyor-belt turn. 3,100,565, 8-13-63, Cl. 198-182.
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- Frydenberg, Donald V., to Turn-A-Bore Equipment Co. Table fence clamp. 3,094,318, 6-18-63, Cl. 269-139.
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- Frye, Charles F., deceased (Continental Illinois National Bank and Trust Co. of Chicago and R. T. Elliot, executors of said C. F. Frye). Exhaust valve. 3,084,707, 4-9-63, Cl. 137-102.
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- Frye, Norman V. Animal waterer. 3,101,071, 8-20-63, Cl. 119-78.
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- Fryer, Glenn E., and H. A. Armand, to Great Lakes Carbon Corp. Electronic weight indicator. 3,081,625, 3-19-63, Cl. 73-141.
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- Fuchs, Helmut, to A. Raymond Druckknopf- und Metallwarenfabrik. Process for the production of corrosion-resistant coatings on zinc and cadmium-surfaces. 3,116,176, 12-31-63, Cl. 148-6.2.
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- Fuhrman, Richard E., to General Electric Co. Control device. 3,109,411, 11-5-63, Cl. 116-124.
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- Fujisaki, Yoshisato, H. Kobayashi, and I. Tazaki, to Asahi Kasei Kogyo Kabushiki Kaisha. Method for producing shaped articles from polymers and copolymers of acrylonitrile. 3,073,669, 1-15-63, Cl. 18-54.
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- Fujisawa, Masanori. Infrared ray treater. 3,089,033, 5-7-63, Cl. 250-88.
- Fujise, Seichi, E. Otsuka, N. Nagai, and T. Numata, to Toyo Katsui Industries, Inc. Method of separating ammonia from hydrogen cyanide. 3,112,177, 11-26-63, Cl. 23-151.
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- Fukunaga, Toshiyuki, to Sanshin Jiguzagu Mishin Seizo Kabushiki Kaisha. Pattern cam arrangement for sewing machines. 3,091,200, 5-28-63, Cl. 112-158.
- Fukushima, Osamu, H. Kurashige, and K. Kawai, to Kurashiki Rayon Co., Ltd. Production of polyvinyl formal shaped articles. 3,101,991, 8-27-63, Cl. 18-54.
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- Fuller, Dudley D., A. M. Loeb, and N. E. Sindlinger, to Eastern Rolling Mills, Inc. Bearings. 3,076,523, 2-5-63, Cl. 184-7.
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- Fulop, Charles. Impact drill. 3,090,450, 5-21-63, Cl. 175-147.
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- Fulton, William L., to Standard Coil Products Co., Inc. Rotary winding machine. 3,106,351, 10-8-63, Cl. 242—9.
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- Fundingsland, John O., to Teleprompter Corp. Tape storage apparatus. 3,096,038, 7-2-63, Cl. 242—55.14.
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- Gabor, Andrew, to Potter Instrument Co. Inc. Device for detecting defects in magnetic tape. 3,071,723, 1-1-63, Cl. 324-34.
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- Gaumann, Ernst, and W. Voser, to Ciba Ltd. Antibiotic danubomycin and process for its manufacture. 3,092,550, 6-4-63, Cl. 167-65.
- Gaumann, Ernst, E. Vischer, and H. Bickel, to Ciba Corp. Process for the manufacture of ferrimycin. 3,093,550, 6-11-63, Cl. 195-80.
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- Gains, Jean H. Calf feeder. 3,090,355, 5-21-63, Cl. 119-71.
- Gainsbury, Peter E.: *See*—  
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- Gaiotto, Battista. Spray nozzle. 3,092,333, 6-4-63, Cl. 239-491.
- Gair, Albert W.: *See*—  
 Dier, Stephen A., and Gair. 3,079,680.
- Gair, Albert W., to Thompson Ramo Wooldridge Inc. Readily disassembled joint socket assembly and method of making same. 3,089,717, 5-14-63, Cl. 287-85.
- Gaiser, William J.: *See*—  
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- Gait, John A., to Pam Clock Co., Inc. Instrument. 3,077,778, 2-19-63, Cl. 73-386.
- Gaither, Charles C.: *See*—  
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- Gaither, Donald D., and K. W. Bogardus. Holding means. 3,113,515, 12-10-63, Cl. 101-393.
- Gaither, Raymond A., to General Motors Corp. Self-locking fastener for terminal post. 3,103,400, 9-10-63, Cl. 339-130.
- Gai-Tronics Corp.: *See*—  
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- Gaitten, Walden M., to Soderhamn Machine Mfg. Co. Method and means for feeding logs to equipment to operate thereon such as a debarking machine. 3,074,565, 1-22-63, Cl. 214-1.
- Gajac, Jean: *See*—  
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- Gajdosik, Walter S. Toy communication device. 3,082,838, 3-26-63, Cl. 181-29.
- Gal, Imre, F. Nagel, and E. Oldal, to Egyesult Izzolampa es Villamosag Reszvenytarsasag. Cathode assembly and method of making same. 3,076,915, 2-5-63, Cl. 313-346.
- Galajda, John E., Jr. Electrically heated mixing device. 3,109,913, 11-5-63, Cl. 219-41.
- Galanis, Rosalie M. Restraining garment. 3,082,764, 3-26-63, Cl. 128-133.
- Galas, Charles P., to G. S. Blakeslee & Co. Can and bottle crusher. 3,104,607, 9-24-63, Cl. 100-53.
- Galbierz, Jerome J., to R. C. Can Co. Dispensing device for caulking cartridges. 3,071,294, 1-1-63, Cl. 222-327.
- Galbierz, Jerome J., to R. C. Can Co. Spouts for caulking cartridges. 3,093,274, 6-11-63, Cl. 222-541.
- Galbraith, Bart A. Vibratory apparatus. 3,091,712, 5-28-63, Cl. 310-81.
- Gale, Alfred J., to High Voltage Engineering Corp. Apparatus for carrying on nuclear reactions. 3,094,474, 6-18-63, Cl. 204-193.2.
- Gale, Alfred J., and R. J. Connor, to High Voltage Engineering Corp. Compact neutron source. 3,104,322, 9-17-63, Cl. 250-84.5.
- Gale, James G., to Newco Mfg. Co., Inc. Rope thimble. 3,083,991, 4-2-63, Cl. 287-81.
- Gale, Richard H., to Combustion Engineering, Inc. Fuel element for nuclear reactor. 3,108,936, 10-29-63, Cl. 204-154.2.
- Gale, William A., to American Potash & Chemical Corp. Process for making anhydrous lithium perchlorate and lithium perchlorate trihydrate. 3,102,784, 9-3-63, Cl. 23-85.
- Galeazzi, Roberto. Breathing equipment particularly for divers. 3,111,946, 11-26-63, Cl. 128-142.
- Galen Enterprises, Inc.: *See*—  
 Velonis, Stamatis G., Schnitzer, and Richardson. 3,072,914.
- Galey, William F.: *See*—  
 Huffman, Charles O., Galey, and Misson. 3,107,834.
- Galiano, Francis R.: *See*—  
 Mantell, Gerald J., Galiano, and Rankin. 3,092,640.
- Galliger, Michael O., and J. T. Muller, to Leslie Co. Self-regulating pitot for regulator valves. 3,086,548, 4-23-63, Cl. 137-184.8.
- Gali Mallofre, Salvador. Engine starter arrangement. 3,094,845, 6-25-63, Cl. 121-37.
- Galindo, Eugene R. Colostomy bag with disposable liner. 3,089,493, 5-14-63, Cl. 128-283.
- Galindo, Ramon G. Method and apparatus for measuring trouser lengths. 3,094,782, 6-25-63, Cl. 33-8.
- Galis Electric & Machine Co.: *See*—  
 Ambrose, Frederick S. 3,075,644.
- Gallitz, Raymond F., to Continental Can Co., Inc. Sheet slitting and scrap coiling method. 3,095,028, 6-25-63, Cl. 153-2.
- Gall, George R. Curtain wall. 3,071,215, 1-1-63, Cl. 189-34.
- Gall, John C., to Sears, Roebuck and Co. Hose nozzle. 3,102,691, 9-3-63, Cl. 239-456.
- Gallaghan, John A., to United States of America, Navy. Melamine perchlorate as a propellant ingredient. 3,110,641, 11-12-63, Cl. 149-98.
- Gallaghan, John A., and W. L. Reed, to Lockheed Aircraft Corp. Synthesis of hexanitroethane. 3,101,379, 8-20-63, Cl. 260-644.
- Gallagher, Arthur P., to Burgess-Manning Co. Pulsation snubber and silencer. 3,114,430, 12-17-63, Cl. 181-45.
- Gallagher, Brian M.: *See*—  
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- Gallagher, Cornelius A.: *See*—  
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- Gallagher, Cornelius A., and W. M. Pelino, to Servo Corp. of America. Hot box detectors. 3,095,171, 6-25-63, Cl. 246-169.
- Gallagher, Edward F. Shrine case. 3,085,839, 4-16-63, Cl. 312-33.
- Gallagher, Edward J., Jr. Floating shockproof and vibrationless assembly for delicate instrument panel mount. 3,083,939, 4-2-63, Cl. 248-358.
- Gallagher, Harry W. Optical control device. 3,102,473, 9-3-63, Cl. 101-233.
- Gallagher, James D., J. R. Cummings, L. M. A. Lipchuck, and E. H. Stokey, to American Cyanamid Co. Composition comprising quiazoline diuretics potentiated by carbonic anhydrase inhibitors. 3,098,009, 7-16-63, Cl. 167-65.
- Gallagher, John J., to Poor & Co. Rail anchor. 3,100,081, 8-6-63, Cl. 238-327.
- Gallagher, John J., and W. R. Witt, Jr., to United States of America, Navy. Gas operated extendible probe for ballistic model. 3,086,467, 4-23-63, Cl. 102-50.
- Gallagher, John J., and W. R. Witt, Jr. Gas operated movable mass for ballistic model. 3,088,407, 5-7-63, Cl. 102-50.
- Gallagher, Paul: *See*—  
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- Gallagher, William H., and G. La Fleur. Clip. 3,091,487, 5-28-63, Cl. 287-130.
- Gallagher, William P., and R. J. Dykinga, to International Register Co. Timing mechanism. 3,098,131, 7-16-63, Cl. 200-38.
- Gallamos, Constance R. Copyist's sheet stand with automatic line indicator. 3,087,462, 4-30-63, Cl. 120-33.
- Gallant, Reginald R., to Connecticut Technical Corp. Bowling ball cleaner. 3,103,677, 9-17-63, Cl. 15-21.
- Gallatin, Victor: *See*—  
 Gould, James C., Le Brasse, and Gallatin. 3,078,563.
- Gallatin, Victor, and J. C. Gould, to Federal-Mogul-Bower Bearings, Inc. Composite bearings and method of making same. 3,094,415, 6-18-63, Cl. 75-208.
- Galloway, Norris W., to American Mfg. Co. of Texas. Means for pumping liquids from gas producing wells. 3,075,467, 1-29-63, Cl. 103-44.
- Galle, Edward M., and F. L. Scott, to Hughes Tool Co. Rock bit with means for resisting radial thrust. 3,086,601, 4-23-63, Cl. 175-372.
- Gallentine, Donal O., and C. E. Keith, to Radiation, Inc. Stylus assembly. 3,074,067, 1-15-63, Cl. 346-139.
- Galler, William. Vitamin K animal feed premix. 3,079,260, 2-26-63, Cl. 99-2.



- Galler, William. Menadione composition and process for its manufacture. 3,079,405, 2-26-63, Cl. 260-396.
- Gallet, Georges L., to Thomson-Houston, Compagnie Francaise. Metalized ceramic members. 3,107,756, 10-22-63, Cl. 189-36.5.
- Galli, Enrico J., and G. R. White, to Sperry Rand Corp. Voltage accumulator circuit. 3,079,086, 2-26-63, Cl. 235-193.
- Galli, Joseph R., and R. B. Johnson, to Boeing Co. Organic anhydride reactions and products resulting therefrom. 3,108,902, 10-29-63, Cl. 117-126.
- Galli, Joseph R., G. I. Wheeler, and R. B. Johnson, to Boeing Airplane Co. Method of preparing resin and product thereof. 3,108,987, 10-29-63, Cl. 260-45.4.
- Gallo, Elia A.: *See*—
- Barrett, Hillard E., and Gallo. 3,081,596.
- Gallo, Elia A., to General Electric Co. Differential pressure apparatus. 3,106,094, 10-8-63, Cl. 73-407.
- Gallo, Joseph. Flower pot. 3,076,289, 2-5-63, Cl. 47-39.
- Gallo, Joseph. Flower pot. 3,076,290, 2-5-63, Cl. 47-39.
- Gallo, Joseph S. Pine cone holder. 3,106,802, 10-15-63, Cl. 47-55.
- Gallo, Julius R., and S. F. Udstad, to ACF Industries, Inc. Special purpose railway car. 3,106,900, 10-15-63, Cl. 105-355.
- Galloway, Charles A., to The Lawrence Paper Co. Dispensing container. 3,078,018, 2-19-63, Cl. 222-183.
- Galloway, Ethan C.: *See*—
- Walborsky, Harry M., Galloway, and Wysong. 3,105,082.
- Galloway, Robert E.: *See*—
- Cunningham, James L., Sr., and J. L., Jr., and Galloway. 3,115,165.
- Galloway, Robert K., to FMC Corp. Carton closing mechanism. Re. 25,450, 9-24-63, Cl. 53-374.
- Gallup, John L., to Radio Corp. of America. Glass marking ink. 3,096,184, 7-2-63, Cl. 106-20.
- Gallus, Julius P., to Jersey Production Research Co. Coring fluid. 3,112,799, 12-3-63, Cl. 175-58.
- Galuska, Charles W., 50% to L. Edwards. Boom limit safety device. 3,094,221, 6-18-63, Cl. 212-39.
- Galvao, Joseph A. Electric shaver with improved tubular comb and rotor type cutting head. 3,089,236, 5-14-63, Cl. 30-41.
- Galvez, Delfin: *See*—
- Olivares, Ismael A., and Galvez. 3,093,479.
- Gálvez, Julio M. Dental appliance. 3,078,580, 2-26-63, Cl. 32-67.
- Galvin, Jerome G. Forming device. 3,108,558, 10-29-63, Cl. 113-42.
- Galy, Andre, to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques. Process for the manufacture of refractory materials and resultant product. 3,079,266, 2-26-63, Cl. 106-56.
- Gamain, Charles H. A. Apparatus for producing artificial daylight. 3,093,319, 6-11-63, Cl. 240-1.1.
- Gamaunt, Roger L. Drive and guide sprocket for track laying vehicle. 3,093,006, 6-11-63, Cl. 74-243.
- Gambardella, Frank. Shucking device for hardshell fish. 3,071,802, 1-8-63, Cl. 17-7.
- Gamber, Elmer L. Corneal contact lens having stop flange engaged by eyelids. 3,102,157, 8-27-63, Cl. 88-54.5.
- Gamberg, Edward R., S. A. Yaczko, and G. H. Cotter, to Westinghouse Electric Corp. Arc welding method. 3,093,725, 6-11-63, Cl. 219-74.
- Gamberini, Goffredo, to American Machine & Foundry Co. Method and apparatus for handling articles. 3,089,732, 5-14-63, Cl. 302-2.
- Gamberini, Goffredo, to American Machine & Foundry Co. Cigarette making machine. 3,094,127, 6-18-63, Cl. 131-21.
- Gambill, Marvin: *See*—
- Little, Paul A., and Gambill. 3,091,291.
- Gambino, James C. Toothbrush. 3,100,309, 8-13-63, Cl. 15-167.
- Gamble Bros., Inc.: *See*—
- Dosker, Cornelius D. 3,099,449.
- Gamble, James E., to E. I. du Pont de Nemours and Co. Quilting and cushioning article of loosely-assembled, crimped, continuous synthetic organic filaments. 3,071,783, 1-8-63, Cl. 5-337.
- Gamble, Ralph S.: *See*—
- Hadley, Wilfred N., and Gamble. 3,077,054.
- Gamble, Roger L., to Lockheed Aircraft Corp. Calorimetric radiation dosimeter. 3,096,440, 7-2-63, Cl. 250-83.3.
- Gamertsfelder, George R., and G. Stavits, to General Precision, Inc. Television navigation aid. 3,111,664, 11-19-63, Cl. 343-6.
- Gamewell Co., The: *See*—
- Gagliardo, John P. 3,094,171.
- Ernest, Ralph D., Nibelink, and Komatar. 3,112,067.
- Fieser, Garland E., and Hill. 3,110,880.
- Hendricks, George D., and Fieser. 3,072,883.
- Paul, Joseph N. 3,075,173.
- Paul, Joseph N. 3,110,881.
- Gamlen, George A., C. Morris, D. F. Scott, and H. J. Twitchett, to Imperial Chemical Industries Ltd. Textile colouration process. 3,116,103, 12-31-63, Cl. 8-18.
- Gamlen, George A., C. Morris, D. F. Scott, and H. J. Twitchett, to Imperial Chemical Industries Ltd. Dyestuffs having an azo, anthraquinone, and phthalocyanine chromophoric group and a triazine or pyrimidine ring carrying a quaternary ammonium salt substituent. 3,116,275, 12-31-63, Cl. 260-146.
- Gamma Machine & Instrument Corp.: *See*—
- Spira, Josef. 3,110,136.
- Gammeter, Harry F., F. R. Patalon, and R. J. Katterle, to Addressograph-Multigraph Corp. Master stripping means for rotary printing machines. 3,095,809, 7-2-63, Cl. 101-217.
- Gammon, William H., and C. D. Hoertz, to Ashland Oil & Refining Co. Process for the production of naphthalene. 3,075,022, 1-22-63, Cl. 260-672.
- Gamo, Hideya, to International Business Machines Corp. Pattern recognition. 3,074,634, 1-22-63, Cl. 235-151.
- Gamrath, Harry R., and L. O. Raether, to Monsanto Chemical Co. Production of benzyl alkyl phthalates by ester interchange. 3,096,364, 7-2-63, Cl. 260-475.
- Gancel, Pierre: *See*—
- Desvignes, Jean L., and Gancel. 3,088,554.
- Gancheff, David J.: *See*—
- Snyder, Horace S., and Gancheff. 3,090,566.
- Gancy, Alan B., and M. J. McCarthy, to FMC Corp. Manufacture of potassium bicarbonate. 3,111,379, 11-19-63, Cl. 23-64.
- Gandolfi, Carmelo: *See*—
- De Ruggieri, Pietro, Ferrari, and Gandolfi. 3,101,358.
- De Ruggieri, Pietro, and Gandolfi. 3,114,749.
- Gandrud, Ebenhard S. Hopper and feeding rotor structure for dispensers of granular material. 3,096,004, 7-2-63, Cl. 222-410.
- Gandrud, Ebenhard S. Flexible feed tube with bail fastening said tube to a discharge spout. 3,099,373, 7-30-63, Cl. 222-527.
- Gang, Herman, to Monroe Calculating Machine Co. Simultaneous tens transfer and fugitive one mechanisms. 3,102,688, 9-3-63, Cl. 235-137.
- Gangware, Lloyd B., to United States of America, Navy. Antibloom networks for use with display tubes of the cathode ray tube type. 3,103,610, 9-10-63, Cl. 315-20.
- Ganim, Joseph A. Method of washing fabric articles. 3,110,045, 11-12-63, Cl. 8-158.
- Ganley, Gregory J., and D. C. Sanford, to Minneapolis-Honeywell Regulator Co. Air data computing apparatus. 3,108,183, 10-22-63, Cl. 235-151.
- Gannaway, Harrel. Clamp for radially split ring pallet. 3,096,555, 7-9-63, Cl. 25-1.
- Gannaway, Harrel, to O'Malley-Gannaway Building Materials. Concrete pipe gasket groove forming apparatus. 3,114,956, 12-24-63, Cl. 25-39.
- Gannett, Wright K., and H. Wiese, to United States of America, Army. Equilibrator for a gun. 3,078,766, 2-26-63, Cl. 89-37.
- Gannoe, Thomas E., to Sylvania Electric Products Inc. Manufacture of electrical contacts. 3,114,828, 12-17-63, Cl. 219-103.
- Gannon, Alfred C. Stationary or portable cooking oven. 3,087,414, 4-30-63, Cl. 99-259.
- Gannon, Alfred C. Machine for cleaning elongated objects. 3,105,255, 10-1-63, Cl. 15-88.
- Gans, Manfred, to Scientific Design Co., Inc. Crystallization process and apparatus. 3,077,746, 2-19-63, Cl. 62-58.
- Gänsheimer, Josef: *See*—
- Spengler, Günter, and Gänsheimer. 3,114,712.
- Ganssen, Alexander: *See*—
- McCoubrey, Arthur O., and Ganssen. 3,080,519.
- Gant, Elliot B., to Gant Inc. Shirt collar construction. 3,104,397, 9-24-63, Cl. 2-132.
- Gant Inc.: *See*—
- Gant, Elliot B. 3,104,397.
- Gant, Preston L.: *See*—
- Bourne, Henry A., Jr., and Gant. 3,103,812.
- Gantner, Edward G., to Gantner Industries, Inc. Dispensing package holder. 3,071,288, 1-1-63, Cl. 221-46.
- Gantner Industries, Inc.: *See*—
- Gantner, Edward G. 3,071,288.
- Gantois, Marcel: *See*—
- Plumat, Emile, Eloy, and Gantois. 3,113,856.
- Gantz, Emmett J. Magnetic tool holder. 3,100,275, 8-6-63, Cl. 317-159.
- Ganz, Henry, to Continental Can Co., Inc. Method and machine for packaging articles. 3,083,510, 4-2-63, Cl. 53-48.
- Ganz, Robert H., to Continental Can Co., Inc. Method and machine for packaging articles. 3,070,928, 1-1-63, Cl. 53-48.
- Ganz, Robert H., to Continental Can Co., Inc. Method and machine for packaging articles. 3,085,377, 4-16-63, Cl. 53-186.
- Ganz, William, to Johnson & Johnson. Rolled pressure-sensitive adhesive tape. 3,089,587, 5-14-63, Cl. 206-59.
- Ganzel, Charles: *See*—
- Dunklee, Donovan M., and Ganzel. 3,107,110.
- Ganzel, Charles, and W. H. Ransone, to William H. Ransone, Inc. Reverse-flush gun. 3,107,858, 10-22-63, Cl. 239-413.
- Gar Hospital Equipment, Inc.: *See*—
- Christensen, Robert C., Bement, and Brueckman. 3,093,836.
- Garapolo, Orlando, and W. E. Moss, to Wilson & Co., Inc. Intermittent feed device for bacon slicing machine. 3,107,709, 10-22-63, Cl. 146-95.
- Garay, Edward, and A. Norwood. Dental impression compositions. 3,081,177, 3-12-63, Cl. 106-38.5.
- Garbage Service Co., Inc.: *See*—
- Redman, Lawrence E. 3,080,988.
- Garbato, Carlo, to Larderello Società per Azioni per lo Struttamento delle Forze Endogene. Preparing boric acid from calcium containing boric minerals. 3,112,996, 12-3-63, Cl. 23-149.



- Garbell, Maurice A.,  $\frac{1}{2}$  to Garbell Research Foundation and  $\frac{1}{2}$  to Maurice A. Garbell, Inc. Fluid velocity measuring system for rotorcraft. 3,070,999, 1-1-63, Cl. 73-181.
- Garbell, Maurice A.,  $\frac{1}{2}$  to Garbell Research Foundation, and  $\frac{1}{2}$  to Maurice A. Garbell, Inc. Combined acoustic wall and exhaust gas deflector in operation of jet engines. 3,080,937, 3-12-63, Cl. 181-33.
- Garbell, Maurice A., Inc.: See—
- Garbell, Maurice A. 3,070,999.
- Garbell, Maurice A. 3,080,937.
- Garbell Research Foundation: See—
- Garbell, Maurice A. 3,070,999.
- Garbell, Maurice A. 3,080,937.
- Garber, Calvin S.: See—
- Unruh, Cornelius C., and Garber. 3,072,484.
- Garber, John D.: See—
- Utne, Torleif, Garber, and Jones. 3,083,236.
- Garber, Sidney, to The British Iron and Steel Research Association. Process of annealing low carbon steel. 3,099,592, 7-30-63, Cl. 148-144.
- Garberding, Waldo L. Cutting tool having universal joint. 3,087,360, 4-30-63, Cl. 77-75.
- Garbett, Charles R.: See—
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- Garbett, Thomas A.: See—
- Agius, Peter J. V. J., Bryan, and Garbett. 3,087,893.
- Garbig, Billy L. Air cleaner adapter. 3,085,383, 4-16-63, Cl. 55-504.
- Garbo, Paul W., to General Cigar Co., Inc. Tobacco processing and resulting product. 3,076,729, 2-5-63, Cl. 131-17.
- Garbun, Max: See—
- Ferguson, James L., Vogl, and Garbun. 3,114,836.
- Garcia, Claudio. Lock. 3,111,020, 11-19-63, Cl. 70-107.
- Garcia, Gustavo. Sanitary napkin. 3,071,138, 1-1-63, Cl. 128-290.
- Garcia, Gustavo E., to Research Corp. Combined magnetic suspension and rotary transformer. 3,079,574, 2-26-63, Cl. 336-135.
- Garcia, Robert E. Automatic time operated feeding means for successively feeding animals in a plurality of stalls. 3,097,627, 7-16-63, Cl. 119-51.11.
- Gard, George E., to Armstrong Cork Co. Blending method. 3,088,713, 5-7-63, Cl. 259-18.
- Gard, Inge S., to I-T-E Circuit Breaker Co. Electrical bushing with spaced conductor with metallic powder for thermally connecting the bushing and conductor. 3,086,075, 4-16-63, Cl. 174-152.
- Gardam, Harry E., to J. Stone & Co. (Deptford) Ltd. Liquid regulators for boilers. 3,105,468, 10-1-63, Cl. 122-451.
- Gardel, Robert. Doll walking mechanism. 3,098,318, 7-23-63, Cl. 46-173.
- Gardel, Robert. Riding toy vehicle for dolls. 3,103,761, 9-17-63, Cl. 46-108.
- Gardel, Robert, and A. Rogovin, to Delgar, Inc. Walking doll support and operating connection for doll carriages. 3,077,052, 2-12-63, Cl. 46-110.
- Gardel, Robert, and E. Gorsky, to Doll Bottles, Inc. Toy nursing bottle. 3,105,325, 10-1-63, Cl. 46-1.
- Gardella, Robert A.: See—
- Hood, Bruce G., Hood, and Gardella. 3,101,244.
- Hood, Bruce G., R. S., and Gardella. 3,111,365.
- Garden City Fan & Blower Co.: See—
- Freevol, Ralph H. 3,103,392.
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- Freevol, Ralph H. 3,081,019.
- Gardes, Alfred W., and J. F. Gluth, to International Register Co. One way clutch. 3,100,559, 8-13-63, Cl. 192-43.2.
- Gardiner, Frank J., and M. Berchold, to I-T-E Circuit Breaker Co. Rotor design for aero-dynamic wave machine. 3,086,697, 4-23-63, Cl. 230-69.
- Gardiner, Maurice, to The General Electric Co. Ltd. Four-terminal electric networks. 3,096,493, 7-2-63, Cl. 333-75.
- Gardiner, Paul C., to United States of America, Navy. Transducer pitch control for echo controlled torpedo. 3,089,451, 5-14-63, Cl. 114-23.
- Gardiner, Ralph G.: See—
- Anderson, Gerald R., Creed, and Gardiner. 3,111,972.
- Gardiner, Ralph G., to FMC Corp. Rotary cutter for peeling fruit. 3,113,603, 12-10-63, Cl. 146-43.
- Gardiner, William A. Trash receptacle closure structure. 3,083,859, 4-2-63, Cl. 220-30.
- Gardner, Arthur E., Jr., to Western Electric Co., Inc. Tension equalizer. 3,089,665, 5-14-63, Cl. 242-156.
- Gardner, Ben R. Method and apparatus for vehicle guidance. 3,113,306, 12-3-63, Cl. 343-7.
- Gardner, David M.: See—
- Barth-Wehrenalp, Gerhard, and Gardner. 3,113,895.
- Gould, Jack R., Gardner, and Paustian. 3,106,583.
- Gould, Jack R., Gardner, and Paustian. 3,106,584.
- Gardner, David M., and E. S. Eitelman, to Pennsalt Chemicals Corp. Process for preparing chlorodifluoroamine. 3,084,025, 4-2-63, Cl. 23-14.
- Gardner, David M., and R. E. Oesterling, to Pennsalt Chemicals Corp. Novel dipchlorodiphenylquinones and process for their manufacture. 3,112,327, 11-26-63, Cl. 260-396.
- Gardner, Delbert J.: See—
- Hager, Robert R., and Gardner. 3,107,111.
- Gardner, Delbert J., to The Bendix Corp. Servomotor control valve. 3,082,744, 3-26-63, Cl. 121-41.
- Gardner, Delbert J., to The Bendix Corp. Split system power brake. 3,109,287, 11-5-63, Cl. 60-54.6.
- Gardner-Denver Co.: See—
- Bent, John H., and Olsson. 3,073,347.
- Bos, John R., Hindal, Loy, and White. 3,103,735.
- Huffman, Mervin C. 3,082,741.
- Olds, William L., and Baker. 3,078,052.
- Gardner, Edward L.: See—
- Gardner, Frederick H. and E. L. 3,088,314.
- Gardner, Edward M., to Merrill Bros. Lifting clamps and gripping pads therefor. 3,074,753, 1-22-63, Cl. 294-104.
- Gardner, Elmer J.: See—
- Exline, William C., Caywood, and Gardner. 3,109,418.
- Gardner, Floyd E. Contour forming blade for use with earth moving equipment. 3,089,262, 5-14-63, Cl. 37-129.
- Gardner, Frank. Seed germination promoter and method of making and using same. 3,076,291, 2-5-63, Cl. 47-58.
- Gardner, Frederick H., to North American Aviation, Inc. In-flight aircraft angle of attack calibrator. 3,112,980, 12-3-63, Cl. 346-107.
- Gardner, Frederick H., I. A. Kohn, and D. Rosenstock, to North American Aviation, Inc. Vane angle computer. 3,077,773, 2-19-63, Cl. 73-180.
- Gardner, Frederick H. and E. L., to North American Aviation, Inc. Pressure compensator. 3,088,314, 5-7-63, Cl. 73-182.
- Gardner, George R., to Bacharach Industrial Instrument Co. Thermometer carrying case. 3,100,044, 8-6-63, Cl. 206-16.5.
- Gardner, George S., and H. L. Faigen, to Amchem Products, Inc. Condensation products of formaldehyde, primary amines and ketones. 3,071,590, 1-1-63, Cl. 260-309.6.
- Gardner, George S., to Chemical Cleaning, Inc. Method of removing copper-containing iron oxide incrustations from ferrous surfaces. 3,074,825, 1-22-63, Cl. 134-41.
- Gardner, George S., F. E. Manson, and E. S. Hayman, Jr., to Amchem Products, Inc. Inhibitor composition and method of inhibiting acid attack on metal in the acidizing of wells. 3,094,490, 6-18-63, Cl. 252-149.
- Gardner, Harold R. Portable, reversibly operated, power-driven tool. 3,088,445, 5-7-63, Cl. 123-41.
- Gardner, Horace L., Jr., to Fairchild Stratots Corp. Fluid driven unit. 3,071,014, 1-1-63, Cl. 74-60.
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- Minckler, Leon S., Jr., Gardner, and Cottle. 3,076,778.
- Gardner, Irwin J., S. B. Robison, and A. H. Gleason, to Esso Research and Engineering Co. Mercapto derivatives of cyclododecenes. 3,081,352, 3-12-63, Cl. 260-609.
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- Gardner, Karl A.: See—
- Nihlen, Arvid C. K., and Gardner. 3,077,928.
- Nihlen, Arvid C. K., and Gardner. 3,112,558.
- Gardner, L., and Sons Ltd.: See—
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- Gardner, Lloyd E., and R. J. Hogan, to Phillips Petroleum Co. Hydrocracking process for the conversion of hydrocarbons utilizing a platinum-cobalt-molybdenum catalyst composite. 3,099,618, 7-30-63, Cl. 208-112.
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- Gardner, Paul J., to The Bendix Corp. Level gages. 3,103,815, 9-17-63, Cl. 73-304.
- Gardner, Stephen: See—
- Averyt, Robert W., Gardner, and Harrison. 3,079,511.
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- Smalley, William. 3,095,185.
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- McCormick, Jerry R. D., and Gardner. 3,074,975.
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- Elrick, Donald E., and Gardner. 3,077,388.
- Gardocki, Joseph F., J. W. Poole, and G. I. Poos, to McNeil Laboratories, Inc. Therapeutic reaction complex for muscle relaxation. 3,094,462, 6-18-63, Cl. 167-65.
- Gardon, John L., to Rohm & Haas Co. Treatment of cellulosic fabrics and the fabrics thereby obtained. 3,109,695, 11-5-63, Cl. 8-116.4.
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- Garff, George L.: See—
- Reese, Frank P. 3,078,101.
- Reese, Frank P. 3,100,651.
- Garfield, Sidney R., and W. P. Davis. Patient-handling apparatus. 3,099,020, 7-30-63, Cl. 5-81.
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- Gargini, Eric J., to Electric & Musical Industries Ltd. Velocity-modulated colour television receivers. 3,096,395, 7-2-63, Cl. 178-5.4.
- Garibotti, Domenick J., to United Aircraft Corp. Dicing of micro-semiconductors. 3,112,850, 12-3-63, Cl. 225-2.
- Gariepy, Henry J. Knockdown furniture. 3,115,367, 12-24-63, Cl. 297-440.
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- Garland, Christopher M., E. B. Wallace, D. W. Pitts, and C. M. Lin, to Bethlehem Steel Co. Guide apparatus for container cells. 3,111,212, 11-19-63, Cl. 193-38.
- Garland, Mather. Game scoring and subject-designating device. 3,073,523, 1-15-63, Cl. 235-114.
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- Garner, Albert Y., E. C. Chapin, and J. G. Abramo, to Monsanto Chemical Co. Ethylenically unsaturated benzyl phosphorus amides. 3,075,011, 1-22-63, Cl. 260-551.
- Garner, Claude M., and J. C. Atterbury, Jr., to White-Rodgers Co. Gas burner control. 3,090,423, 5-21-63, Cl. 158-125.
- Garner, Oscar G., to General Cable Corp. Trunnion roll type takeup stand. 3,103,322, 9-10-63, Cl. 242-86.5.
- Garner, Philip J., and V. A. Moffatt, to Shell Oil Co. Orthosilicate thiaesters. 3,085,105, 4-9-63, Cl. 260-448.8.
- Garner, Ralph F., to The B. F. Goodrich Co. Belt. 3,098,778, 7-23-63, Cl. 154-52.2.
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- Garnett, Clifford: *See*—
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- Garnett, Donald W., and G. A. Olofsson, to The Olofsson Corp. Material feeding and weighing apparatus. 3,094,182, 6-18-63, Cl. 177-1.
- Garnett, Edward V. Wire stringing equipment. 3,073,574, 1-15-63, Cl. 254-184.
- Garnett, Edward V. Outriggers for vehicles. 3,100,049, 8-6-63, Cl. 212-145.
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- Boyle, John A., and Garnett. 3,076,634.
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- Garner, Georges, to Air-Equipment. Variable-flow pumps of the drum piston type. 3,075,472, 1-29-63, Cl. 103-162.
- Garner, Marcel, and H. Léonard, to Micro-Mega, Societe Anonyme. High-speed rotary tool holder. 3,107,101, 10-15-63, Cl. 279-41.
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- Garrett, Charles G. B., and W. K. Kaiser, to Bell Telephone Laboratories, Inc. Terbium and Cerium activated calcium fluoride optical maser material. 3,079,347, 2-26-63, Cl. 252-301.4.
- Garrett, Charles G. B., and W. G. Pfann, to Bell Telephone Laboratories, Inc. Field effect parametric amplifier. 3,094,671, 6-18-63, Cl. 330-4.9.
- Garrett Corp., The: *See*—
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- Byloff, Robert C. 3,083,327.
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- Greenwald, Harold A. 3,070,974.
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- Schelp, Helmut R., Kelley, and Norman. 3,093,348.
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- Garrett, Donald E., F. J. Weck, A. J. Marsh, and H. R. Foster, Jr., to American Potash & Chemical Corp. Boron extractants. 3,111,383, 11-19-63, Cl. 23-149.
- Garrett, Edgar J., R. T. Langford, and R. F. Nicks, to United States of America, Navy. Fin latch assembly. 3,093,075, 6-11-63, Cl. 102-50.
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- Garrett, Edward O., Jr., and G. V. Jefferson, to Westinghouse Air Brake Co. Railway braking apparatus. 3,107,751, 10-22-63, Cl. 188-62.
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- Garrett, John E., and K. W. Howick, to The Goodyear Tire & Rubber Co. Hay rake tooth. 3,096,609, 7-9-63, Cl. 56-400.
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- Kendziorek, Wolfgang M., and Garrett. 3,103,594.
- Garrett, Verne M., and V. G. Sommers, to Westinghouse Air Brake Co. Rock drill carrier. 3,085,531, 5-7-63, Cl. 175-201.
- Garrett, William R., to Drilco Oil Tools, Inc. Resilient rotary drive fluid conduit. 3,099,918, 8-6-63, Cl. 64-27.
- Garrigus, Walter E., and M. Axelrod, said Axelrod assor. to said Garrigus. Means for measuring properties of light. 3,073,213, 1-15-63, Cl. 88-23.
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- Garriott, Donald H., to Morgan Packing Co., Inc. Device for washing tomatoes and the like. 3,106,731, 10-15-63, Cl. 15-3.13.
- Garrison, Allen D., to Texaco Inc. Treatment of uranium ore. 3,087,780, 4-30-63, Cl. 23-14.5.
- Garrison, Clifford L., to Oliver Instrument Co. Grinding and metal disintegrating apparatus. 3,081,253, 3-12-63, Cl. 204-217.
- Garrison, Clifford L., to Oliver Instrument Co. Drill grinder. 3,084,485, 4-9-63, Cl. 51-124.
- Garrison, Clifford L., to Oliver Instrument Co. Apparatus for grinding twist drills. 3,114,988, 12-24-63, Cl. 51-55.
- Garrison, Eugene P., Sr. Kitchen trailer. 3,073,646, 1-15-63, Cl. 296-22.
- Garrison, Frank J. Pipe for smoking tobacco. 3,098,493, 7-23-63, Cl. 131-203.
- Garrison, Harry A., and G. E. and J. E. Murphy. Reversible hydraulic power unit. 3,074,687, 1-22-63, Cl. 253-23.
- Garrison, Joel F. Radiation collectors. 3,107,052, 10-15-63, Cl. 237-1.
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- Garrison, Randall W. Poultry watering fountain. 3,093,111, 6-11-63, Cl. 119-72.
- Garrison, Rodger C., and D. J. Ward, to Universal Oil Products Co. Restoration of the activity of inorganic sorbents. 3,075,023, 1-22-63, Cl. 260-676.
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- Garrou, James E., to Alba-Waldensian, Inc. Apparatus and method for packaging hosiery. 3,097,770, 7-16-63, Cl. 223-1.
- Garrou, James E. and V. H., to Waldensian Hosiery Mills, Inc. Pattern drum for knitting machine. 3,099,145, 7-30-63, Cl. 66-154.



- Garrou, Louis W., and G. F. Squillario, to Pilot Research Corp. Fashioned tubular girdle and method of making same. 3,075,375, 1-29-63, Cl. 66—177.
- Garrou, Louis W., and G. F. Squillario, to Pilot Research Corp. Seamless knit garment having increased length and method of making same. 3,109,300, 11-5-63, Cl. 66—177.
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- Garrou, Victor H.: *See—*
- Garrou, James E. and V. H. 3,099,145.
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- Starger, Samuel L., Levin, and Garshelis. 3,106,502.
- Garson, Stanley P. Smoker's ashtray. 3,099,270, 7-30-63, Cl. 131—240.
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- Garten, Herbert, and R. H. Schaffer, to General Electric Co. Shaft for use in nuclear radiation environment. 3,099,141, 7-30-63, Cl. 64—1.
- Garten, Wilhelm, K. Dehmelt, H. von Dohren, and F. Peters, to Varta Aktiengesellschaft. Battery cell. 3,089,913, 5-14-63, Cl. 136—6.
- Garth, Ernest D. G., deceased; L. C. May, and A. B. Young, executors. Method of making sterile bedside drainage bag. 3,079,292, 2-6-63, Cl. 156—269.
- Garth, Ernest D. G., deceased (L. C. May and A. B. Young, executors of said E. D. G. Garth). Valved catheters. 3,087,492, 4-30-63, Cl. 128—350.
- Garli, Moise, and P. L. Buchet; said Buchet assor. to Centre Technique du Bois. Treatment of sawdust and similar particles especially for use as a base layer. 3,088,836, 5-7-63, Cl. 106—202.
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- Gartner, Wilhelm, to FMC Corp. Process for the treatment of wood. 3,085,039, 4-9-63, Cl. 162—78.
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- Garty, Kenneth T., T. B. Gibb, Jr., and J. A. Stenstrom, to Union Carbide Corp. Production of an aryl epoxy ether polymer structure. 3,084,991, 4-9-63, Cl. 18—54.
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- Garver, Richard F., to The B. F. Goodrich Co. Tire building machine. 3,075,570, 1-29-63, Cl. 156—400.
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- Garvey, Richard J., and J. J. Richards; said Richards assor. to said Garvey. Apparatus for controlling heating systems. 3,076,606, 2-5-63, Cl. 236—38.
- Garvin, Alex J., to Superpack Vending (Curacao) N.A. Cylindrical package. 3,089,630, 5-14-63, Cl. 229—4.5.
- Garvin, Alex J., to Superpack Vending (Curacao) N.A. Device for vending cylindrical objects. 3,095,997, 7-2-63, Cl. 221—180.
- Garvin, Gale F.: *See—*
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- Garvin, Richard: *See—*
- Johnson, Curtis R. A., Garvin, Ruppenthal, Morris, and Binder. 3,071,772.
- Garwick, William N. Alarm system. 3,092,820, 6-4-63, Cl. 340—227.
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- Ciappetta, Frank G., Coonrad, and Garwood. 3,115,456.
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- Jackson, John G. 3,102,600.
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- Hull, Raymond J. 3,100,697.
- Gasaway, Jack, 1/2 to P. H. Reedy and S. B. Smith, jointly. Bathing cap. 3,108,283, 10-29-63, Cl. 2—68.
- Gasche, Fred, to Autoclave Engineers, Inc. High pressure joint. 3,090,630, 5-21-63, Cl. 277—171.
- Gasche, Fred. Swivel grip for golf clubs. 3,095,198, 6-25-63, Cl. 273—165.
- Gasche, Fred, to Autoclave Engineers, Inc. Screw connection having coil spring thread means. 3,104,583, 9-24-63, Cl. 85—46.
- Gasche, Fred, to Autoclave Engineers, Inc. High pressure laboratory unit. 3,104,628, 9-24-63, Cl. 109—1.
- Gaschen, Leon B. Screen door assembly for garages. 3,103,967, 9-17-63, Cl. 160—113.
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- Gaskell, Merwin H., D. C. Lindley, and F. M. Perkins, Jr., to Jersey Production Research Co. Cellar oil recovery by water displacement. 3,083,764, 4-2-63, Cl. 166—9.
- Gaskell, Merwin H., D. C. Lindley, and F. M. Perkins, Jr., to Jersey Production Research Co. Recovery of cellar oil. 3,104,702, 9-24-63, Cl. 166—9.
- Gaskell, Walter L., to King-Seely Thermos Co. Tilting arbor saw. 3,085,602, 4-16-63, Cl. 143—36.
- Gaskill, George M., to General Motors Corp. Heat-sensing device. 3,092,997, 6-11-63, Cl. 73—355.
- Gaskins, Glenn D. Baby burp seat. 3,071,410, 1-1-63, Cl. 297—195.
- Gasmire, Richard C., to Owens-Illinois Glass Co. Method and apparatus for forming hollow plastic articles. 3,079,631, 3-5-63, Cl. 18—5.
- Gaspard, Joseph O., to Gaspard & Sons Ltd. Greeting card and candle contained therein. 3,077,981, 2-19-63, Cl. 206—47.
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- Gaspiretti, Renato, and Z. Wislouch, to The Loewy Engineering Co. Ltd. Broadside transfer device for elongated metal articles. 3,072,267, 1-8-63, Cl. 214—1.
- Gasparini, Francis A., to Westinghouse Electric Corp. Hose coupling for suction cleaning apparatus. 3,073,626, 1-15-63, Cl. 285—7.
- Gasparini, Gino L.: *See—*
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- Gasper, Emeric, M. G. Munns, and R. A. Butler, to The Projectile & Engineering Co. Ltd. Injection moulding machine. 3,099,861, 8-6-63, Cl. 18—30.
- Gasper, Paul. Trellis structure. 3,105,327, 10-1-63, Cl. 47—47.
- Gasquet, Rene, to Societe Industrielle Generale de Mecanique Appliquee S.I.G.M.A. Piston operated wedge type gate valve. 3,111,298, 11-19-63, Cl. 251—62.
- Gass, James F. Safety bathtub seat. 3,086,221, 4-23-63, Cl. 4—18.5.
- Gass, James F. Adjustable raised toilet seat. 3,086,223, 4-23-63, Cl. 4—237.
- Gasser, Hermann, to Luwa AG. Forming funnel and method of forming sliver. 3,083,414, 4-2-63, Cl. 19—150.
- Gasser, Hermann, to Luwa AG. Cleaning device for yarn carrying rotary cylinders of textile machines. 3,101,504, 8-27-63, Cl. 15—256.51.
- Gassino, Teresio, to Ing. C. Olivetti & C., S.p.A. Ten-key adding machine for non-uniform decimal denominations. 3,084,855, 4-9-63, Cl. 235—60.
- Gassman, Hans U., and H. R. Zbinden, to Ciba Ltd. Process for preparing stable aqueous pigment dispersions. 3,094,499, 6-18-63, Cl. 260—29.4.
- Gassmann, Fritz: *See—*
- Corti, Ulrich A., Gassmann, and Weber. 3,090,226.
- Gassner, Alfred A., and H. J. Kahn, to Kaiser Aluminum & Chemical Corp. Structural unit. 3,103,025, 9-10-63, Cl. 14—1.
- Gasson, Edward J., and D. J. Hadley, to The Distillers Co. Ltd. Production of aliphatic bromides. 3,108,141, 10-22-63, Cl. 260—663.
- Gast, Albert K., Jr., to Star Shade Cutter Co. Mandrel for cutting metal shade rollers. 3,100,649, 8-13-63, Cl. 279—1.
- Gast, Theodor, to Sartorius-Werke A.G. (und vormals Gottinger Präzisionswaagenfabrik G.m.b.H.), Fa. Method of and apparatus for weighing in vacuum. 3,089,553, 5-14-63, Cl. 177—1.
- Gaste, Michael, to Poly-Sil. Inc. Novel container. 3,077,262, 2-12-63, Cl. 206—47.
- Gately, Joseph R., to Forbo Design Corp. Relay control circuit. 3,088,053, 4-30-63, Cl. 317—40.
- Gatens, Donald W., and C. S. Szekeley, to ACF Industries, Inc. Rotary dump. 3,076,568, 2-5-63, Cl. 214—52.
- Gates Acoustinet, Inc.: *See—*
- Reed, George A., and Rosen. 3,087,578.
- Gates, Charles T., deceased; R. Gates, special administratrix. Metal shredder. 3,103,163, 9-10-63, Cl. 100—98.
- Gates, Francis H. Combination stacking and dispensing apparatus for coins and the like. 3,107,467, 10-22-63, Cl. 53—254.
- Gates, John I., to Shell Oil Co. Hydrocarbon seep detection separator. 3,116,133, 12-31-63, Cl. 55—167.
- Gates, John W., Jr., and W. M. Rees, to Eastman Kodak Co. Composition comprising gelatin and a potential hardener therefor. 3,110,597, 11-12-63, Cl. 96—111.
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- Gates, Charles T. 3,103,163.
- Gates, Thomas S., to National Broach & Machine Co. Automatic gear gauging apparatus. 3,099,882, 8-6-63, Cl. 33—179.5.
- Gateway Erectors, Inc.: *See—*
- Reiland, Frank D. 3,105,423.
- Gatewood, Buford E.: *See—*
- Banche, Joe, Vander Putten, and Gatewood. 3,105,969.
- Gatewood, Sidney U., and C. G. Koonitz, to Borg-Warner Corp. Clutches. 3,090,475, 5-21-63, Cl. 192—99.
- Gathers, Glen E., to General Electric Co. Pole face winding connections. 3,034,270, 4-2-63, Cl. 310—183.



- Gathman, Albert: *See*—  
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- Gatley, Derek R., and W. L. Abigail,  $\frac{1}{2}$  to Gravinier Mfg. Co. Ltd. and  $\frac{1}{2}$  to Wilkinson Sword Ltd. Hermetically sealed detonator. 3,101,669, 8-27-63, Cl. 102—28.
- Gatling, Herman D.: *See*—  
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- Gatti, Arno: *See*—  
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- Gatti, Arno, to General Electric Co. Method for sintering tungsten powder. 3,116,146, 12-31-63, Cl. 75—214.
- Gatting, Earl J.: *See*—  
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- Gattnar, Anton, E. Schwausch, G. Bodmeier, and A. Zeitler, to Siemens-Bauunion G.m.b.H. Slip-form jack. 3,085,787, 4-16-63, Cl. 254—106.
- Gatto, Joseph L., and R. O. Wyckoff, to Bell & Gossett Co. Self-priming centrifugal pump. 3,103,177, 9-10-63, Cl. 103—113.
- Gatto, William: *See*—  
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- Gateward, Harry F. Carrier bags. 3,115,294, 12-24-63, Cl. 229—52.
- Gatza, Casper J. Auxiliary hot water heater. 3,104,651, 9-24-63, Cl. 122—20.
- Gatzert, Ernest H., to General Dynamics Corp. Data transmission system. 3,076,179, 1-29-63, Cl. 340—172.5.
- Gatzert, Ernest H., to General Dynamics Corp. System for automatically inspecting a batch of samples. 3,087,063, 4-23-63, Cl. 250—106.
- Gatzert, Ernest H., to General Dynamics Corp. Line circuit. 3,111,560, 11-19-63, Cl. 179—18.
- Gatzert, Ernest H., and G. R. Paul, to General Dynamics Corp. Analog-to-digital converter. 3,111,661, 11-19-63, Cl. 340—347.
- Gatzke, Edward. Automatic vacuum breaking sill cock. 3,106,935, 10-15-63, Cl. 137—218.
- Gaubatz, Arthur W., and J. W. Moore, to General Motors Corp. Convergent-divergent jet nozzle. 3,095,695, 7-2-63, Cl. 60—35.6.
- Gaubert, Rene J. Programmed tape apparatus. 3,083,269, 3-26-63, Cl. 179—100.2.
- Gaubert, Rene J., to Triangle Package Machinery Co. Spaghetti wrapping machine and method. 3,109,502, 11-5-63, Cl. 177—1.
- Gaucher, Louis. Method and means for the simulation of the action of mechanical parameters on a body. 3,097,436, 7-16-63, Cl. 35—12.
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- Gaudier-Pons, Joseph, to The Sherwin-Williams Co. Color selector. 3,070,905, 1-1-63, Cl. 35—28.3.
- Gaudilliere, Odette: *See*—  
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- Gaudilliere, Pierre, deceased, O. Gaudilliere and C. G. Bernard, heirs. Device for determining the direction of the ground speed of a moving body. 3,111,670, 11-19-63, Cl. 343—112.
- Gaudin, Antoine M.: *See*—  
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- Gaudin, Antoine M., H. R. Spedden, and J. H. Sullivan, to Union Carbide Corp. Flotation procedures. 3,094,485, 6-18-63, Cl. 209—166.
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- Gauer, Walter W., to Wroble & Gauer Co., Inc. Diving barrier. 3,096,980, 7-9-63, Cl. 272—66.
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- Gaul, Richard J., and W. J. Fremuth, to American Cyanamid Co. Selective cyanoethylation of mercaptoamines. 3,115,515, 12-24-63, Cl. 260—465.5.
- Gauld, Brownlee B., to The Bendix Corp. Underwater transducer. 3,094,636, 6-18-63, Cl. 310—26.
- Gauldie, Kenneth, to Hydraulic Crushers Ltd. Pilot operated release valve structure. 3,097,665, 7-16-63, Cl. 137—491.
- Gaule, Gerhart K., H. H. Kedesdy, and L. J. D. Rouge, to United States of America, Army. Apparatus for pulling single crystals in the form of long flat strips from a melt. 3,096,158, 7-2-63, Cl. 23—273.
- Gauley, Sherman, to Bausch & Lomb Inc. Recorder pen. 3,094,104, 6-18-63, Cl. 120—42.06.
- Gauley, Sherman, to Bausch & Lomb Inc. Recorder pen. 3,094,104, 6-18-63, Cl. 120—42.06.
- Gaulke, Arthur W., to Vanant Co., Inc. Packaging strip having outwardly projecting cushioning peaks. 3,095,970, 7-2-63, Cl. 206—62.
- Gaumer, John O. Self-inflating life preserver entity and method of making the same. 3,084,357, 4-9-63, Cl. 9—327.
- Gaumer, John O. Water craft. 3,113,548, 12-10-63, Cl. 115—12.
- Gaumer, Lee S., Jr.: *See*—  
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- Gaunt, John A., and J. W. Stutts, to Geigy Chemical Corp. Process for the preparation of phosphoric acid esters. 3,107,245, 10-15-63, Cl. 260—251.
- Gaunt, Thomas N. Liquid proof containers. 3,073,216, 1-15-63, Cl. 93—36.01.
- Gaunt, Thomas N. Process for the manufacture of hollowware articles composed of thermoplastic material. 3,082,482, 3-26-63, Cl. 18—48.
- Gaunt, William E., and R. P. Tansey, to Strong Cobb Arner Inc. Controlled release compositions and their preparation. 3,101,293, 8-20-63, Cl. 167—82.
- Gauntt, Wayne M.: *See*—  
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- Gaupp, Kurt, to Forstner, Inc. Slide for bracelets and the like. 3,075,266, 1-29-63, Cl. 24—116.
- Gaus, Walter A. Carrying clamps for vehicles. 3,104,042, 9-17-63, Cl. 224—42.1.
- Gauslaa, Kjetil, to Copolymer Rubber & Chemical Corp. Improved centrifuge tube. 3,081,029, 3-12-63, Cl. 233—26.
- Gauslaa, Kjetil, and J. D. Sutherland, Jr., to Copolymer Rubber and Chemical Corp. Method of continuously coagulating rubber latices with fresh coagulant and the resultant product. 3,092,603, 6-4-63, Cl. 260—33.6.
- Gautheret, Roger: *See*—  
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- Gauthier, Alfred, G.m.b.H.: *See*—  
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- Richter, Carl F. 3,095,791.
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- Stieringer, Albert. 3,085,485.
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- Gauthier, George E., to General Electric Co. Lock-open contact latch. 3,110,792, 11-12-63, Cl. 200—153.
- Gauthier, Raymond A. Magnetic work-holder. 3,089,986, 5-14-63, Cl. 317—162.
- Gauthier, Theophile E., and D. J. Massa. Flexible cannula and intravenous needle combined. 3,094,122, 6-18-63, Cl. 128—221.
- Gauthier, William D., to Ransburg Electro-Coating Corp. Apparatus for testing electrical resistivity of liquids. 3,082,372, 3-19-63, Cl. 324—30.
- Gauthier, William D., to Ransburg Electro-Coating Corp. Shunt control to prevent arcing in an electrostatic spray coating system and method. 3,083,121, 3-26-63, Cl. 117—93.4.
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- Gauthron, Robert. Method of constructing an elevated reservoir. 3,073,018, 1-15-63, Cl. 29—421.
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- Gauvain, Roger, to Societe Alsacienne de Constructions Mechaniques. Control mechanisms for the nippers of rectilinear combers. 3,074,119, 1-22-63, Cl. 19—227.
- Gavasso, Louis J., to Burroughs Corp. Recording method and means. 3,114,500, 12-17-63, Cl. 234—1.
- Gaver, Kenneth M., E. G. Adamek, and G. F. Fink, to Ogilvie Flour Mills Co. Ltd. Process of epoxidizing proteinaceous materials. 3,111,416, 11-19-63, Cl. 106—146.
- Gavette, Leon D., to Lockheed Aircraft Corp. Multi-purpose powerplant stand. 3,085,798, 4-16-63, Cl. 269—17.
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- Gavin, John C., to United Aircraft Corp. Thrust reverser control system. 3,086,360, 4-23-63, Cl. 60—35.54.
- Gavlin, Gilbert, and K. Hattori, to The Richardson Co. Process for making  $\beta$ -amino alkyl sulfate ester. 3,100,789, 8-13-63, Cl. 260—458.
- Gavlin, Gilbert, W. M. Boyer, and D. R. Berger, to The Richardson Co. Process for preparing alpha sulfo fatty acids and salts thereof. 3,104,247, 9-17-63, Cl. 260—400.
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- Gaw-O'Hara Envelope Co.: *See*—  
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- Gawron, Paul F. Containers. 3,091,361, 5-28-63, Cl. 220—97.
- Gawthrop, Asa D. Data sheet holder. 3,106,799, 10-15-63, Cl. 45—82.
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- Bell, Harry G., Gay, and Shaffer. 3,101,479.
- Joswig, Fred W., and Minnich. 3,112,831.
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- Gay, John A., to American Pipe and Construction Co. Method and apparatus for limiting loss of overhead mortar lining in pipe. 3,074,139, 1-22-63, Cl. 25-38.
- Gay, Newsome W., to Min-O-Matic, Inc. Rice cooking package. 3,081,174, 3-12-63, Cl. 99-171.
- Gay, Philip T.: *See*—  
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- Gay, Raymond, and E. Siganos, to Esso Research and Engineering Co. Fuel oil compositions of improved combustion characteristics. 3,085,866, 4-16-63, Cl. 44-57.
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- Gayer, Peter J., A. Jubb, and C. L. Johnson, to Rolls-Royce Ltd. Gas turbine engine fuel system. 3,076,310, 2-5-63, Cl. 60-39.28.
- Gaylord, John A., to H. Koch & Sons. Separable line coupling. 3,094,345, 6-18-63, Cl. 287-76.
- Gaylord, John A., to H. Koch & Sons. Actuating devices for aerial survival kits. 3,107,370, 10-22-63, Cl. 9-11.
- Gaylord, John A., to H. Koch & Sons. Canopy spiller. 3,112,907, 12-3-63, Cl. 244-151.
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- Gaylord, Norman G., to Interchemical Corp. New thermosetting compositions of acrylic polyester and amine-aldehyde resins. 3,098,835, 7-23-63, Cl. 260-33.6.
- Gaylord, Paul C., to The Greif Bros. Co. Cooperation Corp. Method of making a composite metal paper container. 3,072,517, 1-8-63, Cl. 156-83.
- Gaylord Products, Inc.: *See*—  
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- Gayol, Roman M., to Empresa Nacional Calvo Sotelo de Combustibles Liquidos y Lubricantes, S.A. Process and apparatus for producing anhydrous aluminum chloride. 3,078,145, 2-19-63, Cl. 23-93.
- Gayring, Wallace F., to Ward Industries Corp. Sub filter safety medium. 3,073,452, 1-15-63, Cl. 210-108.
- Gaysowski, Joseph J., to General Electric Co. Methods of and apparatus for demineralizing raw water. 3,074,864, 1-22-63, Cl. 204-151.
- Gaysowski, Joseph J., to General Electric Co. Methods of and apparatus for demineralizing raw water. 3,074,865, 1-22-63, Cl. 204-151.
- Gaz de France (Service National): *See*—  
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- Gazdik, Emil R., to R. L. Kuss & Co., Inc. Swimming pool cover and holddown structure therefor. 3,077,610, 2-19-63, Cl. 4-172.
- Gazdik, Frank. Battery powered heater for preserves. 3,105,138, 9-24-63, Cl. 219-43.
- Gdovin, Edward: *See*—  
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- Gearhart, Walter S., and J. W. Hammond, to Curtiss-Wright Corp. System and mechanism for dispensing fluids. 3,101,101, 8-20-63, Cl. 141-207.
- Gearhart, Walter S., and J. W. Hammond, to Curtiss-Wright Corp. Closed pressure system for dispensing fluids. 3,101,102, 8-20-63, Cl. 141-209.
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- Geary, Arthur L.: *See*—  
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- Geary, Robert J., to Plant Products Corp. Acid-polymerized aminoplast resin insecticidal bait composition. 3,076,744, 2-5-63, Cl. 167-48.
- Geary, Thomas A.: *See*—  
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- Geary, Thomas A., to Ladish Co. Mechanical sealing devices. 3,094,336, 6-18-63, Cl. 277-92.
- Gebald, Gregor, and W. Hermes, to W. Reiners. Yarn-typing device. 3,110,511, 11-12-63, Cl. 289-12.
- Geballe, Theodore H., to Bell Telephone Laboratories, Inc. Insulated superconducting wire. 3,109,963, 11-5-63, Cl. 317-123.
- Gebel, Radames K. H., to United States of America, Air Force. Grain spacing to light intensity translator for photographic enlargements. 3,115,545, 12-24-63, Cl. 178-6.8.
- Gebele, Kurt, to Compur-Werk Friedrich Deckel oHG. Photographic camera. 3,071,056, 1-1-63, Cl. 95-64.
- Gebele, Kurt, to Compur-Werk Friedrich Deckel oHG. Preselection diaphragm structure for photographic cameras. 3,071,057, 1-1-63, Cl. 95-64.
- Gebele, Kurt, to Compur-Werk Friedrich Deckel oHG. Photographic camera. 3,071,058, 1-1-63, Cl. 95-64.
- Gebele, Kurt, to Compur-Werk Friedrich Deckel oHG. Photographic camera. 3,094,056, 6-18-63, Cl. 95-64.
- Gebele, Kurt, and F. Singer, to Compur-Werk G.m.b.H. & Co. Photographic shutter. 3,089,401, 5-14-63, Cl. 95-63.
- Gebele, Kurt, and F. Singer, to Compur-Werk Gesellschaft mit beschränkter Haftung & Co. Photographic camera. 3,095,790, 7-2-63, Cl. 95-10.
- Gebelin, Arthur R., to Screw Conveyor Corp. Conveyor flight. 3,111,216, 11-19-63, Cl. 198-174.
- Gebert, Gregory G., and J. R. Schreiner, to Carrier Corp. Air purifying means and method. 3,105,749, 10-1-63, Cl. 55-47.
- Gebhardt, Frederick W. Plural battery system for vehicles. 3,108,190, 10-22-63, Cl. 290-36.
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- Gebhardt, Carl C., to Hughes Aircraft Co. Sector scan control apparatus. 3,091,761, 5-28-63, Cl. 343-7.4.
- Gebhardt, Carl C., to Hughes Aircraft Co. Radar antenna speed reference apparatus. 3,110,022, 11-5-63, Cl. 343-5.
- Gebhardt, Eugen, to Ruti Machinery Works Ltd. Heald frame holder for looms. 3,106,229, 10-8-63, Cl. 139-82.
- Gebhardt, Julius W., J. H. Ettlinger, and J. H. Rittenhouse, to Sperry Rand Corp. Rotary waveguide switch. 3,101,457, 8-20-63, Cl. 333-7.
- Gebhardt, Wilhelm, and F. Kuhr, to Siemens-Schuckertwerke Aktiengesellschaft. Demodulators for frequency-modulated carrier signals. 3,094,669, 6-18-63, Cl. 329-119.
- Gebhardt, Willard A., to Packers' Development Corp. Controlled refrigeration system. 3,111,012, 11-19-63, Cl. 62-419.
- Gebura, Stanley E., to Monsanto Chemical Co. Method for the preparation of diglycidyl ether of tetrachlorobisphenol-A. 3,074,974, 1-22-63, Cl. 260-348.6.
- Gecewicz, Norbert A., to Automatic Canteen Co. of America. Displacement means for currency testing device. 3,087,766, 4-30-63, Cl. 312-212.
- Gecewicz, Norbert A., to Automatic Canteen Co. of America. Photosensitive currency testing device. 3,109,100, 10-29-63, Cl. 250-219.
- Gecks, Donald L.: *See*—  
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- Gee, Arthur. Grain ripening machine. 3,091,054, 5-28-63, Cl. 47-1.
- Gee, Ethlyn. Portfolio. 3,082,567, 3-26-63, Cl. 45-129.
- Gee, George: *See*—  
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- Gee, Leroy J.: *See*—  
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- Gee, Leroy J., to American Radiator & Standard Sanitary Corp. Resistance thermometer probe. 3,075,161, 1-22-63, Cl. 338-28.
- Gee, Leroy J., to American Radiator & Standard Sanitary Corp. High temperature resistance thermometer. 3,103,641, 9-10-63, Cl. 338-28.
- Gee, Leroy J., to American Radiator & Standard Sanitary Corp. Thermocouple probe. 3,116,168, 12-31-63, Cl. 136-4.
- Gee, Paul Y. C.: *See*—  
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- Gee, Paul Y. C., and H. J. Andress, Jr., to Socony Mobil Oil Co., Inc. Stabilized jet combustion fuels. 3,115,483, 12-24-63, Cl. 260-78.5.
- Gee, William, Jr. Coffee brewer. 3,092,011, 6-4-63, Cl. 99-287.
- Geen, Cory P., to Industrial Devices, Inc. Collet assembly. 3,099,411, 7-30-63, Cl. 242-46.5.
- Geen, Cory P. Builder mechanism. 3,114,511, 12-17-63, Cl. 242-43.
- Geen, Henry C.: *See*—  
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- Geer, Harold C. Multi-hanger bracket for conduit support. Re. 25,350, 3-12-63, Cl. 248-58.
- Geer, Ronald L., to Shell Oil Co. Underwater wellhead flow line connector. 3,090,437, 5-21-63, Cl. 166-66.5.
- Geering, Emil J., to Hooker Chemical Corp. Stabilization of 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide with nitrogen containing compounds. 3,078,277, 2-19-63, Cl. 260-327.
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- Geffers, Klaus E.: *See*—
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- Geffroy, Georges, to Societe Cellophane Investment Co., Ltd. Apparatus for sealing cartons. 3,074,213, 1-22-63, Cl. 53-133.
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- Gehlsen, Carlheinz, Emergency lamp for a motor vehicle. 3,072,885, 1-8-63, Cl. 340-72.
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- Gehrig, Edward H.: *See*—
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- Gehring, Arthur J., Jr., and L. W. Stowe, to Sperry Rand Corp. Switching device. 3,103,650, 9-10-63, Cl. 340-174.1.
- Gehring, John W., Jr. Eutectic alloy shaped charge liner. 3,112,700, 12-3-63, Cl. 102-20.
- Gehring, William F. Industrial fork lift truck. 3,106,305, 10-8-63, Cl. 214-730.
- Gehringer, Mervin L. Sewing machine attachment. 3,109,397, 11-5-63, Cl. 112-105.
- Gehrke, Gunter, to Farbenfabriken Bayer Aktiengesellschaft. Process for the dyeing of polyester fibre materials. 3,099,513, 7-30-63, Cl. 8-39.
- Gehrke, Herman A. Lift for oil and other fluids. 3,077,932, 2-19-63, Cl. 166-105.
- Gehrke, Max R. Harness deer drag and the like. 3,077,292, 2-12-63, Cl. 224-5.
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- Geiger, Friedrich, to Daimler-Benz Aktiengesellschaft. Vehicle top construction. 3,087,753, 4-30-63, Cl. 296-103.
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- Geis, James E., to New York Trap Rock Corp. Bin level indicator. 3,114,804, 12-17-63, Cl. 200-61.47.
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 Herman, Robert F., and Moeblmann. 3,094,661.  
 Howeth, Marvin S. 3,071,178.  
 Johnstone, Norman J. 3,102,241.  
 Jones, Augustus, and Haskins. 3,083,129.  
 Jorgensen, Otto A. 3,087,096.  
 Jorgensen, Otto A. 3,099,801.  
 Kaarlela, William T. 3,111,406.  
 Kalthoff, Clement H. 3,097,580.  
 Koutz, Stanley L., Duffield, Minogue, Compton, and Lynch. 3,072,549.  
 Kurnick, Samuel W., La Grange, Fitzpatrick, and Merriam. 3,073,882.  
 Layburn, Robert L. 3,071,653.  
 Lennon, George V., III, and Lins. 3,098,195.  
 Lennon, George V., III, and Lins. 3,116,453.  
 Liu, John K. 3,090,976.  
 Livingstone, James K. 3,071,696.  
 Martin, Joseph F., and Nierit. 3,105,914.  
 Martin, Joseph F., Nierit, and Root. 3,071,732.  
 May, Richard K., Sunafrank, and Powell. 3,093,370.  
 McCandless, Robert K. 3,075,619.  
 McMordie, Warren C., Jr., and Petrovich. 3,098,826.  
 McNaney, Joseph T. 3,071,645.  
 McNaney, Joseph T. 3,087,087.  
 McNaney, Joseph T. 3,098,223.  
 McNaney, Joseph T. 3,102,162.  
 McNaney, Joseph T. 3,102,203.  
 McNaney, Joseph T. 3,109,065.  
 Merkwitz, Samuel. 3,093,151.  
 Moeblmann, Richard H. 3,105,936.  
 Morris, Frank A. 3,083,356.  
 Morris, George F., and Reynolds. 3,084,325.  
 Moulton, Eric W. 3,098,206.  
 Muehlner, Egon E. 3,092,821.  
 Murek, Josef K. 3,105,398.  
 Murek, Josef K. 3,108,503.  
 Murek, Josef K. 3,113,476.  
 Nass, Walter R. 3,074,385.  
 Ottestad, Jack B. 3,102,553.

General Dynamics Corp.: *See*—Continued

Ozone, Koho. 3,102,214.  
 Parker, Earl R. 3,083,298.  
 Paul, Gerald R. 3,102,256.  
 Peach, John A., and Stiles. 3,115,632.  
 Perreault, Donald A. 3,071,701.  
 Potter, Frank J. 3,094,660.  
 Prace, Harvey D., and Wharton. 3,076,063.  
 Proctor, Thomas. 3,111,558.  
 Richards, Glenn L. 3,071,695.  
 Richards, Glenn L. 3,079,560.  
 Richards, Glenn L. 3,087,071.  
 Richardson, Morris E. 3,094,395.  
 Riparbelli, Carlo. 3,073,494.  
 Rodek, Victor. 3,109,153.  
 Rondash, John T. 3,110,960.  
 Sanner, Medford D., and Cox. 3,091,755.  
 Schupp, Arthur A., Jr., and Forsen. 3,075,162.  
 Schwan, Herbert A., and Thomas. 3,106,519.  
 Scott, Richard, Brightman, and Perkins. 3,111,557.  
 Sharp, Rodman A., and Eichen. 3,097,301.  
 Sheets, Herman E. 3,075,743.  
 Sheets, Herman E., and Harrington. 3,100,006.  
 Speidel, Thomas O. P., and Howard. 3,104,218.  
 Stone, Richard S., and Kraker. 3,094,470.  
 Takes, Donald E., and Boyd. 3,091,748.  
 Tatham, Thomas H., Jr. 3,111,598.  
 Trousdale, Robert B. 3,087,021.  
 Tyrlick, William V. 3,091,664.  
 Urshan, Samuel A. 3,094,873.  
 Van Sandwyk, Johannes. 3,071,676.  
 Welsh, Joseph P., Zarcane, and Rugaber. 3,071,763.  
 Wharton, Armistead. 3,077,658.  
 Wolf, Alfred A. 3,102,231.

General Dynamics Corp. (Convair Division): *See*—

Hollar, Travis B., and Harbison. 3,090,225.  
 Rice, Rip G., Geib, Kaplan, and Hooker. 3,108,989.  
 Wesley, Richard H., and Winters. 3,093,770.

General Electric Co.: *See*—

Abel, George G., Jr., and Spencer. 3,105,172.  
 Abbott, Harold W., and Suran. 3,079,593.  
 Abbott, Roy W. 3,079,768.  
 Abbott, Roy W. 3,079,769.  
 Abbott, Roy W., and Preising. 3,079,766.  
 Adams, Albert H. 3,096,131.  
 Adamson, Arthur P. 3,080,876.  
 Adamson, Arthur P. 3,112,611.  
 Adamson, Arthur P., and Berman. 3,112,612.  
 Adamson, Arthur P., and Gerlaugh. 3,112,616.  
 Agens, Maynard C. 3,075,855.  
 Agens, Maynard C., and Kiser. 3,115,476.  
 Albright, John W., and Bianco. 3,096,391.  
 Allard, Gerard A. 3,114,872.  
 Anderson, John M. 3,099,768.  
 Anderson, Robert P. 3,083,219.  
 Anderson, Roy E. 3,106,643.  
 Anderson, Roy E. 3,114,900.  
 Anolick, Eugene S. 3,106,496.  
 Applebaum, Sidney P. 3,076,193.  
 Arone, Nicholas F., and Mankoff. 3,086,073.  
 Ashley, Eugene. 3,114,291.  
 Ashley, Robert B. 3,098,171.  
 Atchison, Leonard W. 3,070,972.  
 Atchison, Leonard W. 3,105,366.  
 Atchison, Leonard W. 3,111,820.  
 Auger, Claude H. 3,114,533.  
 Aven, Manuel, and Potter. 3,080,325.  
 Ayers, Ralph E. 3,113,281.  
 Ayres, Reginald J. 3,093,768.  
 Ball, Burton B. 3,111,396.  
 Bahn, John J., Coggeshall, Maher, and Waldbillig. 3,089,048.  
 Bahn, John J., and Dormandy. 3,112,415.  
 Bailey, Francis M. 3,102,975.  
 Baird, Leslie L. 3,073,936.  
 Baird, Leslie L. 3,095,489.  
 Baldwin, George C. 3,076,895.  
 Barkan, Philip, and Tognella. 3,114,387.  
 Barnstead, John W. 3,115,987.  
 Barr, James R. 3,113,172.  
 Baskerville, Ralph J. 3,084,238.  
 Baumann, Frederick W. 3,083,308.  
 Baumann, Frederick W. 3,109,978.  
 Beardsley, Kenneth D., and Wilk. 3,074,038.  
 Beatty, John W. 3,114,816.  
 Bebinger, Jack E. 3,084,877.  
 Bennett, Moreland P., and Hughes. 3,075,299.  
 Berman, Max. 3,087,104.  
 Bigelow, John E. 3,100,261.  
 Blonn, William A. 3,102,009.  
 Bluestein, Ben A. 3,071,561.  
 Bobear, William J. 3,098,836.  
 Bobear, William J. 3,114,721.  
 Bochan, John. 3,088,304.  
 Bochan, John. 3,089,515.  
 Bochan, John. 3,091,110.  
 Bochan, John. 3,095,721.  
 Bochan, John. 3,098,372.  
 Bochan, John. 3,106,832.  
 Bochan, John. 3,108,465.  
 Bochan, John. 3,108,613.  
 Bochan, John. 3,109,076.  
 Boles, Richard J. 3,083,313.



## General Electric Co. : See—Continued

Bondley, Ralph J. 3,100,339.  
 Bovenkerk, Harold P. 3,083,080.  
 Boyd, Charles R., Jr. 3,086,178.  
 Boyd, Malcolm R. 3,076,117.  
 Boyles, Robert L. 3,085,136.  
 Boyles, Robert L. 3,086,351.  
 Bradley, Guy D. 3,089,737.  
 Bradley, Guy D. 3,107,956.  
 Brandt, Theodore C. 3,089,315.  
 Brandt, Thomas F., Jr. 3,110,844.  
 Breault, Homer E. 3,116,116.  
 Brelling, Robert W. 3,088,191.  
 Brezovsky, Bernard J., and Cushing. 3,079,094.  
 Briggs, Walton E., and Jones. 3,085,198.  
 Brisbin, Philip H., and Heffernan. 3,094,385.  
 Brock, George D., and Topping. 3,096,408.  
 Brooks, Wesley W. 3,080,503.  
 Broughton, Carl R. 3,084,416.  
 Broverman, Michael, and Dripps. 3,073,479.  
 Brown, Dale H. 3,090,565.  
 Brown, Donald V., and Lucas. 3,082,181.  
 Brunot, Albert W. 3,101,423.  
 Buchhold, Theodor A. 3,098,189.  
 Bundy, Francis P. 3,075,245.  
 Bundy, Francis P. 3,107,395.  
 Burch, Byron F., Jr. 3,098,566.  
 Burnett, Kenneth J. 3,109,953.  
 Butsch, Alfred G., and Jenkins. 3,111,135.  
 Cabaniss, Edward H., and Isak. 3,114,046.  
 Cabaniss, Edward H., and Prince. 3,109,090.  
 Cain, Dallas E. 3,098,666.  
 Caird, David W. 3,087,908.  
 Callan, Patrick C., Eggenberger, Malone, and Troutman. 3,097,490.  
 Camilli, Guglielmo. 3,073,885.  
 Caprino, Joseph C., and Prochaska. 3,096,303.  
 Carlson, Robert G. 3,078,554.  
 Carr, James C. 3,090,115.  
 Carter, Ralph E. 3,074,888.  
 Casey, Edward J., and Miller. 3,109,961.  
 Casey, Robert T. 3,080,462.  
 Chang, Winston H., and Clark. 3,113,863.  
 Chase, David R., and Michaelis. 3,077,530.  
 Cheney, James E. 3,101,260.  
 Chi, Jerome N. C. 3,075,106.  
 Chin, Bock M., and Orlando. 3,109,140.  
 Chin, Bock M., and Orlando. 3,109,939.  
 Chisholm, Roy D. 3,082,311.  
 Chisholm, Roy D. 3,092,706.  
 Chow, Woo F. 3,093,802.  
 Clark, Donald E. 3,088,695.  
 Clark, Edward B. 3,083,735.  
 Clark, Edward B. 3,083,857.  
 Clark, Gordon W. 3,097,487.  
 Clark, Joseph H., Jr. 3,113,848.  
 Clark, Robert B. 3,071,636.  
 Clements, Francis J. 3,113,735.  
 Cleveland, Donald S. 3,084,560.  
 Cobine, James D. 3,093,766.  
 Cockrell, William D. 3,086,121.  
 Cockrell, William D. 3,095,534.  
 Cogan, Richard M. 3,106,114.  
 Collier, William R. 3,095,164.  
 Cook, Leonard W. 3,072,778.  
 Cook, Leonard W. 3,098,137.  
 Coolidge, Arthur W., Jr. 3,082,347.  
 Cooper, Alfred L. 3,085,809.  
 Cooper, Benjamin. 3,092,764.  
 Cooper, Glenn D., and Gilbert. 3,099,672.  
 Costas, John P. 3,101,448.  
 Coutant, Ralph E. 3,111,858.  
 Craft, Donald W. 3,104,964.  
 Crain, Norman R., Levinthal, Facenda, and Vea. 3,108,694.  
 Cronin, Edward F., Johnston, and Delisle. 3,101,386.  
 Crosby, Howard M. 3,106,600.  
 Cummings, Harold R. 3,081,413.  
 Cunningham, Clarence V. 3,089,931.  
 Cusano, Dominic A. 3,108,904.  
 Cusano, Dominic A., and Sormberger. 3,095,324.  
 Cutler, Clarence M. 3,112,891.  
 Dally, Roy. 3,088,000.  
 Dalton, Wayne D., and McGee. 3,092,772.  
 Damon, Richard W. 3,078,419.  
 Damon, Richard W. 3,116,467.  
 Daniels, Franklin W. 3,076,160.  
 Dantowitz, Philip. 3,107,896.  
 Day, Harold R., Jr. 3,116,191.  
 De Kanter, Scipio. 3,077,084.  
 Dell, Paul A., and Fridrich. 3,102,443.  
 Dellario, Patrick J. 3,105,633.  
 Dewey, Clyde G. 3,105,920.  
 De Witt, Stuart L., and Dymek. 3,099,914.  
 Diedrich, Gunther E. 3,088,279.  
 Diefendorf, Russell J. 3,107,180.  
 Diehl, Max H. 3,085,131.  
 Diehl, Max H. 3,098,120.  
 Dills, Raymond L. 3,096,420.  
 Dinger, Edward H. 3,071,697.  
 Dome, Robert B. 3,099,707.  
 Dome, Robert B. 3,102,925.  
 Dome, Robert B. 3,116,373.

## General Electric Co. : See—Continued

Dowdle, Walter F., and Kane. 3,110,874.  
 Downing, Arthur C. 3,095,493.  
 Driesch, Theodore W. 3,106,265.  
 Dubberley, Charles A. 3,098,604.  
 Dunham, Stuart B. 3,117,877.  
 Durst, Paul T. 3,114,813.  
 Eargle, Verde H. 3,113,439.  
 Edson, William A. 3,100,881.  
 Edwards, Keith A. 3,080,533.  
 Eggenberger, Markus A., and Troutman. 3,097,489.  
 Eggenberger, Markus A., Troutman, and Callan. 3,097,488.  
 Eggenberger, Markus A., Troutman, and Sauter. 3,098,176.  
 Egle, John E. 3,116,430.  
 Eis, Ralph O., and Howard. 3,075,107.  
 Ellenburg, George W., and Specht. 3,112,614.  
 Elsworth, Robert M. 3,103,737.  
 Enochs, John R., Dimond, and Springer. 3,078,358.  
 Eppert, Franklin P. 3,080,505.  
 Erickson, Clifford E. 3,102,796.  
 Euker, Harold W., and Coccano. 3,080,521.  
 Evans, Thomas M., and Brown. 3,085,680.  
 Evjen, John M. 3,077,244.  
 Fabel, George W., and Dally. 3,093,379.  
 Falk, Richard B. 3,073,728.  
 Falk, Richard B., and Hooper. 3,100,167.  
 Farmer, Herbert E., and Buckley. 3,078,995.  
 Ferrin, Kenneth S. 3,094,647.  
 Fiedler, Howard C. 3,096,222.  
 Finch, Thomas E. 3,105,135.  
 Flowers, Ralph G., and Juneau. 3,083,119.  
 Flynn, Edward L. 3,092,124.  
 Foody, Francis B., and Skala. 3,114,209.  
 Foote, Alton G. 3,109,747.  
 Foote, Lawrence R. 3,100,268.  
 Forman, Hugh M. 3,086,448.  
 Forrer, Max P. 3,077,564.  
 Fox, Daniel W. 3,110,299.  
 Fox, Gerald R. 3,110,527.  
 Francis, Wallace R. 3,093,434.  
 Frank, Edward J. 3,113,191.  
 Freeman, Arthur H. 3,115,869.  
 French, Richard W. 3,089,094.  
 Frischmann, Peter G., and Walter. 3,108,912.  
 Fuhrman, Richard E. 3,109,411.  
 Fuhrman, Richard E., and Huddleston. 3,109,412.  
 Gabriel, Richard H. 3,084,530.  
 Gallo, Elia A. 3,106,094.  
 Garten, Herbert, and Schaffer. 3,099,141.  
 Gathers, Glen E. 3,084,270.  
 Gatti, Arno. 3,116,146.  
 Gauthier, George E. 3,110,792.  
 Gaysowski, Joseph J. 3,074,864.  
 Gaysowski, Joseph J. 3,074,865.  
 Gelbard, Robert B. 3,112,619.  
 Genuit, Luther L. 3,116,438.  
 George, Philip D. 3,099,671.  
 Germer, John H. 3,085,959.  
 Gesman, Jorgen. 3,071,914.  
 Gesmar, Jorgen. 3,081,690.  
 Glaever, Ivar. 3,116,427.  
 Gilbert, Alfred R., and Precopio. 3,084,114.  
 Gillooly, George R., Rabatin, and Vincent. 3,109,819.  
 Gisslen, Jan M. 3,112,865.  
 Glenn, William E., Jr. 3,078,338.  
 Glenn, William E., Jr. 3,084,590.  
 Glenn, William E., Jr. 3,093,705.  
 Glenn, William E., Jr. 3,113,179.  
 Goetz, Ernest F., and Anderson. 3,107,548.  
 Goldberg, Leon J. 3,098,949.  
 Goldman, Richard G. 3,109,135.  
 Goldstein, David N. 3,094,311.  
 Goodman, Gilbert. 3,116,262.  
 Goodridge, Lawrence C. 3,116,081.  
 Gordon, James F. 3,071,717.  
 Gordon, James F. 3,071,718.  
 Goss, Wesley R., and Suhr. 3,088,044.  
 Graf, Carlton E. 3,077,556.  
 Grandey, Max F. 3,078,552.  
 Grandey, Max F., and Kulp. 3,085,886.  
 Graves, Donald E. 3,079,506.  
 Greenwood, Allan. 3,090,852.  
 Greenwood, Allan N., and Lee. 3,082,307.  
 Grimshaw, Charles. 3,100,827.  
 Griser, Carl A., Jr. 3,071,227.  
 Gustafson, Ralph W. 3,096,811.  
 Guth, Lauren W. 3,077,200.  
 Guth, Lauren W. 3,087,769.  
 Guth, Lauren W. 3,092,122.  
 Gvozjak, John, and Onischak. 3,095,495.  
 Hahn, William C. 3,103,661.  
 Hallbauer, Dankmar. 3,112,839.  
 Haltner, Arthur J., and Oliver. 3,075,279.  
 Ham, Donald M. 3,075,392.  
 Ham, Donald M. 3,075,399.  
 Ham, Donald M. 3,092,318.  
 Hamilton, Douglas J. 3,104,330.  
 Hamilton, James, Lundberg, and Schoening. 3,076,919.  
 Hammerly, Herman J., and Salomone. 3,111,354.  
 Hammond, Richard F., and Spicer. 3,080,498.  
 Hardy, Albert L., Cushing, and Jenkins. 3,084,701.



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Harle, Harold P. 3,089,312.  
 Harrington, Dean B., and Becker. 3,116,429.  
 Harris, Samuel C., Jr., and Langley. 3,089,555.  
 Hart, Benjamin F. 3,095,774.  
 Hartmanis, Juris. 3,103,648.  
 Harvey, Gordon C. 3,116,437.  
 Hawkins, Daryl W. 3,082,346.  
 Hay, Allan S. 3,078,283.  
 Hay, Allan S. 3,087,793.  
 Hay, Allan S. 3,099,640.  
 Heerlein, William J. 3,115,352.  
 Heintz, Milton L. 3,114,817.  
 Herman, Maynard. 3,110,530.  
 Herrick, Carlyle S., and Etherington. 3,079,087.  
 Hess, Paul J., and Seyler. 3,094,298.  
 Hicks, William R., and Oehlbeck. 3,071,899.  
 Hill, Edward. 3,097,417.  
 Hilliker, Donald E. 3,070,852.  
 Hoag, Yates M. 3,115,381.  
 Hobson, Charles F., Jr. 3,116,388.  
 Hobson, Charles F., Jr., and Murphy. 3,110,848.  
 Hodge, William F. 3,073,986.  
 Hoehn, Walter G., Forslund, and Fulton. 3,073,722.  
 Hoffman, Thomas R. 3,094,686.  
 Hoffmann, Daniel C. 3,113,245.  
 Holmes, Robert G. 3,114,820.  
 Hoppin, George S., III, and Schwegman. 3,073,269.  
 Horecky, Stanley V. 3,072,386.  
 Horton, Paul B., Funk, and Hill. 3,111,739.  
 Horvay, Julius B. 3,070,964.  
 Howell, Edward K. 3,080,491.  
 Howell, Louis J. 3,096,419.  
 Hsu, Hsiung. 3,090,012.  
 Hubbard, Leo J., Heckel, and Leyland. 3,103,355.  
 Huey, Norman E. 3,111,219.  
 Hughes, Stanley G. 3,105,385.  
 Hughes, Stanley G. 3,110,185.  
 Hull, Thomas N., Jr., and Le Bell. 3,094,309.  
 Humpage, Harold A., and Stegmaier. 3,075,164.  
 Hurko, Bohdan. 3,113,200.  
 Huschke, Ernst G. J., Mobley, and Blackham. 3,089,769.  
 Hutt, Philip. 3,091,671.  
 Hutt, Philip. 3,104,300.  
 Ingleson, James F. 3,085,398.  
 Ipsen, Peter G. 3,070,962.  
 Jacobs, Israel S., and Kouvel. 3,116,254.  
 Jacobsen, Edward H. 3,105,966.  
 Jakowatz, Charles V. 3,114,884.  
 Japka, Joseph E. 3,106,493.  
 Jasionowski, Walter J. 3,074,863.  
 Jencks, Charles L. 3,105,132.  
 Jenkins, Thomas E. 3,115,885.  
 Johnson, Frederic R. 3,100,251.  
 Johnson, Major A. 3,086,172.  
 Johnson, Robert R. 3,077,984.  
 Jones, Albert C., Lingel, and Troup. 3,085,168.  
 Jones, Dwight V. 3,075,136.  
 Jones, William H. 3,108,158.  
 Judd, Edwin B., and Hellar. 3,075,394.  
 Judd, Edwin B., and Young. 3,076,882.  
 Kamide, Harris P. 3,083,284.  
 Keeling, Kermit B., Sr. Re. 25,326.  
 Keiter, Robert W. 3,111,912.  
 Keiter, Robert W., and Nahigyan. 3,112,026.  
 Kelley, Fred W., Jr. 3,099,828.  
 Kelley, Fred W., Jr., Lezan, and Rettig. 3,086,129.  
 Kilburn, William C., and Somers. 3,114,825.  
 Kendt, Norman L. 3,096,125.  
 Kimball, Donald G. 3,071,659.  
 Kinkle, Robert A. 3,089,407.  
 Kirchner, Paul H. 3,098,929.  
 Kirkpatrick, George M. 3,112,452.  
 Kirkpatrick, William J., and Funston. 3,099,532.  
 Kitson, Harold, Jr., Marshall, and Mazanek. 3,079,519.  
 Klapproth, John F. 3,084,511.  
 Klein, Keith W., and Powell. 3,084,236.  
 Knowlton, James A., Jr., and Arndt. 3,109,931.  
 Kolbe, Carl L., and McKechnie. 3,078,197.  
 Koller, Lewis R. 3,081,201.  
 Kotheimer, William C. 3,079,533.  
 Kouvel, James S. 3,116,182.  
 Kurt, Howard D. 3,113,244.  
 Kutney, John T. 3,106,372.  
 Lafferty, James M. 3,087,092.  
 Lafferty, James M. 3,093,767.  
 Lafferty, James M. 3,109,115.  
 Lafferty, James M., and Vanderslice. 3,093,298.  
 Lafuze, David L. 3,110,857.  
 Landig, Thomas W., and Kiesler. 3,099,552.  
 Landolt, Paul H. 3,094,498.  
 Lane, Lawrence J. 3,095,510.  
 Laskowski, Edward. 3,113,244.  
 Latzer, Bruce B. 3,071,719.  
 Lawson, Gustaf R. 3,089,934.  
 Lawton, Elliott J., and Woodruff. 3,097,960.  
 Lee, Max M. 3,074,818.  
 Lee, Max M. 3,102,873.  
 Lee, Thomas H. 3,071,667.  
 Leeds, Laurance M. 3,114,844.  
 Lemmers, Eugene. 3,096,464.  
 Lemmers, Eugene. 3,098,945.  
 Leo, Robert E. 3,084,286.

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Leo, Robert E. 3,097,745.  
 Leschen, John G. 3,113,846.  
 Lester, Ronald H. 3,097,101.  
 Letteron, Henry A. 3,074,883.  
 Letteron, Henry A. 3,099,897.  
 Lewis, Franklin W. 3,113,175.  
 Lewis, Mayland P., Jr., and Swanson. 3,111,038.  
 Lewis, Paul, and Murray. 3,071,207.  
 Lewis, Paul, and Streifert. 3,090,656.  
 Lewis, Richard N. 3,114,759.  
 Lezan, Georges R. E. 3,095,513.  
 Liao, Tseng W. 3,086,424.  
 Libby, Henry T. 3,114,829.  
 Liebhafsky, Herman A., and Niedrach. 3,098,769.  
 Lind, James N. 3,086,181.  
 Lindstrom, Joubert, and Moore. 3,094,291.  
 Linkous, Clovis E. 3,113,230.  
 Loch, Joseph F. 3,086,511.  
 Lord, Harold W. 3,084,299.  
 Loudon, William C., and Homonnay. 3,088,201.  
 Lovinger, Daniel. 3,089,979.  
 Low, Frank D. 3,087,319.  
 Low, Frank D. 3,111,830.  
 Low, Frank D., and Raucher. 3,108,754.  
 Low, John R., Jr. 3,105,780.  
 Ludewig, Frederick A., Jr. 3,087,148.  
 Lukes, Robert M. 3,075,856.  
 Lustenader, Edward L., and Brown. 3,099,607.  
 Lynch, Edward I. 3,099,769.  
 Lynch, Edward I., and True. 3,098,896.  
 Lynch, Edward I., and True. 3,109,955.  
 Macintyre, John R., and Miller. 3,109,167.  
 Manfredi, Robert E. 3,082,339.  
 Manning, Ralph M. 3,097,270.  
 Manning, Ralph M., and Schultz. 3,075,636.  
 Manteuffel, Erich W. 3,076,924.  
 Manteuffel, Erich W. 3,088,065.  
 Manwarren, Thomas E. 3,076,157.  
 Marscher, William F. 3,084,510.  
 Martelock, Arthur C. 3,103,502.  
 Masters, William R., and Glenn. 3,072,779.  
 May, Howard F. 3,116,134.  
 Mayer, Charles B. 3,090,016.  
 McCary, Richard O. 3,079,541.  
 McClure, John L. 3,096,407.  
 McHugh, James D. 3,097,853.  
 McMillan, Stephen L. 3,100,030.  
 McNeir, George, and Oppel. 3,074,042.  
 Meahl, Harry R. 3,076,914.  
 Megantz, Samuel O., and Hopkins. 3,114,678.  
 Meiklejohn, William H. 3,116,255.  
 Merritt, Philip E., and Steele. 3,092,809.  
 Mets, Edwin J. 3,073,720.  
 Milford, Richard E. 3,092,732.  
 Milford, Richard E. 3,111,645.  
 Milford, Richard E. 3,112,469.  
 Miller, Blaine M., Jr., and Scheer. 3,112,916.  
 Miller, De Witt H. 3,098,965.  
 Miller, John W., and Nidenberg. 3,074,147.  
 Miller, Meritt L. 3,112,449.  
 Miller, William R. 3,092,769.  
 Millis, Walter T. 3,092,749.  
 Mittermaier, Armin F. 3,110,873.  
 Mobley, Paul R. 3,098,743.  
 Mobley, Paul R. 3,110,588.  
 Morey, Everett D., and Loeb. 3,114,253.  
 Morgan, Raymond E. 3,102,206.  
 Morris, Drew. 3,112,915.  
 Morris, William C. 3,092,758.  
 Morrison, Donald A. R. 3,090,472.  
 Mullaney, George J., and Kydd. 3,075,353.  
 Munz, Robert E., and Collins. 3,111,166.  
 Nasser, Mitchell. 3,084,702.  
 Navias, Louis. 3,083,123.  
 Netzler, Kenneth C., and Stillman. 3,085,917.  
 Neusbaum, Frank A. 3,089,980.  
 Newberry, Sterling P. 3,106,700.  
 Newell, James K., Jr. 3,099,259.  
 Newell, James K., Jr., Akers. 3,081,763.  
 Newhouse, David L. 3,110,636.  
 Newhouse, Vernon L. 3,088,040.  
 Newhouse, Vernon L., and Bremer. 3,076,102.  
 Newkirk, Arthur E. 3,079,226.  
 Newton, David L. 3,109,230.  
 Nichols, Frank S. 3,086,184.  
 Nickstadt, Gerhard A. 3,079,814.  
 Noel, Edward B., and Levand. 3,080,497.  
 Oatman, Thomas D., and Dixon. 3,112,386.  
 Ocko, Richard. 3,109,991.  
 Olashaw, William F. 3,086,191.  
 Oliphant, William J., and Cornell. 3,085,588.  
 Omohundro, William A. 3,095,496.  
 O'Neill, William C. 3,085,395.  
 Oppel, John A. 3,076,081.  
 Owens, Robert F. 3,073,116.  
 Paganini, Frank T. 3,102,409.  
 Parke, Robert M. 3,094,752.  
 Patterson, Herbert. 3,085,838.  
 Paynter, Donald A. 3,080,534.  
 Peaslee, Lawrence R. 3,082,331.  
 Pell, Erik M. 3,116,183.  
 Peppiatt, Harry J. 3,092,774.



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Ferkins, Donald W. 3,116,468.  
 Peterson, Eric O., and Cole. 3,087,136.  
 Petrie, Adolore F. 3,072,213.  
 Phaneuf, Edgar A. 3,072,938.  
 Pietsch, Joseph A. 3,071,079.  
 Pietsch, Joseph A. 3,077,080.  
 Polonsky, Samuel, and King. 3,101,586.  
 Popa, John. 3,077,570.  
 Powell, David B. 3,076,952.  
 Powell, David B. 3,104,297.  
 Prather, Marvin E. 3,091,682.  
 Precopio, Frank M., and Gilbert. 3,079,370.  
 Prener, Jerome S. 3,085,863.  
 Pringle, Ross A., and Wallace. 3,098,893.  
 Prober, Maurice. 3,078,292.  
 Prober, Maurice. 3,099,670.  
 Proffitt, Richard V. 3,088,396.  
 Propster, Charles H., Jr. 3,093,730.  
 Propster, Charles H., Jr. 3,098,221.  
 Proxmire, Harry J. 3,114,196.  
 Prucha, Richard V. 3,082,936.  
 Pulaski, John W. 3,089,202.  
 Rademaker, Leo C., and Dierstein. 3,074,149.  
 Rand, Albert. 3,080,709.  
 Reardon, John J., and Axelson. 3,105,331.  
 Redden, Thomas K. 3,085,006.  
 Rex, Charles H. 3,102,693.  
 Rhodes, John E. 3,091,107.  
 Rhodes, John E. 3,103,803.  
 Rich, Theodore A. 3,102,200.  
 Rinehart, Dean C. 3,109,297.  
 Robb, Walter L. 3,077,385.  
 Robb, Walter L. 3,115,393.  
 Roberts, John A. 3,071,722.  
 Roberts, John A. 3,076,139.  
 Rochow, Eugene G. 3,098,830.  
 Rohats, Nicholas, and Bhimani. 3,071,724.  
 Rood, Robert M., and Villers. 3,095,951.  
 Rose, Lloyd R. 3,073,952.  
 Rosenberg, Joseph. 3,098,054.  
 Rosenberg, Richard H., and Chipouras. 3,106,062.  
 Rosenberry, George M., Jr. 3,098,959.  
 Rowan, Hartley D., and Coughlin. 3,073,356.  
 Rowe, Brian H. 3,095,165.  
 Rowe, Raymond N. 3,099,504.  
 Rubio, Abdon, and Ernest. 3,084,343.  
 Rubio, Abdon, and Parent. 3,077,334.  
 Ruck, Vincent J., Jr., and Woolley. 3,103,692.  
 Ruediger, Bernat A. 3,109,759.  
 Ruscetta, Ralph A., and Richards. 3,114,085.  
 Russell, Edgar F. 3,103,605.  
 Saffire, Victor N. 3,095,317.  
 Safford, Moyer M., and Myers. 3,083,175.  
 St. Pierre, Philippe D. S. 3,115,698.  
 Saldi, Ideal T. 3,079,515.  
 Santeler, Donald J. 3,103,108.  
 Sasnett, Russell M. 3,116,123.  
 Sawada, Fred H. 3,104,304.  
 Schanz, Joseph L. 3,115,450.  
 Scheldorf, Owen H. 3,082,512.  
 Schlee, Matthew. 3,099,508.  
 Schmitt, Roland W., and Fiske. 3,088,077.  
 Schneider, Harold N., and Bogert. 3,110,790.  
 Scholefield, Clifford L. 3,087,125.  
 Schultz, Warner W. 3,094,621.  
 Schulz, Albert E., and Reich. 3,102,249.  
 Schumacher, Frank A. 3,083,248.  
 Schumacher, Frank A., and King. 3,111,814.  
 Schütze, Hans-Jürgen, and Kallweit. 3,097,112.  
 Scott, George A., and Williams. 3,099,471.  
 Scuitto, Thomas J. 3,110,865.  
 Seal, John D. 3,072,129.  
 Seavey, Alton W. 3,084,852.  
 Seaward, Carl R. 3,113,094.  
 Seeley, Harold T. 3,088,066.  
 Sees, Myron M. 3,083,863.  
 Shartrand, Allan C., and Otteson. 3,091,710.  
 Sheldon, Luther M., and Lawson. 3,109,079.  
 Shell, Ernest F., and Pressley. 3,071,329.  
 Shelton, Winston L. 3,108,774.  
 Shipley, Eugene E. 3,076,428.  
 Shipley, Eugene E. 3,100,991.  
 Shipley, Eugene E., and Sorensen. 3,070,979.  
 Sholtes, George T. 3,091,675.  
 Silvester, Austin G. 3,113,083.  
 Simon, James P. 3,084,907.  
 Simpson, James W., Jr., and Arnold. 3,092,071.  
 Sindy, Clarence F. 3,098,335.  
 Sindy, Clarence F., and Kolda. 3,084,721.  
 Sisler, Robert R. 3,092,230.  
 Sjoström, John S. 3,105,935.  
 Skala, George F. 3,094,392.  
 Skala, George F. 3,102,192.  
 Skiff, Russell A. 3,073,799.  
 Slauson, Dudley B. 3,102,957.  
 Sleeper, David P. 3,072,452.  
 Smialek, Leon J. 3,085,171.  
 Smith, David I. 3,093,399.  
 Smith, Jack. 3,098,180.  
 Smith, Sidney R., Jr. 3,089,936.  
 Smith, Sidney R., Jr. 3,112,353.  
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 Solley, Douglas A., Jr. 3,111,817.  
 Solomon, Michael M. 3,098,833.  
 Soltys, Theodore J. 3,110,849.  
 Somerville, Gareth G., and Blasioli. 3,113,375.  
 Sonder, Gerhard, and Leis. 3,085,400.  
 Spacil, Henry S., and Tragert. 3,109,118.  
 Spalaris, Constantine N. 3,088,893.  
 Speaker, Lawrence W. 3,079,767.  
 Speaker, Lawrence W. 3,089,314.  
 Spencer, John H. 3,113,995.  
 Spencer, John H., and Brackett. 3,076,167.  
 Spencer, Robert C., Jr., and Eggenberger. 3,098,190.  
 Spofford, Warren A. 3,111,010.  
 Stachowiak, Frank R., and Szeremy. 3,096,397.  
 Stamets, Richard J. 3,114,087.  
 Stephens, Carl J. 3,115,916.  
 Stern, Ernest. 3,082,383.  
 Sternlicht, Beno. 3,110,085.  
 Sternlicht, Beno. 3,110,525.  
 Sternlicht, Beno. 3,110,526.  
 Sternlicht, Beno. 3,110,828.  
 Stiner, James E., and Dullmeyer. 3,098,685.  
 Stirgwoit, Ted F., and Edkins. 3,088,694.  
 Stone, Aidan M. 3,075,296.  
 Stone, Aidan M. 3,096,164.  
 Stone, Aidan M. 3,098,726.  
 Stone, Aidan M. 3,112,187.  
 Stone, George M. 3,102,940.  
 Strong, Herbert M. 3,088,170.  
 Suits, Chauncey G. 3,106,080.  
 Swanson, Roger W. 3,076,151.  
 Swetlitz, Myron. 3,083,286.  
 Szalay, Istvan, and Etherington. 3,112,457.  
 Tassie, Douglas P., and Wetzel. 3,115,062.  
 Tatge, Robert B. 3,101,889.  
 Taub, Alvin, Feldman, and Le Bell. 3,098,352.  
 Taylor, Clement F. 3,084,544.  
 Taylor, Clement F., Macintyre, and Oakley. 3,110,180.  
 Tehon, Stephen W. 3,097,264.  
 Thomas, William A. 3,112,885.  
 Thompson, Paige W., and Bacławski. 3,109,947.  
 Thor, Robert C., and Webb. 3,080,559.  
 Tiemann, Jerome J. 3,083,319.  
 Tiemann, Jerome J. 3,097,311.  
 Tiemann, Jerome J. 3,104,352.  
 Tiemann, Jerome J. 3,116,459.  
 Tillson, Robert S. 3,114,024.  
 Titterington, William A., and Blackmer. 3,098,768.  
 Toma, John W. 3,080,742.  
 Townsend, George R. 3,076,073.  
 Tragert, William E., and Gatti. 3,078,553.  
 Truesdell, Francis W., and Faus. 3,112,069.  
 Tupper, Myron D. 3,109,684.  
 Vallino, Dominic J. 3,084,113.  
 Vanderslice, Thomas A. 3,080,104.  
 Van Luik, Frank W., Jr. 3,079,787.  
 Van Luik, Frank W., Jr. 3,111,844.  
 Varadi, Louis E., Bourque, and Judge. 3,107,897.  
 Varadi, Louis E., Bourque, and Pesarek. 3,098,355.  
 Varga, Joseph J. 3,100,413.  
 Vermeulen, William. 3,100,822.  
 Vigour, Hervey E. 3,083,323.  
 Vodicka, Vincent. 3,080,243.  
 Von Hoorn, Fred G., and Sheldon. 3,089,937.  
 Wagner, Burton F. 3,112,471.  
 Wagner, James B., and Straney. 3,091,933.  
 Waite, David P. 3,098,215.  
 Walker, Chapman J. 3,097,152.  
 Walter, John L. 3,105,781.  
 Walter, John L. 3,105,782.  
 Ward, Howard C., Jr. 3,075,103.  
 Watters, Robert L. 3,076,944.  
 Watters, Robert L. 3,081,436.  
 Watters, Robert L. 3,092,784.  
 Watters, Robert L. 3,111,592.  
 Webb, Herbert J. 3,111,609.  
 Weiner, Albert P. 3,094,098.  
 Weir, Alex F. 3,075,323.  
 Welch, Stanley B. 3,094,605.  
 Welch, Stanley B. 3,116,398.  
 Wellinger, Roger P. 3,090,881.  
 Wentorf, Robert H., Jr. 3,078,232.  
 Wentorf, Robert H., Jr. 3,088,169.  
 Werts, Everett W. 3,105,919.  
 Wesolowski, Adolph J. 3,073,976.  
 Wesolowski, Adolph J. 3,106,654.  
 Wesolowski, Adolph J., and Penn. 3,071,846.  
 Westbrook, John H., and Stover. 3,091,028.  
 Wheeler, Charles M., and Folger. 3,089,971.  
 Whipple, Richard E. 3,114,081.  
 Wiley, Emmett H. 3,093,430.  
 Willis, Robert J., Jr. 3,094,967.  
 Willis, Robert J., Jr. 3,111,111.  
 Willis, Robert J., Jr., and Sorensen. 3,083,680.  
 Willis, Winfield H., Loudon, and Malm. 3,113,010.  
 Willyoung, David M. 3,098,941.  
 Willyoung, David M., and Becker. 3,075,104.  
 Winfield, William S., and Muschamp. 3,098,208.  
 Wirt, Harrison L. 3,097,767.  
 Woestemeyer, Francis B. 3,074,435.  
 Wolf, Irving W., and White. 3,081,210.



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 Wolff, George M., and Lasak. 3,109,461.  
 Woodward, Stewart A. 3,095,756.  
 Woolley, Samuel J., and Padgett. 3,082,678.  
 Wormser, Alexander F., and Lynch. 3,111,032.  
 Worthington, Peter L. 3,110,793.  
 Wray, Robert L., Jr. 3,085,145.  
 Wright, Floyd H. 3,116,445.  
 Wright, John H. 3,103,491.  
 Yartz, Johnny W. 3,082,964.  
 Yartz, Johnny W. 3,112,077.  
 Yartz, Johnny W., and Clements. 3,108,755.  
 Yates, Charles G., Jr. 3,072,370.  
 Yerman, Alexander J., and Bloomer. 3,085,431.  
 Yoder, Joe B. 3,079,774.  
 Zelina, William B. 3,077,549.  
 Zelina, William B. 3,105,186.  
 Ziegler, Edwin E. 3,102,551.  
 Zuerker, Siegfried J. 3,097,268.
- General Electric Co. Ltd., The: *See*—  
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 Boyland, Donald A. 3,108,955.  
 Breadner, Robert L. 3,107,757.  
 Brown, Allan, and Norreys. 3,088,900.  
 Brown, Eric. 3,082,952.  
 Burgess, Peter J. 3,090,116.  
 Busby, Terence S., and Davies. 3,088,898.  
 Cox, Harry A. 3,093,568.  
 Davidson, Hugh W. 3,104,159.  
 Davidson, Hugh W., and Ryde. 3,097,931.  
 Donelan, James A. 3,108,177.  
 Essam, Roy. 3,113,269.  
 Essam, Roy, Walsh, and Whiting. 3,099,794.  
 Fuller, Hubert D., and Sewell. 3,084,342.  
 Gardiner, Maurice. 3,096,493.  
 Gibbons, David J. 3,088,899.  
 Grant, Peter J. 3,081,248.  
 Harold, Arthur E., and Smith. 3,078,466.  
 Ingram, Derek G. W. 3,097,345.  
 Leakey, David M. 3,098,976.  
 Levy, Ralph. 3,081,438.  
 Newbery, Edward V. 3,107,278.  
 Rivington, Herbert L. 3,102,047.  
 Shepherd, Sydney A., and Woods. 3,095,913.  
 Smart, Norman C. 3,087,997.  
 Wayman, Cecil J. 3,099,830.  
 Williams, Michael. 3,095,319.
- General-Electro Mechanical Corp.: *See*—  
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- General Electronic Laboratories, Inc.: *See*—  
 Levine, Martin W. 3,090,920.  
 Moore, Richard K. 3,091,735.  
 Rullman, Robert G. 3,074,021.  
 Smollett, Roy J., Jr. 3,089,100.
- General Equipment Co.: *See*—  
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- General Fireproofing Co., The: *See*—  
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- General Fittings Co.: *See*—  
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- General Foam Plastics Corp.: *See*—  
 Chase, Ascher. 3,095,337.
- General Foods Corp.: *See*—  
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 Baldwin, Robert R., Lowry, Mezzino, and Ohan. 3,108,874.  
 Barnes, Harry M., Mitchell, and Kremzner. 3,086,370.  
 Bowden, Howard J., and Schwartzberg. 3,089,772.  
 Buehler, Karl, and Rollins. 3,101,761.  
 Cameron, John A. 3,074,099.  
 Cameron, John A. 3,109,191.  
 Cameron, John A. 3,112,584.  
 Clinton, William P., and Pitchon. 3,077,405.  
 Creegan, Robert M. 3,105,765.  
 Finucane, Thomas P., Mitchell, and Raymond. 3,096,179.  
 Graham, James V., Goodrich, and Miller. 3,094,059.  
 Green, Julius. 3,102,817.  
 Green, Julius, Morse, and Westfall. 3,095,326.  
 Green, Julius, and Smith. 3,094,947.  
 Green, Julius, Vanasse, Garner, and Scarpellino. 3,102,816.  
 Ishler, Norman H., MacAllister, Szczesniak, and Engel. 3,093,483.  
 MacAllister, Robert V., and Finucane. 3,102,031.  
 Miller, Frederick J. 3,086,867.  
 Mitchell, William A., and Studer. 3,077,411.  
 Oldershaw, Charles G. 3,079,964.  
 Perkovich, Mark J. 3,097,387.  
 Perkovich, Mark J., Wardwell, and Wolfe. 3,104,915.  
 Raffensperger, Stanley P., and Takashima. 3,108,002.  
 Rogers, William I. 3,099,562.  
 Rothmann, Harry E. 3,075,684.  
 Sarko, Anatole, Zeitlin, and Germino. 3,086,890.  
 Spotholz, Clifford H. 3,106,470.  
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 White, William V., Hamell, and Danielczik. 3,092,498.  
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- General Grid Corp.: *See*—  
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 Benson, John O. 3,077,406.  
 Brastad, William A. 3,071,304.  
 Chang, Robert W. H. 3,084,189.  
 Church, David A. 3,080,138.  
 Church, David A. 3,103,326.  
 Drobnick, James L., and Lewis. 3,083,076.  
 Freese, Royce G. 3,093,591.  
 Froehlich, Harold E. 3,104,641.  
 Fulmer, Richard W. 3,096,147.  
 Graber, Robert P., and Meyers. 3,085,090.  
 Graber, Robert P., and Meyers. 3,101,351.  
 Hamilton, Robert M. 3,087,839.  
 Harrison, Stuart A., McCaleb, and Ward. 3,073,864.  
 Hedin, Robert S. 3,109,545.  
 Hoffman, William J., and Pankow. 3,103,323.  
 James, Thomas R., Melton, and Hedin. 3,108,498.  
 Jordan, Wesley A. 3,084,057.  
 Kohl, Douglas A. 3,071,746.  
 Kozlik, Robert F. 3,093,484.  
 Lewis, Clifford J., and Drobnick. 3,083,085.  
 Long, George, Tsuchiya, and Hum. 3,101,853.  
 Melton, Donald F., and Froehlich. 3,099,913.  
 Mueller, Rolf K. 3,109,163.  
 Nelson, Leroy E., and Pankow. 3,103,330.  
 Ovrebo, Julian P., and Wood. 3,103,586.  
 Paschke, Raymond F. 3,098,806.  
 Pohl, Russell A. 3,092,359.  
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 Raabe, Herbert P. 3,098,229.  
 Rogier, Edgar R. 3,081,304.  
 Ryan, James J., and Neumeier. 3,075,192.  
 Simko, Edward G. 3,107,884.  
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 Allen, Robert C., Jr., and Mitter. 3,091,232.  
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 Amala, Raymond S. 3,108,341.  
 Amann, Charles A., Collman, Haushalter, Ricketts, Turunen, and Vickers. 3,095,700.  
 Amann, Charles A., and Scheel. 3,096,728.  
 Antonidis, John E., and Edmondson. 3,071,013.  
 Arlauskas, Alfonsas. 3,092,377.  
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 Armentrout, Everett C. 3,110,159.  
 Armentrout, Everett C., and Sucro. 3,113,818.  
 Aspinwall, Robert H. 3,090,597.  
 Baird, Donald R. 3,089,067.  
 Baker, Max P. 3,091,486.  
 Baldwin, Bryce R. 3,080,771.  
 Baldwin, Glenn A., Frame, and Maletzke. 3,092,420.  
 Barberis, Fortunato F. 3,090,200.  
 Barcus, Edward L. 3,073,920.  
 Barcus, Edward L. 3,073,921.  
 Barker, Harold E. 3,112,539.  
 Barnes, William E., and Zubaty. 3,073,178.  
 Bauman, Robert H. 3,114,439.  
 Beck, George W., Harris, Millhouse, and Moorman. 3,110,938.  
 Begeman, Charles R., and Williamitis. 3,092,981.  
 Behnke, Robert C., and Palmer. 3,073,292.  
 Bekkala, Ralph R., and Humphries. 3,103,209.  
 Bekkala, Ralph R., and Humphries. 3,109,417.  
 Beltz, John B. 3,073,647.  
 Bemmman, Richard W., and Turner. 3,088,337.  
 Berger, Werner W., Gwin, and Wood. 3,103,380.  
 Bernaden, Alex, Jr., Schmidt, and Quier. 3,114,084.  
 Bernard, James A. 3,082,933.  
 Berninger, Kenneth L. 3,092,090.  
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 Bertsche, Ralph H., Jr., Carlson, Hetzler, and Raver. 3,078,409.  
 Bevers, Eugene J., and Wente. 3,100,964.  
 Bidwell, Joseph B. 3,097,485.  
 Billings, Charles K., Alexander, and Harrold. 3,078,700.  
 Black, Robert L. 3,088,339.  
 Black, Robert L. 3,091,980.  
 Blackburn, Alan B. 3,077,026.  
 Blenman, William G. 3,104,675.  
 Blum, Fred E., and Hough. 3,103,483.  
 Bockemuehl, Robert R. 3,076,129.  
 Bockemuehl, Robert R. 3,085,237.  
 Bockemuehl, Robert R., and Hanysz. 3,073,522.  
 Bodem, Roy C., Brandes, Hirsch, McDonald, and Wood. 3,088,449.  
 Bohm, Walter F., and Holton. 3,112,541.  
 Bonewits, Robert P. 3,107,522.  
 Boretti, Napoleon P. 3,076,087.  
 Boretti, Napoleon P. 3,092,713.  
 Borman, August H., Jr., Cline, and Fiteny. 3,110,198.  
 Bowne, Charles P. 3,108,560.  
 Bowser, Phillip C., and Sihvonen. 3,077,028.  
 Boyd, David R., and Sihvonen. 3,073,011.  
 Boylan, Henry W., and Haight. 3,103,155.  
 Brady, William A., Jr. 3,081,736.  
 Brailowsky, Vladimir. 3,110,675.  
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 Bretzner, Hans S. 3,095,600.  
 Brock, Eugene W., and Onksen. 3,082,304.  
 Brooks, Frank W. 3,082,745.  
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 Brown, Arthur E., and Ehke. 3,092,167.  
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 Brown, Jack C. 3,077,128.  
 Brown, Richard C., and Saunders. 3,079,770.  
 Brown, William E. 3,115,328.  
 Brucken, Byron L. 3,080,874.  
 Brucken, Byron L. 3,087,321.  
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 Buchwald, Robert M. 3,090,368.  
 Buchwald, Robert M. 3,097,663.  
 Bullock, Norman J. 3,088,596.  
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 Burton, Robert W. 3,103,132.  
 Busch, Paul A., Mewhinney, and Wirtz. 3,072,349.  
 Bush, Jerome J. 3,077,874.  
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 Bush, Russell J. 3,095,994.  
 Buskirk, John E., and Childs. 3,092,520.  
 Butler, Martin R., Jr., and Tucker. 3,075,406.  
 Campbell, Edgar C., and Timpner. 3,103,210.  
 Candellise, Alfred. 3,073,289.  
 Candellise, Alfred. 3,076,113.  
 Candellise, Alfred. 3,113,232.  
 Caplan, Isadore, Ruffin, and Van Zile. 3,073,019.  
 Carlson, Wilbur L. 3,077,030.  
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 Carpenter, Arthur J., and Mackie. 3,107,383.  
 Carpenter, Tracy L. 3,112,947.  
 Castle, William S., and Minnich. 3,081,021.  
 Chaplin, Albin, and Reddy. 3,096,849.  
 Chapman, Charles S., Jr. 3,077,115.  
 Chapman, Charles S., Jr., and Craig. 3,075,408.  
 Chapman, Charles S., Jr., and Craig. 3,110,363.  
 Clason, Bertil H. 3,109,908.  
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 Christenson, Howard W., Fisher, and Mabley. 3,096,666.  
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 Collman, John S., Ricketts, and Turunen. 3,093,009.  
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 Davis, James E. 3,090,244.  
 De Beaubien, William J. 3,084,867.  
 De Beaubien, William J., and Flatt. 3,077,186.  
 Dega, Robert L. 3,073,033.  
 Dega, Robert L. 3,075,693.  
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 Dega, Robert L. 3,097,521.  
 Dega, Robert L. 3,104,463.  
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 De Hart, Arnold O. 3,115,034.  
 De Man, Heiko T. 3,080,840.  
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 Dew, Joseph H. 3,106,391.  
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 Dickey, Donald K., and Principe. 3,081,115.  
 Diehl, Gordon H. 3,102,530.  
 Dilworth, William G. 3,090,655.  
 Dison, James R., Johnson, and Jones. 3,081,097.  
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 Doerfner, William H. Re. 24,526.  
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 Downing, Kenneth D., Hall, and Poston. 3,115,401.  
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 Duer, Morris J. 3,081,648.  
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 Essenmacher, Ernest R. 3,096,643.  
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 Evernden, Harold I. F. 3,097,544.  
 Fales, Douglas I. 3,092,754.  
 Falk, Frank J. 3,112,820.  
 Ferkins, Russell C., and Meyer. 3,114,990.  
 Fierstine, Burton A. 3,108,830.  
 Fischer, Harold. 3,087,588.  
 Fiteny, Louis M. 3,081,837.  
 Flaherty, James H. 3,079,291.  
 Flanagan, Eugene E., and Zeek. 3,095,706.  
 Flanagan, Eugene E., and Zeek. 3,095,707.  
 Flatt, James H., and Guetersloh. 3,081,793.  
 Fleming, Jack A. 3,088,566.  
 Flynn, Gregory, Jr., and Percival. 3,080,706.  
 Fodrea, James W. 3,088,336.  
 Forbush, Lothrop M., Wolf, and Wood. 3,112,510.  
 Foust, Floyd J., Childress, and Snowden. 3,082,371.  
 Fowler, F. Robert J. 3,077,298.  
 Fox, William R., and Humphries. 3,088,446.  
 Frame, Thomas B., and Maletzke. 3,096,124.  
 Frame, Thomas B., and Maletzke. 3,103,194.  
 Frame, Thomas B., Maletzke, and Smith. 3,078,123.  
 Francis, Philip L. 3,106,387.  
 Frank, Bernard E. 3,091,848.  
 Fraylick, James A., Machek, and Stawinski. 3,077,251.  
 Fraylick, James A., Machek, and Stawinski. 3,115,225.  
 Frei, Arthur J. 3,093,980.  
 Fritz, William E., and Laviana. 3,108,216.  
 Fuller, William D. 3,110,425.  
 Furey, Patrick W. 3,074,372.  
 Gadd, Francis O., Sanderson, Kern, and Parshall. 3,104,746.  
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 Geyer, Howard M. 3,092,082.  
 Geyer, Howard M. 3,102,437.  
 Gibson, Frank M., and Schamel. 3,084,972.  
 Gilson, Joseph H., and Podolan. 3,097,883.  
 Gilvary, John J., Gore, Augenstein, and Randels. 3,097,717.  
 Gorsky, Rudolph J. 3,087,589.  
 Gorsky, Rudolph J. 3,087,590.  
 Gould, Richard E. 3,078,682.  
 Gould, Richard E. 3,102,395.  
 Gould, Richard E. 3,105,362.  
 Grabowski, Leonard R. 3,073,177.  
 Graham, Robert W. 3,077,206.  
 Graham, Robert W. 3,112,939.  
 Grahm, Edwin O., and Gelfand. 3,088,453.  
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 Gute, Loren R. 3,091,792.  
 Hagler, Norman R. 3,073,345.  
 Hallenbeck, Virgil R. 3,096,117.  
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 Hanley, George P. 3,106,195.  
 Hanley, George P. 3,110,195.  
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 Hansen, Kai H. 3,106,198.  
 Hanson, Robert S. 3,108,455.  
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 Harada, Henry H. 3,097,792.  
 Hardy, Alexander. 3,106,107.  
 Harmon, Kenneth B. 3,073,182.  
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 Harry, Gordon W. 3,096,748.  
 Harry, Gordon W. 3,106,104.  
 Harry, Gordon W. 3,115,031.  
 Hause, Gilbert K. 3,084,569.  
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 Hause, Gilbert K. 3,108,493.  
 Hause, Gilbert K. 3,108,668.  
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 Helgery, Ralph O. 3,073,978.  
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 Helvern, James O. 3,114,438.  
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 Henry, Donald J., and Lottridge. 3,075,847.  
 Herr, Lewis E. 3,101,126.  
 Hetzler, Lewis R. 3,098,964.  
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 Hill, Vernon L. 3,085,125.  
 Hines, Eugene W., and Hard. 3,081,139.  
 Hockaday, Beverly G., Grady, Short, and Bates. 3,091,295.  
 Hogsten, Leslie G. 3,093,389.  
 Hollenbaugh, William J., and Winter. 3,095,737.  
 Holzwarth, James C., and Ross. 3,077,659.  
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 Huboi, Karl A., Eicker, and Bonn. 3,081,643.  
 Hughel, Thomas J. 3,106,086.  
 Hulten, Richard E. 3,101,129.  
 Hulverson, Adrian F. 3,084,371.  
 Humphries, Harvey G. 3,115,304.  
 Hunsberger, John R., and Welch. 3,081,194.  
 Hyde, Arthur P. S. 3,103,180.  
 Ireland, Frank L., and Mangett. 3,085,035.  
 Isbell, Donald K., and Nagy. 3,102,608.  
 Jablonski, Francis E., and Leffert. 3,093,567.  
 Jacobs, James W. 3,070,971.  
 Jacobs, James W. 3,082,779.  
 Jacobs, James W. 3,084,520.  
 Jacobs, James W. 3,095,895.  
 Jacobs, James W. 3,115,565.  
 Jacobs, James W. 3,115,566.  
 Jacobs, James W., and Suttman. 3,078,858.  
 Jaffe, Lawrence L., and Wetzel. 3,092,469.  
 Jaquish, Paul E., Jr., and Rohde. 3,107,417.  
 Johnson, Marvin W., and Syrovoy. 3,077,735.  
 Johnson, Ralph S. 3,090,676.  
 Johnson, Ralph S. 3,097,074.  
 Johnson, Robert E., and Konopa. 3,082,461.  
 Johnson, Roy E. 3,090,646.  
 Johnston, John R. 3,076,107.  
 Johnstone, Theodore H. 3,096,112.  
 Jordan, Charles M., and Yee. 3,109,159.  
 Kalis, Edward R. 3,101,065.  
 Kantar, Raymond G. 3,103,800.  
 Karlgaard, Wayne A. 3,088,555.  
 Karlgaard, Wayne A. 3,093,891.  
 Karlgaard, Wayne A. 3,098,546.  
 Kast, Howard B. 3,073,329.  
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 Keightley, Earl E. 3,084,866.  
 Kell, Nathaniel B. 3,105,558.  
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 Kelley, Douglas M. 3,073,045.  
 Kelley, Oliver K. 3,073,183.  
 Kelley, Oliver K. 3,075,691.  
 Kelley, Oliver K. 3,090,474.  
 Kelley, Oliver K. 3,108,667.  
 Kellogg, George E. 3,101,742.  
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 Kesling, Keith K. 3,077,644.  
 Kesling, Keith K. 3,078,003.  
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 Kevelin, Bruce E. 3,107,190.  
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 Kolbe, Adelbert E. 3,106,168.  
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 Konopa, Richard L. 3,087,090.  
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 Krautwurst, Homer V. 3,109,320.  
 Krebs, Henry. 3,075,405.  
 Kripke, Joseph B. 3,110,005.  
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 Krodol, Leander J. 3,090,125.  
 Kruger, Rine, Jr. 3,092,438.  
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 Lahr, Gilbert M. 3,095,948.  
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 Laviana, Donald W. 3,095,635.  
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 Lawless, Norman D. 3,084,556.  
 Leland, Robert W. 3,095,531.  
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 Lerg, William A. 3,115,349.  
 Leslie, James D. 3,091,796.  
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 Lindsay, John D. 3,077,253.  
 Lohr, Thomas E. 3,073,180.  
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 Long, George B. 3,081,554.  
 Long, George B. 3,088,291.  
 Long, George B. 3,110,170.  
 Long, Paul J., Jr., Schmitz, and Griffith. 3,104,119.  
 Lottridge, Neil M., Jr., and McCullough. 3,115,414.  
 Louthan, Chester F. 3,082,511.  
 Louton, James C., Jr., and Semar. 3,077,125.  
 Luechauer, Holle C. 3,113,110.  
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 Lystad, Leonard A. 3,077,628.  
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 Mackie, Harry A. 3,106,261.  
 Malone, James D., and Runft. 3,077,577.  
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 Markey, Francis J. 3,084,535.  
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 Marks, Craig, and Wyczalek. 3,095,865.  
 Martin, John C., Brubaker, Bullock, and Stutrud. 3,091,108.  
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 McDaniel, Donald W. 3,081,117.  
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 McEwen, John C. 3,101,222.  
 McKellar, Malcolm R. 3,106,263.  
 McMichael, John D. 3,108,065.  
 McMurray, Eugene C., and Harada. 3,087,340.  
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 Menk, Melvin A. 3,071,864.  
 Merkle, Ralph H. Re. 25,480.  
 Meyer, Barthold F., and Schaad. 3,110,380.  
 Meyer, Engelbert A. 3,073,368.  
 Meyer, Engelbert A. 3,080,629.  
 Meyer, Engelbert A. 3,103,265.  
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 Mick, Stanley H. 3,078,079.  
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 O'Connell, John J. 3,070,973.  
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 Probst, Delbert C. 3,093,404.  
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 Rembold, Charles E. 3,096,629.  
 Rice, Lyman A. 3,114,862.  
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 Schaeffer, Marvin G. 3,074,004.  
 Schauer, George W., Jr. 3,077,529.  
 Schauer, George W., Jr. 3,093,722.  
 Schjolin, Hans O. 3,075,685.  
 Schjolin, Hans O. 3,102,398.  
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 Schlotterbeck, Earl S. 3,084,521.  
 Schultz, Raymond F., O'Toole, and Widdowson. 3,107,503.  
 Schultz, Werner F., and Herridge. 3,110,780.  
 Schultze, Harold E. 3,086,622.  
 Schultze, Harold E. 3,090,611.  
 Schulze, Carl. 3,110,191.  
 Shutt, William M., Jr. 3,110,166.  
 Schwartzwalder, Karl. 3,104,917.  
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 Schwarz, Adolf. 3,092,322.  
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 Short, Brooks H. 3,072,824.  
 Short, Brooks H. 3,086,144.  
 Short, Brooks H., and Konopa. 3,087,001.  
 Shutts, Leroy W. 3,075,352.  
 Skronek, Robert E., Tuttle, and Mellan. 3,104,471.  
 Slivik, Richard M. 3,093,415.  
 Slomka, Leon F. 3,110,260.  
 Smiley, James O. 3,087,814.  
 Smith, Frank E. 3,093,050.  
 Smith, Robert. 3,071,937.  
 Smith, Robert. 3,088,294.  
 Snyder, Benjamin N., Krautwurst, McDonnell, and Williams. 3,107,762.  
 Snyder, Kenneth E. 3,081,854.  
 Snyder, Kenneth E. 3,090,251.  
 Somers, Arthur V. 3,088,832.  
 Sones, William L. 3,072,840.  
 Spreitzer, William M., Tipping, Fisher, Copeland, and Alexander. 3,093,010.  
 Stankiewicz, Stanley. 3,078,111.  
 Steinhagen, William K. 3,075,686.  
 Stephenson, Clair D. 3,073,451.  
 Stevens, Bryce L. 3,098,209.  
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- Gerbino, Anthony J., to American Can Co. Carton. 3,081,017, 3-12-63, Cl. 229-39.
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- Gerdeman, Dale B. Symmetrical coupling having interlocking lugs. 3,092,403, 6-4-63, Cl. 285-86.
- Gerdas, Claus-Holmer. Mixing valve. 3,098,508, 7-23-63, Cl. 137-637.4.



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- Gerecke, Max: *See*—Brossi, Arnold, Gerecke, and Kyburz. 3,114,753.
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- Gerhardt, Andrew H., and W. P. Yanik, to American Motors Corp. Washing machine having a filter. 3,086,380, 4-23-63, Cl. 68-17.
- Gerhardt, Carl N.: *See*—Kennard, Dwight C., Jr., and Gerhardt. 3,111,074.
- Gerhardt, Carl W. Apparatus for measuring corrosion rates. 3,112,641, 12-3-63, Cl. 73-86.
- Gerhardt, Richard E.: *See*—Stec, Joseph P., Gerhardt, and Lynch. 3,108,338.
- Gerhold, Clarence G., to Universal Oil Products Co. Catalytic converter-muffler. 3,113,000, 12-3-63, Cl. 23-288.
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- Gerin, Jacques J.-M. J. Shock-resisting motor vehicles. 3,098,675, 7-23-63, Cl. 296-28.
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- Gerkens, Dirk R. d'A. Process for producing an expanded foodstuff. 3,076,711, 2-5-63, Cl. 99-100.
- Gerlach, John R., to The American Hardware Corp. Knob construction for cylinder locks. 3,077,100, 2-12-63, Cl. 70-224.
- Gerlach, Rudolph H., to Beteiligungs- und Patentverwaltungs-gesellschaft mit beschränkter Haftung. Method of recovering iron from reduced ores. 3,103,315, 9-10-63, Cl. 241-14.
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- Germann, Werner, to Doleo S.A. Writing or painting substance for ball point pens and similar devices. 3,074,800, 1-22-63, Cl. 106-22.
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- Germano, Charles E. Self-contained measuring and dispensing spout. 3,077,213, 2-12-63, Cl. 141-358.
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- Germen, Ustun, to Radio Corp. of America. Control apparatus. 3,092,254, 6-4-63, Cl. 211-1.5.
- Germer, John H., to General Electric Co. Liquid moderated vapor superheat reactor. 3,085,959, 4-16-63, Cl. 204-193.2.
- Germeshausen, Kenneth J., to Edgerton, Germeshausen & Grier, Inc. Gaseous-discharge device. 3,075,114, 1-22-63, Cl. 313-42.
- Germino, Felix J.: *See*—Sarko, Anatole, Zeitlin, and Germino. 3,086,890.
- Gernet, Hermann. Spectacles for the correction of visual defects, such as especially of one-sided weakness of vision. 3,074,397, 1-22-63, Cl. 128-76.5.
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- Gerou, Kenneth J. Cargo carrier. 3,101,958, 8-27-63, Cl. 280-423.
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- Gerow, Milo R. Extrusion machines and methods for tubing and sheeting. 3,084,386, 4-9-63, Cl. 18-14.
- Gerrard, Fred: *See*—D'Antonio, Renato A., and Gerrard. 3,100,293.
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- Gersbach, Wilhelm, to Clevite Corp. Dicing semiconductor crystals. 3,081,586, 3-19-63, Cl. 51-283.
- Gersch, William R. Modular display racks. 3,115,106, 12-24-63, Cl. 20-52.
- Gershen, Irvin J., to Johnson & Johnson. Tape dispenser. 3,102,671, 9-3-63, Cl. 225-43.
- Gershen, Irvin J., and A. L. Krebs. Pilfer proof cap for aerosol containers. 3,097,758, 7-16-63, Cl. 220-27.
- Gersic, John J., N. L. Malakoff, L. B. Nelson, and H. T. Van Horn, to Socony Mobil Oil Co., Inc. Dewaxing and deoiling process. 3,083,154, 3-26-63, Cl. 208-31.
- Gerst, Chris, to Dana Corp. Power transmission. 3,077,116, 2-12-63, Cl. 74-15.86.
- Gerst, Chris, to Dana Corp. Multiple speed forward and reverse transmission. 3,102,432, 9-3-63, Cl. 74-360.
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- Gerster, Charles W., and H. Pearce, to Ferro Corp. Apparatus for shaping pressure-shapable materials. 3,097,411, 7-16-63, Cl. 25-45.
- Gerstine, Milton I., to The Boeing Co. Automatic trim actuator system. 3,099,421, 7-30-63, Cl. 244-17.13.
- Gerteis, Karl M., to Carrier Corp. Compressor muffler construction and method for muffling compressor discharge gases. 3,109,584, 11-5-63, Cl. 230-232.
- Gerteis, Karl M., to Carrier Corp. Refrigerant flow distribution means. 3,110,162, 11-12-63, Cl. 62-196.
- Gertler, Samuel I., dedicated to the Public. Nematocidal haloalkyl acid ester. 3,084,094, 4-2-63, Cl. 167-22.
- Gertsch, Georges-Albert, to Micafil A.-G. Circuit arrangement for avoidance of oscillations due to iron saturation of capacitative voltage transformers. 3,111,619, 11-19-63, Cl. 323-61.
- Gervasi, Jay A.: *See*—Bauer, William H., Jr., and Gervasi. 3,075,939.
- Gervias, Ch., Societe Anonyme: *See*—Berge, Jacques M. A. C. 3,085,333.
- Gerwick, Ben C., Inc.: *See*—Gerwick, Ben C., Jr. 3,103,238.
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- Geschwender, Robert C., to Lancaster Research and Development Corp. Rotary internal combustion engine. 3,074,387, 1-22-63, Cl. 123-16.
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- Geshner, Robert A., to Western Electric Co., Inc. Encapsulated electric component assembly. 3,098,950, 7-23-63, Cl. 317—101.
- Geiske, William C. Marine drive assembly. 3,071,194, 1-1-63, Cl. 170—156.
- Gesman, Jorden, to General Electric Co. Filter fan. 3,071,914, 1-8-63, Cl. 55—274.
- Gesmar, Jorgen, to General Electric Co. Window filter fan. 3,081,690, 3-19-63, Cl. 98—94.
- Gessler, Albert E., and W. H. Van Kirk, to Interchemical Corp. Metallic inks and pigment for use therein. 3,074,801, 1-22-63, Cl. 106—30.
- Gessler, Albert M., and W. J. Sparks, to Esso Research and Engineering Co. Composition comprising aggregate, rubber and a steam-cracked petroleum resin. 3,093,601, 6-11-63, Cl. 260—5.
- Gessler, Albert M., and W. J. Sparks, to Esso Research and Engineering Co. Paving with polymer-bonded aggregates. 3,112,681, 12-3-63, Cl. 94—7.
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- Gesting, Peter P.: *See*—  
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- Gettelman, Gilbert C.: *See*—  
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- Gettinger, Lillian, to André Fantasies, Inc. Head covering. 3,105,242, 10-1-63, Cl. 2—174.
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- Getz, Harry W., and D. A. Chisholm. Vacuum pulsator control valve. 3,084,714, 4-9-63, Cl. 137—589.
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- Gex, Virgil E.: *See*—  
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- Ghee, Elliott L. Beverage can holder. 3,103,295, 9-10-63, Cl. 220—85.
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- Giacoia, Dante, to Fiat Societa per Azioni. Rear-engined motor vehicles having air-cooled engines. 3,096,843, 7-9-63, Cl. 180—54.
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- Giannino, Amedeo W. Oil level warning devices. 3,098,914, 7-23-63, Cl. 200—138.
- Giannuzzi, George A., to International Business Machines Corp. Tape feed mechanism. 3,092,295, 6-4-63, Cl. 226—49.
- Gianukos, James V., to Goodman Mfg. Co. Multiple rope slide frame conveyor. 3,077,258, 2-12-63, Cl. 198—192.
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- Gibbs, John D., and F. E. Smith, to Chicago Bridge and Iron Co. Pressure door locking device. 3,113,352, 12-10-63, Cl. 20—16.
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- Gibbs, Thomas B. 3,103,570.
- Gibbs, Thomas B. 3,109,341.
- Gibbs, Thomas B., and Krug. 3,078,753.
- Krug, William H. 3,073,204.
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- Gibbs, Thomas B., to Gibbs Mfg. & Research Corp. Stop switch. 3,103,570, 9-10-63, Cl. 200—172.
- Gibbs, Thomas B., to Gibbs Mfg. & Research Corp. Key switch. 3,109,341, 11-5-63, Cl. 84—423.
- Gibbs, Thomas B., and W. H. Krug, to Gibbs Mfg. & Research Corp. Swell control. 3,078,753, 2-26-63, Cl. 84—127.
- Gibbs, William B., C. V. Wahl, and D. H. Wenny, Jr.: *See*—Gibbs assor. to Western Electric Co., Inc., and said Wahl and said Wenny assors. to Bell Telephone Laboratories, Inc. Processing of soft magnetic materials. 3,086,280, 4-23-63, Cl. 29—155.5.
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- Gibbs, Winfield S., to The Budd Co. Turnover apparatus and method of use. 3,083,840, 4-2-63, Cl. 214—1.
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- Gibeault, Robert N. Expandable finger ring having apertured shank. 3,077,750, 2-19-63, Cl. 63—15.5.
- Gibney, Robert D., to Amsted Industries, Inc. Method of making a slack adjuster nut. 3,113,378, 12-10-63, Cl. 29—525.
- Gibola, Joseph: *See*—Munro, William D., Barker, Ellis, and Gibola. 3,083,289.
- Gibson, C. R., & Co., The: *See*—Bowman, Robert G. 3,104,011.
- Gibson, Christian D., to The Raymond Corp. Lift truck reach mechanism. 3,082,894, 3-26-63, Cl. 214—730.
- Gibson, Clyde M., and H. C. De Vore. Dental articulator. 3,073,030, 1-15-63, Cl. 32—32.
- Gibson, Colin C., and W. A. Spinks. Folding chair. 3,071,409, 1-1-63, Cl. 297—45.
- Gibson, Dale C.: *See*—Rehman, Irving, and Gibson. 3,108,282.
- Gibson, Daniel L., to The Dow Chemical Co. Gelling hydrocarbon liquids. 3,097,169, 7-9-63, Cl. 252—8.55.
- Gibson Electric Co.: *See*—Gwyn, Childress B., Jr., and Hoyer. 3,078,562.
- Gibson, Frank M., and C. H. Schamel, to General Motors Corp. Automotive body shroud and rocker panel construction. 3,084,972, 4-9-63, Cl. 296—28.
- Gibson, Fred M., and W. E. Preston. Applying tool for spring-loaded fasteners. 3,073,474, 1-15-63, Cl. 218—19.
- Gibson, George T., to John Gibson & Son, Ltd. Refuse-collecting vehicles. 3,104,021, 9-17-63, Cl. 214—503.
- Gibson, Gordon, W. C. Jordan, and E. J. Lauer, to United States of America, Atomic Energy Commission. Apparatus for trapping energetic charged particles and confining the resulting plasma. 3,085,173, 4-9-63, Cl. 313—161.
- Gibson, Gordon P., and J. G. Schwarckopf, to Westinghouse Electric Corp. Protector for dynamoelectric machines. 3,079,524, 2-26-63, Cl. 318—473.
- Gibson, Henry C., Jr.: *See*—Cohen, Martin J., and Gibson. 3,091,463.
- Payne, Robert E., Cohen, and Gibson. 3,092,723.
- Gibson, Henry T. Electric drill and power tool support. 3,071,988, 1-8-63, Cl. 77—6.
- Gibson-Homans Co., The: *See*—Wormser, Eric S., Ankney, and Hirschman. 3,075,675.
- Gibson, Howard B.: *See*—Martin, Harold B., Gibson and O'Loughlin. 3,102,311.
- Gibson, James: *See*—Billett, Michael G., and Gibson. 3,113,054.
- Gibson, James E., Jr. Valve means for inflatable articles. 3,100,498, 8-13-63, Cl. 137—223.
- Gibson, James E., Jr. Spinning top toy assembly. 3,110,125, 11-12-63, Cl. 46—66.
- Gibson, James O.: *See*—Sheer, Charles, Korman, and Gibson. 3,101,308.
- Gibson, John, & Son, Ltd.: *See*—Gibson, George T. 3,104,021.
- Gibson, John C., and T. L. Bowers, to International Telephone and Telegraph Corp. Combined switching and adjusting system. 3,110,885, 11-12-63, Cl. 340—147.
- Gibson, Joseph W., Jr., to E. I. du Pont de Nemours and Co. Multilobal textile filaments having controlled uniform twist and fabrics prepared therefrom. 3,109,278, 11-5-63, Cl. 57—140.
- Gibson, Levi D. Crane attachment for bumper jacks. 3,081,064, 3-12-63, Cl. 254—2.
- Gibson Mfg. Co.: *See*—Gibson, Richard R., and Rhoad. 3,075,072.
- Gibson, Richard R., and G. C. Rhoad, to Gibson Mfg. Co. Fluorescent lighting fixtures. 3,075,072, 1-22-63, Cl. 240—51.11.
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- Gibson, William D., to White-Rodgers Co. Space temperature control. 3,096,935, 7-9-63, Cl. 236—1.
- Gicanov, Rada R. Thermal expansible wire switch device. 3,113,192, 12-3-63, Cl. 200—113.
- Giddey, Claude R., to Koopmans Meelfabrieken N.V. Process for the production of ready-for-use soups and sauces in powdered form and the resulting product. 3,116,151, 12-31-63, Cl. 99—124.
- Giddings & Lewis Machine Tool Co.: *See*—Kilroy, Henry P., and McDonough. 3,078,400.
- Reichert, Charles L., and Lehmkühl. 3,078,741.
- Wagner, Elmer K. 3,090,266.
- Younkin, George W. 3,101,436.
- Giddings, Ronald W., and A. C. Davies, to Lever Brothers Co. Interesterification process. 3,095,431, 6-25-63, Cl. 260—410.7.
- Giddings, Sydney A.: *See*—Malley, Thomas J., Cosway, and Giddings. 3,101,999.
- Malley, Thomas J., De Lapp, Giddings, and Cosway. 3,102,000.
- Gideon, Victor W.: *See*—Thompson, Arnold M., and Gideon. 3,091,134.
- Gidley, John L., P. H. Monaghan, and G. K. Dumbauld, to Jersey Production Research Co. Drilling fluid and drilling therewith. 3,076,758, 2-5-63, Cl. 252—8.5.
- Giebel, Joseph: *See*—Temple, Robert, Giebel, and Temple. 3,111,927.
- Giedd, Gary R.: *See*—Behrnt, Marianne E., Giedd, Perkins, and Weed. 3,091,556.
- Gieffers, Ward J., to International Telephone and Telegraph Corp. Circuit for maintaining a load energized at decreased power following energization. 3,116,441, 12-31-63, Cl. 317—148.5.
- Giegel, Charles J.: *See*—Lichty, Paul E., and Giegel. 3,106,270.
- Giegerich, August, and R. Sievers, to Dr. Lehfeldt & Co., G.m.b.H. Ultrasonic machining. 3,091,060, 5-28-63, Cl. 51—59.
- Giel, George J., to Genisco, Inc. Multiplexer system. 3,108,267, 10-22-63, Cl. 340—364.
- Gienger, Edwin B., Jr.: *See*—Miller, Wilbur A., and Gienger. 3,079,643.
- Giepen Associates, Inc.: *See*—Giepen, Hubert M. 3,098,585.
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- Gier, John R., Jr. Method of making a heat exchanger cross tied pin assembly. 3,100,332, 8-13-63, Cl. 29—157.3.
- Gierhart, Melvin. Device for lifting a drum while controlling tilting thereof. 3,112,835, 12-3-63, Cl. 214—313.
- Giers, Alfred J. A.: *See*—Maus, Otfrid G. H., and Ciers. 3,098,391.
- Gierse, Heinz. Press for adhesively bonding soles to footwear. 3,078,483, 2-26-63, Cl. 12—37.
- Gies, Paul E., to Houdaille Industries, Inc. Linear hydraulic damper. 3,103,993, 9-17-63, Cl. 188—96.
- Giese, Constance R. Paperboard carton blanking dies and method of making same. 3,109,328, 11-5-63, Cl. 76—107.
- Giese, Elroy J.: *See*—Chernak, John A., and Giese. 3,094,145.



- Giese, Ralf, to Ford Motor Co. Seat back rest with adjustable spring rate. 3,095,188, 6-25-63, Cl. 267-89.
- Giesecke, Gerhard: *See*—  
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- Gieseke, Elmer W., to American Cyanamid Co. Process of recovering coal fines. 3,079,331, 2-26-63, Cl. 210-53.
- Giesen, Johann, and F. Müller, deceased (by G. Müller-Grunwaldt, administratrix), to Inventa A.G. für Forschung und Patentwertung. Process for the concentration of substances by absorption from solutions. 3,095,329, 6-25-63, Cl. 127-55.
- Gieske, William R.: *See*—  
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- Gieskieng, David H., to Allis-Chalmers Mfg. Co. Control system for automatically regulating cement kilns and auxiliary apparatus. 3,075,756, 1-29-63, Cl. 263-32.
- Giesking, Paul F., to Erie Mining Co. Automatic car dumping apparatus. 3,080,075, 3-5-63, Cl. 214-63.
- Giesler, Harold C., to Formica Corp. Devices for removing foreign particles simultaneously from two closely adjacent plane surfaces. 3,105,256, 10-1-63, Cl. 15-104.
- Giesler, Jerry: *See*—  
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- Giesse, Robert C., to American Machine and Metals, Inc. Filter. 3,075,646, 1-29-63, Cl. 210-391.
- Giesse, Robert C., to Ametek, Inc. Filter scraper. 3,080,064, 3-5-63, Cl. 210-396.
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- Giesendanner, Edwin R. Static electricity apparatus. 3,081,553, 3-19-63, Cl. 35-19.
- Giffen, James W., to Corning Glass Works. Pneumatic sheet molding apparatus. 3,114,620, 12-17-63, Cl. 65-145.
- Gifford, Guthrie W. Apparatus for use in setting up printing machinery. 3,090,129, 5-21-63, Cl. 33-184.5.
- Gifford, Robert T., to Vernay Laboratories, Inc. Method of making a rigid resilient tipped needle valve element. 3,090,108, 5-21-63, Cl. 29-156.7.
- Gifford, Robert T., to Vernay Laboratories, Inc. Rubber tipped needle valve. 3,090,596, 5-21-63, Cl. 251-333.
- Gifford, Donald O., to Automatic Electric Laboratories, Inc. Multivibrator and amplifier powered by pulsating D.C. 3,109,994, 11-5-63, Cl. 331-71.
- Gifford Dock & Development, Inc.: *See*—  
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- Giger, Adolph J., P. T. Hauri, R. W. McKenzie, and L. F. Staehler, to Bell Telephone Laboratories, Inc. Double circuit coaxial jack with automatic cross-connection upon plug removal and automatic termination of idle lines upon plug insertion. 3,109,997, 11-5-63, Cl. 333-8.
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- Gilbert, Alfred R., and F. M. Precopio, to General Electric Co. Irradiated filler-containing polyethylene. 3,084,114, 4-2-63, Cl. 204-154.
- Gilbert Associates, Inc.: *See*—  
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- Gilbert, Bruce, to The Western Co. of North America. Apparatus for initiating fractures in earth formations. 3,101,051, 8-20-63, Cl. 102-20.
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- Gilbert, George W., to United States of America, Navy. Weapon transfer dolly. 3,095,212, 6-25-63, Cl. 280-124.
- Gilbert, Herbert, and G. Eiseman. Universal orthopedic traction and holding device. 3,087,489, 4-30-63, Cl. 128-84.
- Gilbert, Jack J., to Swivelier Co., Inc. Swivel unit having split ball. 3,072,426, 1-8-63, Cl. 287-91.
- Gilbert, Jack J., to S. Adler. Infusion apparatus. 3,095,800, 7-2-63, Cl. 99-289.
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- Gilbert, Lewis F., to Ethyl Corp. Gasoline fuels. 3,113,005, 12-3-63, Cl. 44-69.
- Gilbert, Lyman F., to Bailey Meter Co. Control apparatus. 3,078,723, 2-26-63, Cl. 73-507.
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- Gilbert, Marcellus N., Jr., and E. H. Dodge, to Sylvania Electric Products Inc. Lamp sealing apparatus. 3,113,011, 12-3-63, Cl. 65-138.
- Gilbert, Nathan, to United States of America, Navy. Sensor apparatus for primary battery system. 3,107,184, 10-15-63, Cl. 136-86.
- Gilbert, Paul T., Jr., to Beckman Instruments, Inc. Pump for liquids. 3,112,882, 12-3-63, Cl. 239-273.
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- Gilbert, Roswell W., to Daystrom, Inc. Pulse-timed encoding apparatus. 3,074,057, 1-15-63, Cl. 340-347.
- Gilbert, Seymour G., and J. I. Mergy, to Milprint, Inc. Method and apparatus for treating plastic packaging materials and articles prepared thereby. 3,111,418, 11-19-63, Cl. 117-15.
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- Gilbert, William I., R. E. Kline, and C. W. Montgomery, to Gulf Research & Development Co. Process for preparing esters from olefins. 3,073,860, 1-15-63, Cl. 260-497.
- Gilbertson, Herman F. Replaceable shoe for scraper bowl edges. 3,088,232, 5-7-63, Cl. 37-141.
- Gilbertson, Theodore L. Explosion preventing means for coal stoves. 3,084,683, 4-9-63, Cl. 126-290.
- Gilbody, Roger W., and C. R. Walker, to Sanders Associates, Inc. Method for photographically producing electrical conductor patterns inside a hollow object. 3,080,232, 3-5-63, Cl. 96-35.
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- Gilbride, Andrew J., to United Shoe Machinery Corp. Toe lasting machines. 3,076,209, 2-5-63, Cl. 12-8.8.
- Gilchrist, Allan E., to The Glidden Co. Latex paint pigment and process. 3,093,603, 6-11-63, Cl. 260-17.
- Gilchrist, James R., to Truly-Magic Products, Inc. Method of making a cleaning pad. 3,073,716, 1-15-63, Cl. 117-43.
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- Gildard, James H., and R. D. Lemmerman, to Koppers Co., Inc. Acoustical panel. 3,078,948, 2-26-63, Cl. 181-33.
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- Gildard, James H., III, and R. D. Lemmerman, to Koppers Co., Inc. Panel for the reduction of sound transmission. 3,115,948, 12-31-63, Cl. 181-33.
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- Giles, John K., and E. W. Michener, 1/2 to R. A. Nash. Methods of training horses. 3,099,248, 7-30-63, Cl. 119-29.
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- Giles, Walter D. Tractor hitch. 3,081,827, 3-19-63, Cl. 172-677.
- Giles, William H., and A. R. Frank, to Nu Roll Corp. Web supplying and replacing apparatus. 3,072,354, 1-8-63, Cl. 242-58.4.
- Giles, William S., to Thompson Ramo Wooldridge Inc. Valve stem oil seal. 3,110,288, 11-12-63, Cl. 123-188.
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- Gill, Bernard J., to Kiwi Coders Corp. Printing wheel. 3,086,461, 4-23-63, Cl. 101-377.
- Gill, Donald W., to The Frank F. Taylor Co. Rollable baby jump seat. 3,083,050, 3-26-63, Cl. 297-16.
- Gill, Edwin R., Jr., to K. W. Flock. Traffic controllers. 3,105,954, 10-1-63, Cl. 340-41.
- Gill, Hedley, to The British Iron and Steel Research Assn. Rolling mills. 3,101,016, 8-20-63, Cl. 80-35.
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- Gill, Joseph, to Hagan Chemicals & Controls, Inc. Multiple range measuring system for non-linear input signals using feedback gain control means to provide a linear response. 3,090,916, 5-21-63, Cl. 324-115.
- Gill, Lester D., Box with self locking tab. Re. 25,449, 9-24-63, Cl. 229-17.
- Gill, Robert F., Jr., and P. G. S. Mero, to Victor Comptometer Corp. Recording device. 3,096,742, 7-9-63, Cl. 120-42.06.
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- Giller, Morris, and J. G. Neubert, to The Bendix Corp. Dual frequency feed horn. 3,100,894, 8-13-63, Cl. 343-756.
- Gillerman, Harvey M., to Shampaine Industries, Inc. Means and methods for electrically measuring the amount of oxygen in a gas. 3,076,929, 2-5-63, Cl. 324-36.
- Gilles, Juan E. Mechanical power transmissions. 3,083,803, 4-2-63, Cl. 192-60.
- Gillespie, Arthur S., Jr.: *See*—  
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- Gillespie, Howard L. Notched tillage disc with radially projecting teeth. 3,097,704, 7-16-63, Cl. 172-540.
- Gillespie, Paul M., to Thompson Ramo Wooldridge Inc. Reactive liquid expulsion device for fuel tanks. 3,083,870, 4-2-63, Cl. 222-1.
- Gillespie, Russell A., to Engineering Metal Products Corp. Curtain wall metal window frame. 3,077,962, 2-19-63, Cl. 189-75.
- Gillespie, William, to Mavor & Coulson Ltd. Cutter-loaders for mining minerals. 3,091,440, 5-28-63, Cl. 262-30.
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- Gilliland, Joe E., R. Ray, and W. E. White, to Ozark-Mahoning Co. Hydrogen fluoride detinning process and production of stannous fluoride. 3,097,063, 7-9-63, Cl. 23-88.
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- Gilliland, William L. Explosive cartridges and explosives. 3,103,882, 9-17-63, Cl. 102-24.
- Gillis, Edmund A., to The Cronite Co., Inc. Presses for printing engraved stationery. 3,094,927, 6-25-63, Cl. 101-322.
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- Gilman, Edward T., and G. E. Basile, to Putnam Rolling Ladder Co., Inc. Machine for the manufacture of rails used in ladders. 3,108,921, 10-29-63, Cl. 156-432.
- Gillman, Harold K., to The Allbright-Neil Co. Apparatus for slaughtering domestic animals. 3,106,744, 10-15-63, Cl. 17-1.
- Gillo, Leon, to Indalco, S.A. Esters of reserpilic acid. 3,104,243, 9-17-63, Cl. 260-294.3.
- Gillooly, George R., J. G. Rabatin, and T. C. Vincent, to General Electric Co. Preparation of halophosphate phosphor. 3,109,819, 11-5-63, Cl. 252-301.6.
- Gil-Mac Machine Co.: *See*—  
McCormick, Rayna H. 3,109,243.
- Gilman Brothers Co. The: *See*—  
Bickford, Warren H. 3,082,483.  
Kurhan, Maurice. 3,106,313.
- Gilman, David M. Pick-up mechanism. 3,079,148, 2-26-63, Cl. 271-27.
- Gilman, Henry: *See*—  
Tamborski, Christ, and Gilman. 3,079,414.  
Tamborski, Christ, and Gilman. 3,103,529.
- Gilman, Morris: *See*—  
Christianson, Charles, Gilman, and Maggio. 3,114,042.
- Gilmore, Frank C.: *See*—  
Rossi, Alfred J., Van Goey, and Gilmore. 3,076,982.
- Gilmore, John P., to Bell Telephone Laboratories, Inc. Variable reset time monostable multivibrator. 3,113,219, 12-3-63, Cl. 307-88.5.
- Gilmour, Robert A. Spraying device with dilution control. 3,090,564, 5-21-63, Cl. 239-318.
- Gilmour, Robert A. Spraying device. 3,112,884, 12-3-63, Cl. 239-318.
- Gilpatrick, Sherman R. Bed clothes holder. 3,109,181, 11-5-63, Cl. 5-320.
- Gildorf, Robert T., to E. I. du Pont de Nemours and Co. Preparation of organic titanates. 3,091,625, 5-28-63, Cl. 260-429.5.
- Gilson Bros. Co.: *See*—  
Ertsgaard, Byron L. 3,111,996.
- Gilson, Joseph H., and E. G. Podolan, to General Motors Corp. Convertible top. 3,097,883, 7-16-63, Cl. 296-137.
- Gilson, Paul R., and W. L. Kitchens, to Beckman Instruments, Inc. Circuit including an "AND" gate for pulsing a capacitive load. 3,114,054, 12-10-63, Cl. 307-88.5.
- Gilson, Robert J., to Charles Colston, Ltd. Dishwashing machines. 3,073,527, 1-15-63, Cl. 239-1.
- Gilson, Robert J., to Charles Colston Ltd. Liquid spray apparatus for dishwashing machines. 3,107,859, 10-22-63, Cl. 239-468.
- Gilson Screen Co. The: *See*—  
Cline, Robert A., and Tonjes. 3,071,969.  
Tonjes, Burl D., and Cline. 3,098,037.
- Gilvarry, John J., L. A. Gore, B. W. Augenstein, and W. C. Randels, to General Motors Corp. Automatic self-steering auxiliary for parking purposes. 3,097,717, 7-16-63, Cl. 180-1.
- Gilwood, Martin E.: *See*—  
Manchester, Donald F., Hossain, Gilwood, and Mindler. 3,083,078.
- Gimber, George A.: *See*—  
Tatnall, George J., Scarcelli, and Gimber. 3,093,808.
- Gimble, David C. Garment bag making equipment. 3,086,577, 4-23-63, Cl. 156-495.
- Gimble, John L., to Dairypak Butler, Inc. Reclosable carton. 3,101,883, 8-27-63, Cl. 229-51.
- Ginavén, Marvin E., to The Bauer Bros., Co. Peanut cooler. 3,079,705, 3-5-63, Cl. 34-174.
- Ginavén, Marvin E., to The Bauer Bros. Co. Cage assembly. 3,115,087, 12-24-63, Cl. 100-129.
- Ginavén, Marvin E., and A. H. Adams, to The Bauer Bros. Co. Impregnator. 3,085,623, 4-16-63, Cl. 162-236.
- Gindes, Philip, and A. S. Craig, to United Industrial Corp. Damped accelerometer. 3,078,724, 2-26-63, Cl. 73-516.
- Gindroz, Frank H., to Electronic Specialty Co. Electro-mechanical clutch. 3,104,337, 9-17-63, Cl. 310-78.
- Gingher, Carl E., and C. E. Gingher, Jr. Adjustable supporting surfaces. 3,100,572, 8-13-63, Cl. 211-153.
- Gingher, Carl E., Jr.: *See*—  
Gingher, Carl E., and C. E. Gingher, Jr. 3,100,572.
- Ginnette, Lewis F.: *See*—  
Graham, Robert P., Ginnette, and Morgan. 3,093,488.
- Ginocchio, Andre, to Commissariat a l'Energie Atomique. Shaft-sinking bar. 3,113,627, 12-10-63, Cl. 173-43.
- Ginsberg, Leon: *See*—  
Jacob, Albert H., and Ginsberg. 3,087,990.
- Ginsberg, Samuel J.: *See*—  
Blanford, George W. 3,089,168.
- Ginsburg, Abraham. Hypodermic needle. 3,099,988, 8-6-63, Cl. 128-221.
- Ginsburg, Martin J.: *See*—  
Bonarrigo, Paul J., and Ginsburg. 3,105,698.
- Ginsburgh, Irwin: *See*—  
Berg, William G., and Ginsburgh. 3,080,479.
- Ginsburgh, Irwin, and H. G. J. Myers, to Standard Oil Co. Protective housing for radioactive sources. 3,0085,157, 4-9-63, Cl. 250-106.
- Ginsling, Allen A.: *See*—  
Rorden, Robert J., and Ginsling. 3,073,164.
- Ginter, James C. Disposable brush for paint and the like. 3,105,263, 10-1-63, Cl. 15-244.
- Ginther, Robert J. Radiation sensitive glass. 3,097,172, 7-9-63, Cl. 252-301.4.
- Gintis, Daniel: *See*—  
Christens, John M., Gintis, and Kirkpatrick. 3,104,450.
- Ginzel, Günther: *See*—  
Hotop, Werner, Meese, Masjoshusmann, Böhle, and Ginzel. 3,097,598.
- Giolitti, Giovanni: *See*—  
Craveri, Renato, and Giolitti. 3,093,543.



- Giordano, Roger F. Shearing or bending presses. 3,109,476, 11-5-63, Cl. 153-21.
- Giordano, Salvatore, to United States of America, Atomic Energy Commission. Radio frequency attenuator. 3,110,872, 11-12-63, Cl. 333-81.
- Giovannoni, Bruno C., and J. P. Lavin. Dispensing device. 3,072,302, 1-8-63, Cl. 222-442.
- Giannucci, Julius L., to National Distillers and Chemical Corp. Heat treating articles wrapped in a metallic envelope. 3,092,524, 6-4-63, Cl. 148-13.
- Gipps, Louis H. F. P.: See—
- Ainsworth, John R., and Gipps. 3,102,467.
- Giraitis, Albert P.: See—
- Blitzer, Sidney M., Giraitis, and Zietz. 3,098,706.
- Johnston, James D., Shapiro, and Giraitis. 3,097,222.
- Giraitis, Albert P., J. D. Johnston, and H. Shapiro, to Ethyl Corp. Subdivided lead product. 3,085,319, 4-16-63, Cl. 29-101.2.
- Giraldi, Piernicola, D. Artini, and W. Logemann, to Carlo Erba S.p.A. Substituted triazines and process for their preparation. 3,074,943, 1-22-63, Cl. 260-247.2.
- Giraldi, Piernicola, and W. Logemann, to Carlo Erba, S.p.A. Benzylcarbinol-aminoacetates. 3,088,947, 5-7-63, Cl. 260-247.2.
- Girard, Andre, to Roussel-UCIAF S.A. Chemotherapeutic agents and processes for their production. 3,101,298, 8-20-63, Cl. 167-65.
- Girard, André G., to Roussel-UCLAF, S.A. Process of and composition for combating influenza virus and processes of preparing the active constituent thereof. 3,092,549, 6-4-63, Cl. 167-65.
- Girard, Peter F.: See—
- Armstrong, Ray W., Girard, and Clinkenbeard. 3,102,703.
- Girard, Theodore A., and W. A. Neumann, to Heyden Newport Chemical Corp. Production of polychlorobenzoic acid. 3,075,008, 1-22-63, Cl. 260-523.
- Girard Trust Corn Exchange Bank: See—
- Ruff, Charles F. 3,107,528.
- Girardot, Peter R., to Callery Chemical Co. Preparation of diborane. 3,106,454, 10-8-63, Cl. 23-204.
- Girardot, Peter R., and L. Zeldin, deceased (J. M. Diehl, special administrator), to Callery Chemical Co. Alkylchloroalkylboranes. 3,083,230, 3-26-63, Cl. 260-606.5.
- Girardy, Adolphe J.: See—
- Epstein, Irving A., and Girardy. 3,093,920.
- Giraudon, Jean R., to Societe Industrielle General de Mecanique, Appliquee S.I.G.M.A. Fuel injection pumps. 3,091,231, 5-28-63, Cl. 123-140.
- Girchel, Wayne B.: See—
- Schoeffel, Eugene W., and Girchel. 3,107,142.
- Girden, Barney B. Swimming device. 3,112,503, 12-3-63, Cl. 9-309.
- Girdler, Ronald B.: See—
- Dean, Ronald A., and Girdler. 3,098,816.
- Giri de Teramala, Piero M. Mechanically propelled or mechanically driven apparatus. Re. 25,478, 11-12-63, Cl. 74-731.
- Girling, Douglas S., and C. J. Gilbert, to International Standard Electric Corp. Manufacture of electrical capacitors. 3,073,943, 1-15-63, Cl. 219-50.
- Girling Ltd.: See—
- Botterill, John R. 3,113,643.
- Harrison, Anthony W. 3,111,199.
- Kings, Leonard W. 3,071,943.
- Kings, Leonard W. 3,073,370.
- Redmayne, Leonard, Wilson, and Kings. 3,077,246.
- Sadler, Francis A. D. 3,075,502.
- Wilson, Alexander J. 3,109,681.
- Girouard, Paul M. Arcuate double edge razor blade. 3,109,237, 11-5-63, Cl. 30-354.
- Girton Mfg. Co., Inc.: See—
- Girton, Paul K. 3,104,670.
- Girton, Paul K. 3,109,380.
- Girton, Paul K., to Girton Mfg. Co., Inc. Bottle washer. 3,104,670, 9-24-63, Cl. 134-74.
- Girton, Paul K., to Girton Mfg. Co., Inc. Centrifugal pump. 3,109,380, 11-5-63, Cl. 103-97.
- Girz, Alexander, to Schreyer & Co. Vehicular toy with acoustic signal. 3,080,678, 3-12-63, Cl. 46-232.
- Girz, Alexander, to Schreyer & Co. Toy monorailways. 3,115,845, 12-31-63, Cl. 104-148.
- Gish, Lyman C., to Packaging Corp. of America. Carrier carton. 3,115,273, 12-24-63, Cl. 220-115.
- Gisholt Machine Co.: See—
- Fibikar, Robert J., and Senger. 3,079,802.
- Leifer, Lorenz A. 3,072,416.
- Gislon, Andre: See—
- Weising, Edouard, Scherrer, and Gislon. 3,098,033.
- Gissel, Kurt, to Ernst Leitz Gesellschaft mit beschränkter Haftung. Cylindrical mount for photographic objectives. 3,112,627, 12-3-63, Cl. 64-23.5.
- Gisser, George H. Carousel toy. 3,112,929, 12-3-63, Cl. 273-1.
- Gisser, Henry: See—
- Mertwoy, Abraham, Trachtman, and Gisser. 3,112,273.
- Gisser, Henry, and G. Rove. Precision and reliability of timing devices. 3,098,448, 7-23-63, Cl. 102-70.2.
- Gisslen, Jan M., to General Electric Co. Blade platform structure. 3,112,865, 12-3-63, Cl. 230-116.
- Gissy, John L.: See—
- Noethlich, Richard M., Dunleavy, Kura, and Gissy. 3,088,195.
- Gist, William B., and F. P. Sollinger, to Curtiss-Wright Corp. Cooling system for rotary mechanisms. 3,102,516, 9-3-63, Cl. 123-8.
- Gits Bros. Mfg. Co.: See—
- Gits, Remi J., and Warner. 3,109,659.
- Koppius, Wibrandus J. 3,116,066.
- Schulz, George. 3,093,381.
- Wahl, Edward C., and Koppius. 3,109,660.
- Gits, Joseph A.: See—
- Gits, Jules P. 3,086,245.
- Gits, Jules P. 3,086,250.
- Gits, Jules P., 1/2 to J. A. Gits. Mold for making an indicia-bearing article. 3,086,245, 4-23-63, Cl. 18-36.
- Gits, Jules P., 1/2 to J. A. Gits. Methods of making a molded indicia-bearing article. 3,086,250, 4-23-63, Cl. 18-59.
- Gits, Remi J., and D. J. Warner, to Gits Bros. Mfg. Co. Demountable seal assembly. 3,109,659, 11-5-63, Cl. 277-38.
- Gittus, John H., to The International Nickel Co., Inc. Nickel-chromium alloys. 3,093,476, 6-11-63, Cl. 75-171.
- Gittus, John H., to The International Nickel Co., Inc. Creep-resistant nickel-chromium-cobalt alloy. 3,107,999, 10-22-63, Cl. 75-171.
- Gittus, John H., and R. M. Cook, to The International Nickel Co., Inc. Nickel-chromium base alloy. 3,110,587, 11-12-63, Cl. 75-171.
- Gitzel, Walter H., to Aluminum Co. of America. Production of low-soda alumina. 3,092,452, 6-4-63, Cl. 23-143.
- Gitzen, Walter H., to Aluminum Co. of America. Production of low-soda alumina. 3,092,453, 6-4-63, Cl. 23-143.
- Giuffrida, Joseph, to Columbia Broadcasting System, Inc., d.b.a. CBS-Hytron a division of Columbia Broadcasting System, Inc. Color television picture tube. 3,076,910, 2-5-63, Cl. 313-92.
- Giuffrida, Philip, and J. Pratt, to Electronics Corp. of America. Flame detection circuit. 3,091,724, 5-28-63, Cl. 317-149.
- Giugni, Bruno: See—
- Giugni, Nello, B., and R. 3,098,513.
- Giugni, Nello, B., and R. Log debarking machine. 3,098,513, 7-23-63, Cl. 144-208.
- Giugni, Rino: See—
- Giugni, Nello, B., and R. 3,098,513.
- Giuliano, Angelo. Amusement target striking device with bombsight. 3,083,019, 3-26-63, Cl. 273-101.
- Giuliano, Frank: See—
- Olson, Carl T., and Eckert. 3,082,469.
- Giulietti, Luciano, to RIV Officine di Villar Perosa Societa per Azioni. Bearing with flexible sealing means. 3,090,628, 5-21-63, Cl. 277-94.
- Giulini G.m.b.H., Gebrüder: See—
- Rüter, Hermann, Weingärtner, and Cherdron. 3,076,692.
- Giuntini, Roland. Device for converting values of one unit system into equivalent values in another system. 3,083,906, 4-2-63, Cl. 235-89.
- Giustiniani, Piero, G. Natta, G. Mazzanti, and G. Crespi, to Montecatini, Societa Generale per l'Industria Mineraria e Chimica. Poly-alpha-olefin compositions having improved affinity. 3,115,478, 12-24-63, Cl. 260-45.5.
- Givaudan Corp., The: See—
- Kitchens, Garry C. 3,076,022.
- Naves, Yves-Rene, and Caujolle. 3,112,245.
- Porcaro, Peter J. 3,093,592.
- Wood, Thomas F. 3,078,319.
- Givens, Richard C.: See—
- Kreuz, Kenneth L., Wiley, and Givens. 3,085,064.
- Giwocky, Harry L., to Realist, Inc. Miniature light source. 3,085,149, 4-9-63, Cl. 240-6.4.
- Giza, Edward M., to United States of America, Army. Adjusting mechanism for recoilless rifle spotting barrel. 3,098,410, 7-23-63, Cl. 89-1.7.
- Gizeski, Terrence. Digital regulator valve. 3,072,146, 1-8-63, Cl. 137-552.
- Gizeski, Terrence. Pilot digital positioner. 3,114,297, 12-17-63, Cl. 91-414.
- Glaba, Ernest R., to Vitramon, Inc. Vitreous ceramic compositions. 3,106,474, 10-8-62, Cl. 106-53.
- Glacieres de la Sambre Societe Anonyme, Les: See—
- Laverdisse, Edmond. 3,073,075.
- Mols, Adolphe. 3,088,298.
- Glacier Metal Co. Ltd., The: See—
- Love, Phil P. 3,101,980.
- Gladden, Donald W. Reinforcing arrangement for automobile front wheel suspension. 3,110,505, 11-12-63, Cl. 280-96.2.
- Gladding, Edward K., to E. I. de Pont de Nemours and Co. Sulfur-curable elastomeric copolymers of ethylene,  $\alpha$ -olefins, and 5-methylene-2-norbornene. 3,093,621, 6-11-63, Cl. 260-80.5.
- Gladding, Edward K., and D. N. Robinson, to E. I. du Pont de Nemours and Co. 5-alkenyl-2-norbornenes and sulfur-curable elastomeric copolymers thereof. 3,093,620, 6-11-63, Cl. 260-79.5.
- Gladding, Edward K., and D. C. Remy, to E. I. du Pont de Nemours and Co. Thermally stable fluorocarbon compounds. 3,102,889, 9-3-63, Cl. 260-308.
- Gladding, McBean & Co.: See—
- Compton, Max D. 3,086,880.
- Ragan, Randall C. 3,097,929.
- Gladitz, Walter J., and H. Todtenhöfer, to Augusta-Zunder Feuerzuegfabrik Mayer & Co. Gas lighter. 3,077,759, 2-19-63, Cl. 67-7.1.



- Gladrow, Elroy M.: *See*—  
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- Gladrow, Elroy M., and P. T. Parker, to Esso Research and Engineering Co. Hydrosulfurization process employing cobalt-molybdenum-molecular sieve catalyst. 3,098,032, 7-16-63, Cl. 208—216.
- Gladstone, Matthew T., to Norton Co. Coated abrasives. 3,089,763, 5-14-63, Cl. 51—295.
- Gladwin Plastics, Inc.: *See*—  
Triplett, George C. 3,110,934.
- Glahe, Frederick W., to Wilson Athletic Goods Mfg. Co., Inc. Chest protector. 3,076,197, 2-5-63, Cl. 2—2.
- Glaister, Raymond M.: *See*—  
Planer, George V., and Glaister. 3,074,804.
- Glamann, Wilhelm, to Differential-Diesel-Vaduz (Furstentum Liechtenstein). Driving arrangement for a supercharged internal combustion engine. 3,077,730, 2-19-63, Cl. 60—12.
- Glamann, Wilhelm, to Differential-Diesel-Vaduz (Furstentum Liechtenstein). Internal combustion engines. 3,090,194, 5-21-63, Cl. 60—13.
- Glamorise Foundations, Inc.: *See*—  
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- Glasbrenner, Stanley N., to Armstrong Cork Co. Method of improving torque strength of molded closures. 3,080,082, 3-5-63, Cl. 215—43.
- Glaser, David, and F. V. Madaffore, to New Brunswick Scientific Co., Inc. Bacteria-counting apparatus. 3,083,909, 4-2-63, Cl. 235—92.
- Glaser, Donald A.: *See*—  
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Dutro, Orville V., Hewson, and Glaser. 3,111,250.
- Glaser, Donald A., and L. C. Warren, to Didde-Glaser, Inc. Bottom feed apparatus for sheet handling equipment. 3,093,371, 6-11-63, Cl. 271—29.
- Glaser, Ernest: *See*—  
Flugge, Sylvester L., and Glaser. 3,094,396.
- Glaser, Kurt F., to Reynolds Metals Co. Extrusion construction. 3,108,663, 10-29-63, Cl. 189—37.
- Glaser, Marvin B., and A. Schriesheim, to Esso Research and Engineering Co. Aluminum halide recovery from hydrocarbon reactions. 3,071,635, 1-1-63, Cl. 260—683.74.
- Glaser, Myron B., and H. Miller, to Sperry Rand Corp. Flare-out system. 3,115,319, 12-24-63, Cl. 244—77.
- Glaser, Peter E.: *See*—  
Chellis, Fred F., Glaser, and Ayling. 3,103,574.
- Glasgow, Clarence O., to National Tank Co. Emulsion treaters and emulsion treating methods. Re. 25,504, 12-31-63, Cl. 55—42.
- Glasgow, Clarence O., to National Tank Co. Meter. 3,073,159, 1-15-63, Cl. 73—249.
- Glasgow, Clarence O., to National Tank Co. Flame arrester. 3,079,242, 2-26-63, Cl. 48—192.
- Glasgow, Clarence O., to National Tank Co. Emulsion treating means. 3,087,292, 4-30-63, Cl. 55—175.
- Glasgow, Clarence O., to National Tank Co. Level gage. 3,089,338, 5-14-63, Cl. 73—324.
- Glasgow, Clarence O., to National Tank Co. Metering methods and means. 3,090,230, 5-21-63, Cl. 73—224.
- Glasgow, Clarence O., to National Tank Co. Fluid pressure control system. 3,094,146, 6-18-63, Cl. 137—596.14.
- Glasgow, Clarence O., Spare wheel construction. 3,116,094, 12-31-63, Cl. 301—28.
- Glasgow, Clarence O., and C. T. Patterson, to National Tank Co. Gas dehydrator. 3,094,574, 6-18-63, Cl. 261—23.
- Glasgow, Lyle E., and E. O. Dryer, to North American Aviation, Inc. Freeze seal liquid metal valve. 3,098,497, 7-23-63, Cl. 137—74.
- Glass, Eugene D.: *See*—  
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- Glass, Eugene D., to Pan American Petroleum Corp. Oil recovery method. 3,093,191, 6-11-63, Cl. 166—11.
- Glass, Gilbert W., to Chain Belt Co. Method for seeding fines. 3,083,411, 4-2-63, Cl. 18—48.
- Glass, Harvey W., and C. S. Tyler, to Cutler-Hammer, Inc. Cold transmission line terminations. 3,109,150, 10-29-63, Cl. 333—22.
- Glass, Henry P. Collapsible furniture. 3,096,866, 7-9-63, Cl. 297—159.
- Glass, Henry P. Lounge furniture having rotatable movable arm rests. 3,115,366, 12-24-63, Cl. 297—417.
- Glass, Jerrold. Instrument easement leak testing device. 3,081,620, 3-19-63, Cl. 73—40.
- Glass, Jerzy G., to The English Electric Co. Ltd. Hinged armature relays. 3,083,279, 3-26-63, Cl. 200—87.
- Glass, John P. Counter apparatus. 3,076,184, 1-29-63, Cl. 340—198.
- Glass, Marvin I.: *See*—  
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Weiner, Hilman. 3,099,933.
- Glass, Marvin I., and G. Licitis; said G. Licitis, assor. to M. I. Glass. Toy fish. 3,077,698, 2-19-63, Cl. 46—92.
- Glass, Marvin I., and L. Kripak, said L. Kripak assor. to said M. I. Glass. Toy. 3,081,084, 3-12-63, Cl. 272—27.
- Glass, Marvin I., and B. C. Meyer; said Meyer assor. to said Glass. Novelty. 3,081,997, 3-19-63, Cl. 272—8.
- Glass, Marvin I., and L. Kripak; said Kripak assor. to said Glass. Toy. 3,084,934, 4-9-63, Cl. 272—27.
- Glass, Marvin I., and G. Licitis; said Licitis assor. to said Glass. Toy. 3,091,051, 5-28-63, Cl. 46—14.
- Glass, Marvin I., and L. Kripak, said Kripak assor. to said Glass. Remotely controlled electric toy. 3,103,762, 9-17-63, Cl. 46—232.
- Glass, Theodore D. Wind direction indicator. 3,112,645, 12-3-63, Cl. 73—188.
- Glass, Warren V.: *See*—  
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- Glass, William H., to Westinghouse Air Brake Co. Vacuum pump unloading apparatus. 3,114,498, 12-17-63, Cl. 230—31.
- Glass, William H., and R. G. Widmyer, to Westinghouse Air Brake Co. Automatic cleaning apparatus for filters in compressed air systems. 3,080,693, 3-12-63, Cl. 55—163.
- Glascio, Robert B., and B. M. Craig, to Bert M. Morris Co. Postage stamp dispenser. 3,101,282, 8-20-63, Cl. 118—40.
- Glasse, Eugene A.: *See*—  
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- Glassie, Donelson C., and C. B. Stevens, Jr. Apparatus for generating electric power. 3,105,931, 10-1-63, Cl. 322—28.
- Glassman, Jacob A., to V. Mueller & Co. Non-crushing clamp. 3,101,715, 8-27-63, Cl. 128—322.
- Glassman, Jacob A. Surgical extractor. 3,108,593, 10-29-63, Cl. 128—328.
- Glassman, Jacob A. Surgical extractor and method of use. 3,108,594, 10-29-63, Cl. 128—328.
- Glassman, Jerome M.: *See*—  
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- Glassman, Martin W.: *See*—  
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- Glasson, John G., to Dorr-Oliver Inc. Centrifuges. 3,073,516, 1-15-63, Cl. 233—28.
- Glastra, Hendrik: *See*—  
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- Glatthard, Roland: *See*—  
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- Glattil, Hans H., to International Business Machines Corp. Fluid devices for computers. 3,114,390, 12-17-63, Cl. 137—597.
- Glauber, Myron J. Diaphragm valve. 3,095,905, 7-2-63, Cl. 137—625.33.
- Glaubke, Allen F., to Western Electric Co., Inc. Apparatus for inserting a succession of articles in oriented relationship into article-receiving seats in a carrier. 3,101,868, 8-27-63, Cl. 221—225.
- Glaum, John C. Inside knurling tools. 3,088,344, 5-7-63, Cl. 80—51.
- Glaus, Bernhard, to Ulrich Steinemann, AG. Maschinenfabrik. Pouring head for pressureless pouring of liquids. 3,088,633, 5-7-63, Cl. 222—108.
- Glaverbel, S.A.: *See*—  
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- Glavis, Frank J.: *See*—  
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- Glaxo Group Ltd.: *See*—  
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- Glaze, Herbert L. Hoist. 3,071,349, 1-1-63, Cl. 254—186.
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- Glaze, William H.: *See*—  
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- Glazier, Walter H., to Jersey Production Research Co. Method and apparatus for making variable density seismic depth sections. 3,076,379, 2-5-63, Cl. 88—24.
- Gleason, Anthony H.: *See*—  
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- Gleason, Jay L., one-tenth to Gadget-of-The-Month Club, Inc. Sewing awl. 3,107,831, 10-22-63, Cl. 223—104.
- Gleason, Robert A. Supporting device. 3,106,390, 10-8-63, Cl. 269—254.
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- Gleim, William K. T., to Universal Oil Products Co. Treating hydrocarbon distillates. 3,097,158, 7-9-63, Cl. 208-204.
- Gleim, William K. T., and R. B. Thompson, to Universal Oil Products Co. Stabilization of organic substances. 3,071,548, 1-1-63, Cl. 252-46.6.
- Gleim, William K. T., and P. Urban, to Universal Oil Products Co. Catalyst and manufacture thereof. 3,108,081, 10-22-63, Cl. 252-428.6.
- Gleitsman, Harold, and C. Fuerst, to Gleitsman's, Inc. Combination valet and seat. 3,100,128, 8-6-63, Cl. 297-190.
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- Glenn, William E., Jr., to General Electric Co. Orthogonal diffraction gratings for color reproduction. 3,078,333, 2-19-63, Cl. 178-5.4.
- Glenn, William E., Jr., to General Electric Co. Optical system. 3,084,590, 4-9-63, Cl. 88-1.
- Glenn, William E., Jr., to General Electric Co. Projecting system. 3,093,705, 6-11-63, Cl. 178-5.4.
- Glenn, William E., Jr., to General Electric Co. Method and apparatus for recording. 3,113,179, 12-3-63, Cl. 178-6.6.
- Glenny, Clarence S., to The Washburn Co. Bicycle basket. 3,080,100, 3-5-63, Cl. 224-36.
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- Glenny, Clarence S., deceased, by M. Glenny, administratrix, to The Washburn Co. Combination condiment rack and barbecue pot holders. 3,115,107, 12-24-63, Cl. 108-152.
- Glenny, Margaret: *See*—  
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- Glerner, Irvin L., to W. C. Dillon & Co., Inc. Force measuring device. 3,084,297, 4-2-63, Cl. 336-30.
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- Glerner, Irvin L., to W. C. Dillon and Co. Force measuring device. 3,092,995, 6-11-63, Cl. 73-141.
- Glerner, Irvin L., to W. C. Dillon & Co., Inc. Load measuring device. 3,097,524, 7-16-63, Cl. 73-141.
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- Gley, Paul R., to Dependable Printed Circuit Corp. Dual in-place pipe cleaning apparatus. 3,094,998, 6-25-63, Cl. 134-56.
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- Glickman, Samuel A., E. S. Miller, and M. E. Chiddix, to General Aniline & Film Corp. Composition comprising polypropylidone and another polyamide. 3,097,181, 7-9-63, Cl. 260-42.
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- Glocker, Paul L. Method and device for charging a workplace holder. 3,089,613, 5-14-63, Cl. 221-176.
- Glocker, Paul L. Setting mechanism for watch movements. 3,111,002, 11-19-63, Cl. 58-68.
- Gloeckler, Fred A., to Star Sprinkler Corp. Dry pendant sprinklers. 3,080,000, 3-5-63, Cl. 169-41.
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- Glorvig, James O. Automatic weapon and ammunition. 3,104,588, 9-24-63, Cl. 89-33.
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- Glover, Everett D., to Nalco Chemical Co. Method of producing hydrous metal oxide sols. 3,098,044, 7-16-63, Cl. 252-313.
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- Glover, Sidney T., to Imperial Chemical Industries Ltd. Process for the production of caustic alkali solutions from alkali metal amalgams and to apparatus therefor. 3,104,949, 9-24-63, Cl. 23-184.
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- Gluck, William, to United International Dynamics Corp. Electromechanical device. 3,072,757, 1-8-63, Cl. 200-16.
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- Glynn, Robert P. Weighted insole. 3,109,245, 11-5-63, Cl. 36-2.5.
- Glynn, Theodore W., to American-Saint Gobain Corp. Method of attaching a metal channel to a glass plate. 3,098,698, 7-23-63, Cl. 18-59.
- Gmeiner, Günter, and H. Lemmerz, to Daimler-Benz Aktiengesellschaft. Slidable roof construction. 3,075,806, 1-29-63, Cl. 296-137.



- Gmitter, George T., to The General Tire & Rubber Co. Improved polyether-urethane foams and preparation of same. 3,078,239, 2-19-63, Cl. 260-2.5.
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- Goddard, Denis A., to Dominion Engineering Works Ltd. Baffle for paper machine. 3,105,789, 10-1-63, Cl. 162-352.
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- Goderidge, Jean. Arrangements for winding wire at high speed into circular turns. 3,093,339, 6-11-63, Cl. 242-82.
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- Godfrey, James, and E. A. Thurber, to Bell Telephone Laboratories, Inc. Protective element for hermetically enclosed semiconductor devices. 3,083,320, 3-26-63, Cl. 317-234.
- Godfrey, James E., and E. Lesserson. Tone-arm for a playback sound reproducer. 3,101,952, 8-27-63, Cl. 274-23.
- Godfrey, John J., to W. R. Grace & Co. Production of methyl methacrylate. 3,075,001, 1-22-63, Cl. 260-486.
- Godfrey, John J., to California Research Corp. Mercaptan and amide production. 3,086,049, 4-16-63, Cl. 260-561.
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- Godfrey, Norman B., to Jefferson Chemical Co., Inc. Method for preparing N-alkylmorpholines. 3,087,928, 4-30-63, Cl. 260-247.
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- Godshalk, James B., to Fox Products Co. Automatic poultry watering valve. 3,090,399, 5-21-63, Cl. 137-614.14.
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- Godshalk, James B., to Fox Products Co. Poultry watering devices. 3,110,287, 11-12-63, Cl. 119-72.
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- Goepfrich, Rudolph A., to The Bendix Corp. Brake shoe and method of making same. 3,100,340, 8-13-63, Cl. 29-520.
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- Goesser, Paul A., to Swift & Co. Method of slicing meat. 3,108,883, 10-29-63, Cl. 99-194.
- Goessling, Gerald A. Key holder. 3,111,152, 11-19-63, Cl. 150-35.
- Goethe, Paul K., and C. C. Horstman, to Westinghouse Electric Corp. Magnetic cores hermetically sealed within metal core boxes. 3,106,769, 10-15-63, Cl. 29-155.56.
- Goettl, Adam D., to McGraw-Edison Co. Evaporative cooler pad frame construction. 3,075,750, 1-29-63, Cl. 261-97.
- Goettl, Adam D., to McGraw-Edison Co. Combination evaporative cooler and a carbon filtering means. 3,086,342, 4-23-63, Cl. 55-316.
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- Goettl, Adam D., to McGraw-Edison Co. Resilient mounts for electric motors. 3,114,060, 12-10-63, Cl. 310—51.
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- Goettl, John and A. B., and Koble. 3,115,299.
- Goettl, John: See—
- Goettl, Adam D. and J. 3,071,218.
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- Goettl, John, to McGraw-Edison Co. Diffuser. 3,092,009, 6-4-63, Cl. 98—40.
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- Goettsch, Walter J., and H. W. Moser, to Samuel M. Langston Co. Board feed squaring device for rotary cutoff machines. 3,107,589, 10-22-63, Cl. 93—58.
- Goetz, Alexander, to California Institute Research Foundation. Means for separating particles from fluids. 3,074,627, 1-22-63, Cl. 253—32.
- Goetz, Alfred K.: See—
- Anderson, Melvin R., and Goetz. 3,107,062.
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- Goetz, Ernest F., and A. W. Anderson, to General Electric Co. Cam structures. 3,107,548, 10-22-63, Cl. 74—568.
- Goetz, Frank M., to Bell Telephone Laboratories, Inc. Electronic binary counter and converter. 3,076,601, 2-5-63, Cl. 235—92.
- Goetz, Richard E., to Smith Tool Co. Roller bit lubrication. 3,095,934, 7-2-63, Cl. 175—227.
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- Goff, David C., to Concrete Thermal Casings, Inc. Underground insulating conduit. 3,112,183, 11-26-63, Cl. 25—154.
- Goff, Henry R., and G. E. Meckley, to ACF Industries, Inc. Portable punch riveter. 3,111,869, 11-26-63, Cl. 78—46.
- Goff, Lionel E., to Olin Mathieson Chemical Corp. Gas release mechanisms. 3,094,070, 6-18-63, Cl. 102—25.
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- Croft, Arthur, Goff, and Ackroyd. 3,107,492.
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- Gogia, Jugal K., and J. C. Guyeska, to Thompson Ramo Wooldridge Inc. Quadrature rejection system. 3,085,166, 4-9-63, Cl. 307—105.
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- Gohs, Howard C., and J. F. Budnick, to Electrical Fittings Corp. Clamp for conduit or the like. 3,080,140, 3-5-63, Cl. 248—74.
- Goin, Pierre R. M., to Compagnie des Machines Bull (Societe Anonyme). Triggering electronic devices for the control of electromagnetic actuating devices. 3,072,045, 1-8-63, Cl. 101—93.
- Goin, Pierre R. M., and R. J. J. Urvoy, to Machine Bull (Societe Anonyme), Compagnie des. Sheet feeding apparatus. 3,086,771, 4-23-63, Cl. 271—31.
- Goins, Rex H., and H. E. Davis, to Eastman Kodak Co. Process for manufacturing sugar esters. 3,096,324, 7-2-63, Cl. 260—234.
- Goins, Robert R., to Phillips Petroleum Co. Process and apparatus for treating plastic material. 3,089,194, 5-14-63, Cl. 18—47.5.
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- Gold, Theodore, to Sperry Rand Corp. Aircraft take-off performance monitoring apparatus. 3,077,109, 2-12-63, Cl. 73—178.
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- Gold, Thomas. Solar power source for use in space. 3,089,043, 5-7-63, Cl. 307—149.
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- Goldberg, Albert I., and V. Jasinski, to National Starch and Chemical Corp. Polyvinyl ethyl ether-vinyl acetate graft copolymers. 3,098,838, 7-23-63, Cl. 260—45.5.
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- Goldberg, Allan M., D. A. Hamilton, and S. D. James, to McGraw Laboratories, Inc. Transfusion equipment. 3,115,152, 12-24-63, Cl. 137—408.
- Goldberg, Edwin A., to Radio Corp. of America. Stabilized tracking system. 3,099,005, 7-23-63, Cl. 343—7.
- Goldberg, Harold, to Litton Systems, Inc. Continuous wave frequency modulation distance measuring apparatus. 3,112,481, 11-26-63, Cl. 343—14.
- Goldberg, Harry, S. Z. Siwek, and F. Fosnacht, to Pioneer Gen-E-Motor Corp. Lawn mower receptacle system for clippings, leaves and the like. 3,110,998, 11-19-63, Cl. 56—202.
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- Goldberg, Leon J., to General Electric Co. Controlled rectifier D.C. switching circuit. 3,098,949, 7-23-63, Cl. 317—33.



- Goldberg, Michael, to United States of America, Navy. Method of and system for guiding a missile. 3,116,039, 12-31-63, Cl. 244-14.
- Goldberg, Moses W., H. H. Lehr, and M. Muller, to Hoffmann-La Roche Inc. Derivatives of benzothiadiazine 1,1-dioxide. 3,112,307, 11-26-63, Cl. 260-243.
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- Goldberg, Samuel D., to Graham Chemical Corp. Disposable cartridge type hypodermic syringes. 3,089,490, 5-14-63, Cl. 128-218.
- Goldberg, Samuel D., to Graham Chemical Corp. Disposable cartridge type hypodermic syringe devices. 3,102,539, 9-3-63, Cl. 128-218.
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- Goldblatt, Leo A., and L. L. Hopper, Jr., to United States of America, Agriculture. Epoxy resin esters containing tung oil fatty acids. 3,079,354, 2-26-63, Cl. 260-18.
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- Golde, H. T., G.m.b.H., & Co. K.G.: *See*—  
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- Golde, Hans, to H. T. Golde, G.m.b.H., & Co. K.G. Manually-workable devices, particularly for operating locking means of sliding roofs of motor vehicles. 3,079,196, 2-26-63, Cl. 296-137.
- Golde, Hans T., and J. Werner. Sun roller blind. 3,075,805, 1-29-63, Cl. 296-137.
- Golde, Hans, and J. Werner, to H. T. Golde, G.m.b.H., & Co. K.G. Vehicle roofs. 3,079,195, 2-26-63, Cl. 296-137.
- Goldenberg, Robert L., and R. J. James, to Shulton, Inc. Process of dyeing keratinous fibers. 3,075,821, 1-29-63, Cl. 8-10.
- Golden, Bertie C., to Millhiser Bag Co., Inc. Bag making machine-hem forming, drawstring inserting and loop forming mechanism. 3,077,168, 2-12-63, Cl. 112-2.
- Golden, Bertie C., to Millhiser Bag Co., Inc. Bag making machine and method. 3,109,394, 11-5-63, Cl. 112-10.
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- Golder, Jack A., R. Smart, and J. R. Pendleton, to United Kingdom Atomic Energy Authority. Position indicating devices. 3,108,213, 10-22-63, Cl. 318-28.
- Goldfader, Sol. Electro-lift. 3,083,948, 4-2-63, Cl. 254-7.
- Goldfarb, Adolph E. Gum ball-dispensing machine. 3,077,254, 2-12-63, Cl. 194-80.
- Goldfarb, Adolph E. Traveling target. 3,082,002, 3-19-63, Cl. 273-102.2.
- Goldfarb, Adolph E. Buckle key chain. 3,100,608, 8-13-63, Cl. 242-96.
- Goldfarb, Adolph E. Toy crane. 3,104,015, 9-17-63, Cl. 212-59.
- Goldfarb, Adolph E. Impact reaction toy. 3,108,395, 10-29-63, Cl. 46-65.
- Goldfarb, Adolph E., and H. G. Saperstein. Ball projecting apparatus. 3,084,680, 4-9-63, Cl. 124-16.
- Goldhammer, Albert, to Bodenseewerk Perkin-Elmer & Co., G.m.b.H. Photographic camera with exposure counting device and rewinding attachment. 3,079,850, 3-5-63, Cl. 95-31.
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- Goldman, David. Drying apparatus employing radiant panel heaters. 3,102,007, 8-27-63, Cl. 34-48.
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- Goldman, Joseph. Tow line handle. 3,078,481, 2-26-63, Cl. 9-8.
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- Goldman, Leon, J. W. Marsico, and G. W. Anderson, to American Cyanamid Co. Novel nucleotide coenzymes. 3,082,203, 3-19-63, Cl. 260-211.5.
- Goldman, Marvin, to Gro-Wel Fish-Ade Co., Inc. Fish feeder. 3,095,852, 7-2-63, Cl. 119-3.
- Goldman, Maurice A., to E. Shapiro. Fiber integrating apparatus. 3,081,499, 3-19-63, Cl. 19-99.
- Goldman, Richard G., to General Electric Co. Transistorized voltage regulator. 3,109,135, 10-29-63, Cl. 323-22.
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- Goldring, John E., and A. E. Kremiller, to Modernair Corp. Pneumatically operated fastener driving machine. 3,081,742, 3-19-63, Cl. 121-21.
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- Goldschmidt, Hans. Self testing device. 3,097,435, 7-16-63, Cl. 35-8.
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- Goldsmith, Fred C., to The Lubrizol Corp. Apparatus for carrying out chemical process. 3,086,849, 4-23-63, Cl. 23-260.
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- Goldsmith, Herbert, to National Instrument Laboratories, Inc. Linear flow meter. 3,071,001, 1-1-63, Cl. 73-211.
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- Goldsmith, William, to Blaw-Knox Co. Hangers for pipe and the like. 3,102,706, 9-3-63, Cl. 248-54.
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- Goldstein, Daniel, to Schenley Industries, Inc. Self-standing display. 3,083,488, 4-2-63, Cl. 40-124.1.
- Goldstein, Daniel, to Schenley Industries, Inc. Bottle closure and pourer. 3,085,721, 4-16-63, Cl. 222-484.
- Goldstein, Daniel, to Schenley Industries, Inc. Self-erecting advertising display associated with shipping containers. 3,090,492, 5-21-63, Cl. 211-73.
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- Goldstein, Ernst M. Process for separating cobalt and nickel from ammoniacal solutions. 3,107,996, 10-22-63, Cl. 75-108.
- Goldstein, Herbert J., and P. V. Srother, to Texas-U.S. Chemical Co. Stable non-adhesive butadiene-styrene rubber containing a silicone oxide condensation polymer and finely divided silica and process for making same. 3,073,789, 1-15-63, Cl. 260-29.1.
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- Goller, Herbert, to Ankerwerk Gebrüder Goller. Screw injection molding machine. 3,101,512, 8-27-63, Cl. 18-30.
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- Golub, Leo, and M. Zaiger, to P. R. Engel. Play pen. 3,095,583, 7-2-63, Cl. 5-99.
- Golub, Leo, and M. Zaiger, to M. Zaiger. Windshield wiper. 3,103,687, 9-17-63, Cl. 15-250.42.
- Goman, Robert L., and A. J. Kettenhofen. Fluid dispensing system. 3,104,986, 9-24-63, Cl. 118-2.
- Gomco Surgical Mfg. Corp.: See—
- Henderson, Stanford A. 3,106,835.
- Gomes, John M.: See—
- Zadra, John B., and Gomes. 3,075,900.
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- Gonciz, John H.: See—
- Goldberg, Seymour, Gonciz, and Israelsohn. 3,075,121.
- Gonda, Desire: See—
- Hawley, Edwin L., and Gonda. 3,101,109.
- Gondard, Jean C. P., to Broyeurs Gondard. Hammer grinder. 3,082,963, 3-26-63, Cl. 241-82.
- Gondek, John T. Pump constructions. 3,077,839, 2-19-63, Cl. 103-126.
- Gondek, John T. Pressure relief valve. 3,084,710, 4-9-63, Cl. 137-514.
- Gondek, John T. Telescoping hydraulic cylinder. 3,086,502, 4-23-63, Cl. 121-46.
- Gondek, John T. to United States of America, Navy. Torpedo tube and method for making same. 3,106,905, 10-15-63, Cl. 114-238.
- Gondek, John T., to United States of America, Navy. Torpedo tube. 3,109,343, 11-5-63, Cl. 89-16.
- Gondek, Stanley, to Bundy Tubing Co. Push rod structure. 3,094,107, 6-18-63, Cl. 123-90.
- Gondek, Stanley, to Bundy Tubing Co. Push rod structure and method of manufacture. 3,101,402, 8-20-63, Cl. 219-107.
- Gong, Howard, J. Sanchez, and R. E. Talmo, to Electro Optical Systems, Inc. Semiconductor strain gauge. 3,089,108, 5-7-63, Cl. 338-2.
- Gongoll, Vernon F., J. N. Simpson, and C. J. Boyer, to The Electric Storage Battery Co. Headset. 3,073,410, 1-15-63, Cl. 181-23.
- Gongoll, Vernon F., and G. G. Klinger, to The Electric Storage Battery Co. Respirator speaking diaphragm and exhalation valve unit. 3,109,425, 11-5-63, Cl. 128-141.
- Gongwer, Calvin A.: See—
- Higgins, Horace M., and Gongwer. 3,098,351.
- Gongwer, Calvin A., to Aerojet-General Corp. Hydroductor. 3,079,753, 3-5-63, Cl. 60-35.6.
- Gongwer, Calvin A., to Aerojet-General Corp. Pressure wave generator. 3,105,456, 10-1-63, Cl. 116-27.
- Gonia, August T., H. H. Fante, and M. J. Shepard, to Rockwell Standard Corp. Machine and method for bending preformed sinuous wire. 3,104,685, 9-24-63, Cl. 140-71.
- Gonnella, Carmen J., and P. A. Marchant, to The Mennen Co. and Consolidated Thermoplastics Co. Dispensing container. 3,095,598, 7-2-63, Cl. 15-571.
- Gonnert, Rudolf: See—
- Schraufstatter, Ernst, and Gonnert. 3,079,297.
- Gönnert, Rudolf, and E. Schraufstatter, to Farbenfabriken Bayer Aktiengesellschaft. 2-hydroxy-5,2'-dichloro-4'-nitrobenzanilide for combating tapeworms. 3,074,848, 1-22-63, Cl. 167-55.
- Gonsalves, Conrad J., and H. J. Leijser, to American Enka Corp. Apparatus for treating thread. 3,073,000, 1-15-63, Cl. 28-59.5.
- Gonski, Joseph, to Goodman Mfg. Co. Boring type continuous mining machine. 3,088,719, 5-7-63, Cl. 262-9.
- Gontier, Georges V. Shredding apparatus with screen clearing comb. 3,074,655, 1-22-63, Cl. 241-88.
- Gooch, Fred P.: See—
- Payne, Robert E., and Gooch. 3,094,828.
- Gooch, Fred P., to The Sharples Corp. Centrifugal machine. 3,087,621, 4-30-63, Cl. 210-376.
- Gooch, Fred P., to The Sharples Corp. Centrifuge. 3,098,820, 7-23-63, Cl. 233-7.
- Good, Arthur L., to Robertshaw-Fulton Controls Co. Air volume control. 3,088,412, 5-7-63, Cl. 103-6.
- Good, Arthur L., to Robertshaw Controls Co. Pressure control switch. 3,109,902, 11-5-63, Cl. 200-83.
- Good, Fred C. Anchor boom. 3,082,730, 3-26-63, Cl. 114-210.
- Good, Fred C. Windlass. 3,100,626, 8-13-63, Cl. 254-175.5.
- Good, Orland D., and D. A. Walls, to Frick Co. Panel control sawmill. 3,088,501, 5-7-63, Cl. 143-118.
- Good, Paul F., to Speedco, Inc. Proportioning device. 3,101,042, 8-20-63, Cl. 99-256.
- Good, Paul J., to Dynacolor Corp. Film processing apparatus. 3,089,658, 5-14-63, Cl. 242-55.01.
- Good Roads Machinery Corp.: See—
- Hank, Emil J., and Gayer. 3,087,187.
- Good, Robert C.: See—
- Lee, Wei H., and Good. 3,087,863.
- Good, Romer F., and A. A. Mauser, to Morgan Machine Co., Inc. Apparatus for making structural frames. 3,086,210, 4-23-63, Cl. 1-149.
- Goodale, Charles J. Computing apparatus. 3,079,477, 2-26-63, Cl. 200-92.
- Goodale, Kenneth S., to Ampex Corp. Tape storage device. 3,091,409, 5-28-63, Cl. 242-55.12.
- Goodale, Richard J. Pulp press. 3,110,244, 11-12-63, Cl. 100-120.
- Goodall, Donald G., to Rolls-Royce Ltd. Piston and cylinder arrangement for tilting aircraft powerplant. 3,089,668, 5-14-63, Cl. 244-12.
- Goodall, Robert J., to The Raymond Corp. Hose control arrangement. 3,080,943, 3-12-63, Cl. 187-9.
- Goodall, William M., to Bell Telephone Laboratories, Inc. Cipher system for pulse code modulation communication system. 3,071,649, 1-1-63, Cl. 179-1.5.
- Goodall, William M., to Bell Telephone Laboratories, Inc. Timing for regenerative repeaters. 3,085,200, 4-9-63, Cl. 325-13.
- Goodbar, Isaac: See—
- Price, Edison, and Goodbar. 3,098,612.
- Goodbar, Isaac. Camera with lenticulated mask. 3,099,195, 7-30-63, Cl. 95-37.
- Goode, Michael J.: See—
- Troup, Alexander, Tanner, and Goode. 3,083,624.
- Goode, Robert W., to G. A. M. Petersen. Brake disk. 3,084,768, 4-9-63, Cl. 188-218.
- Goode, William E.: See—
- Fellman, Robert P., Goode, and Owens. 3,100,761.
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- Goodell, Everett M.: *See*—  
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- Goodell, Harvey L. Bridge scaffold apparatus. 3,076,522, 2-5-63, Cl. 182-13.
- Goodell, John D., to General Precision, Inc. Magnetic signal storage logic computing element. 3,093,747, 6-11-63, Cl. 307-88.
- Goodell, John D., B. Ivins, and J. C. Wistrand, to Minnesota Mining & Mfg. Co. Magnetic tape magazine. 3,092,346, 6-4-63, Cl. 242-55.13.
- Goodell, John D., B. Ivins, J. C. Wistrand, and V. Tasi, to Minnesota Mining & Mfg. Co. Magnetic tape magazine changer mechanism. 3,100,090, 8-6-63, Cl. 242-55.13.
- Goodell, John D., and E. F. Shelley, to U.S. Industries, Inc. Automated mail handling apparatus. 3,103,285, 9-10-63, Cl. 214-11.
- Goodell, Murel G., W. F. Appelt, and F. A. Davis, to Alwac International. Elevated track and support structure therefor. 3,090,326, 5-21-63, Cl. 104-124.
- Goodell, Murel G., W. F. Appelt, and F. A. Davis, to Alwac International. Coach and suspension therefor. 3,092,041, 6-4-63, Cl. 105-153.
- Goodell, Richard H., to Ethyl Corp. Coating method. 3,110,610, 11-12-63, Cl. 117-49.
- Goodenough, Henry W., to Harvard Specialty Mfg. Corp. Bracket for net in table tennis. 3,078,094, 2-19-63, Cl. 273-30.
- Goodfriend, David J. Dental method and apparatus. 3,084,438, 4-9-63, Cl. 32-20.
- Goodhouse, Carl J.: *See*—  
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- Goodhue, Lyle D., and K. E. Cantrel, to Phillips Petroleum Co. Insect repellent composition. 3,079,298, 2-26-63, Cl. 167-33.
- Goodhue, Lyle D., and K. E. Cantrel, to Phillips Petroleum Co. Aromatic hydrocarbon extract of gas oil as a bird repellent. 3,082,149, 3-19-63, Cl. 167-46.
- Goodhue, Lyle D., K. E. Cantrel, and R. P. Louthan, to Phillips Petroleum Co. Insect combatting agent. 3,092,542, 6-4-63, Cl. 167-22.
- Goodhue, Lyle D., K. E. Cantrel, and R. P. Louthan, to Phillips Petroleum Co. Bird repellent composition. 3,103,465, 9-10-63, Cl. 167-46.
- Goodhue, Lyle D., R. L. Cobb, and K. E. Cantrel, to Phillips Petroleum Co. Repelling insects. 3,108,037, 10-22-63, Cl. 167-30.
- Goodhue, Lyle D., A. J. Reinert, and R. P. Williams, to Phillips Petroleum Co. Nitro-substituted heterocyclic nitrogen compounds as bird management chemicals. 3,113,072, 12-3-63, Cl. 167-46.
- Gooding, Chester M., to Corn Products Co. Highly nutritious fat composition. 3,099,564, 7-30-63, Cl. 99-118.
- Gooding, Chester M., and C. A. Cravens, to Corn Products Co. Novel confectioners fat. 3,085,882, 4-16-63, Cl. 99-118.
- Gooding, Willard H., to Western Veto & Cement Specialties Co. Pit structures. 3,085,673, 4-16-63, Cl. 198-52.
- Gooding, Willard H., to Western Veto & Cement Specialties Co. Unloaders. 3,085,674, 4-16-63, Cl. 198-64.
- Goodings, Eric P., G. W. Taylor, and W. A. O'Neill, to Imperial Chemical Industries Ltd. Treatment of polyesters with covalent compounds to improve dyeability. 3,082,053, 3-19-63, Cl. 8-100.
- Goodings, Eric P., W. A. O'Neill, and G. W. Taylor, to Imperial Chemical Industries Ltd. Silican chloride treated polyolefin articles and its production. 3,099,515, 7-30-63, Cl. 8-82.
- Goodling, R. A.: *See*—  
 Parks, Noble L. 3,073,467.
- Goodloe, Alfred M. Material adapted for abrasive effect in use and scouring devices, pit cleaners and the like produced therefrom. 3,099,854, 8-6-63, Cl. 15-209.
- Goodloe, Alfred M., and R. L. Hartwell, to Metal Textile Corp. Capillary strand material. 3,083,952, 4-2-63, Cl. 261-99.
- Goodman, David M.: *See*—  
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- Goodman, David M. Wide band cathode ray tubes and the like. 3,081,414, 3-12-63, Cl. 315-10.
- Goodman, David M. High power vacuum tubes. 3,092,755, 6-4-63, Cl. 315-158.
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- Disley, Aubrey. 3,110,213.
- Goodman, Gilbert, to General Electric Co. Ceramic composition. 3,116,262, 12-31-63, Cl. 252-519.
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- Goodman, Henry G., Jr., to Union Carbide Corp. Textile finishing composition comprising aqueous solution of amino-plast and textile impregnated therewith. 3,095,395, 6-25-63, Cl. 260-29.4.
- Goodman, Herman W. Removable denture attachment. 3,076,264, 2-5-63, Cl. 32-5.
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- Hitchings, George H., and Goodman. 3,074,930.
- Goodman, John E.: *See*—  
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- Goodman, Joseph L., to Vitro Corp. of America. Converter apparatus for rate modulated pulses. 3,113,302, 12-3-63, Cl. 340-347.
- Goodman, Leonard, to Foster Grant Co., Inc. Multi-wall insulating receptacle. 3,082,900, 3-26-63, Cl. 220-15.
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- Arndt, Charles J., Lo Presti, and Ogden. 3,075,631.
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- Bergmann, Ernst R. 3,109,635.
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- Biedess, Anthony R. 3,100,563.
- Biek, Paul A. 3,092,201.
- Brumbaugh, Robert T. 3,115,201.
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- Davis, Thomas R. 3,078,981.
- Davis, Thomas R. 3,078,982.
- Davis, Thomas R. 3,076,286.
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- Gleeson, Murray A. 3,106,285.
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- Herbert, Gerald A. 3,101,464.
- Hilinsky, Emil J. 3,088,720.
- Hilinsky, Emil J. 3,109,636.
- Huber, William J. 3,107,002.
- Jernigan, Howard M. 3,078,980.
- Lo Presti, Roy F. 3,075,633.
- Lo Presti, Roy F. 3,083,815.
- Lo Presti, Roy F. 3,087,601.
- Lo Presti, Roy F. 3,098,558.
- Lo Presti, Roy F. 3,100,042.
- Lo Presti, Roy F. 3,101,144.
- Lo Presti, Roy F. 3,107,003.
- Lo Presti, Roy F. 3,109,534.
- Lo Presti, Roy F. 3,110,394.
- Lundquist, Richard C. 3,104,003.
- McCann, Keith. 3,098,557.
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- Newton, John S. 3,074,288.
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- Goodman, Morris. Gem and setting having means for obscuring flaws in the gem or setting. 3,075,367, 1-29-63, Cl. 63-26.
- Goodman, Robert C., and E. G. Mastroianni, to General Aniline & Film Corp. Microfilm duplicating apparatus. 3,081,686, 3-19-63, Cl. 95-73.
- Goodman, Robert J. Latches and mechanical couplings. 3,114,562, 12-17-63, Cl. 280-11.3.
- Goodman, Robert M., Jr.: *See*—  
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- Goodman, William E., and R. F. Lo Presti, to Goodman Mfg. Co. Resilient belt training troughing idler assembly. 3,097,737, 7-16-63, Cl. 198-192.
- Goodmann, Eugene P., M. Gordon, and G. E. Thompson, to Standard Oil Co. Liquid phase contacting of hydrocarbons. 3,075,914, 1-29-63, Cl. 208-199.
- Goodrich, B. F., Co., The: *See*—  
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- Barns, Fred K., and Wenger. 3,105,648.
- Bialkowski, Ludwik S. 3,100,509.
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- Colley, Russell S. 3,114,567.
- Cooper, Ralph F. 3,077,060.
- Folt, Vernon L. 3,111,509.
- Garner, Ralph F. 3,098,778.
- Garver, Richard F. 3,075,570.
- Graddock, Donald L., and Wasserman. 3,079,062.
- Groves, Dale D., and Wagner. 3,075,574.
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- Goodrich, Stanley L., and E. S. Kordowski, to General Box Co. Container. 3,073,500, 1-15-63, Cl. 229-14.
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- Goodridge, Edward S., to Induction Heating Corp. Method for the formation of cylinders. 3,072,770, 1-8-63, Cl. 219-8.5.
- Goodridge, Harold C., to Freeman-Goodridge Ltd. Method and apparatus for measurement of temperature. 3,091,694, 5-28-63, Cl. 250-83.3.
- Goodridge, Lawrence C., to General Electric Co. Fastening device. 3,116,081, 12-31-63, Cl. 292-212.
- Goodshaw, Charles T., C. E. Grabel, and H. Volk, to The Dow Chemical Co. Process for preparing vinylaromatic sulfonic acid salts. 3,079,430, 2-26-63, Cl. 260-505.
- Goodson, Albert E. Process for making relief maps. 3,078,598, 2-26-63, Cl. 35-41.
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- Goodwillie, John E., to Beloit Iron Works. Suction forming paper machine operation. 3,072,181, 1-8-63, Cl. 162-350.
- Goodwin, Aubrey J. H., to Yarrow and Co. Ltd. Vibration isolating shaft coupling. 3,091,103, 5-28-63, Cl. 64-26.
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- Goodwin, John, to Akron Standard (Engineers) Ltd. Machines for feeding stock to tyre building machines. 3,081,959, 3-19-63, Cl. 242-64.
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- Goodwin, Ralph C., to The Western States Machine Co. Spout compensating loading gate control. 3,079,046, 2-26-63, Cl. 222-52.
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- Goodwin, Roscoe H., to Curtiss-Wright Corp. Aircraft training apparatus for simulating the propeller system of turbo-propeller aircraft. Re. 25,325, 1-29-63, Cl. 35-12.
- Goodwin, Roscoe H., to Curtiss-Wright Corp. Simulated on-ground aircraft pitching moment system. 3,089,257, 5-14-63, Cl. 35-12.
- Goodwin, Roscoe H., to Curtiss-Wright Corp. Servo motor speed control system. 3,114,869, 12-17-63, Cl. 318-28.
- Goodwin, Wayne M., to Burns Lumber and Mfg. Co. Side dumping trailer. 3,091,498, 5-28-63, Cl. 298-8.
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Wargotz, Bernard. 3,086,000.  
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Yazell, Harold N., Jr. 3,107,125.  
Yoe, Duane O. 3,072,443.
- Goggin, John M., to United States of America, Atomic Energy Commission. Sintering method. 3,109,735, 11-5-63, Cl. 75-224.
- Goolsby, Teslie C. Safety device for a high chair. 3,082,035, 3-19-63, Cl. 297-174.
- Goorissen, Jan, to North American Philips Co., Inc. Method for the manufacture of rods of meltable material. 3,092,462, 6-4-63, Cl. 23-223.5.
- Goorley, John T., to Standard Chemical Products, Inc. Odor destroying agent derived from pycnanthemum albescent (Labiateae). 3,080,295, 3-5-63, Cl. 167-94.
- Goossak, Lev A., G. V. Ewart, and D. Ribinsky. Carburetor type internal combustion engine with prechamber. 3,092,088, 6-4-63, Cl. 123-41.31.
- Gopfert, Herbert, to VEB Kamera- und Kinowerke Dresden. Photographic or cinematographic camera. 3,077,153, 2-12-63, Cl. 95-64.
- Goppelt, Vern L., to Aluminum Co. of America. Rolling of aluminum metal foil. 3,105,400, 10-1-63, Cl. 80-60.
- Göransson, Rolf E., to Casius Corp. Ltd. Arrangement for cutting semi-plastic bodies. 3,075,271, 1-29-63, Cl. 25-112.
- Gorceya, Edward R.: *See*—  
Hoyer, Llewellyn E., and Gorceya. 3,090,660.  
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- Gordon, Alan M., and L. A. Meacham, to Bell Telephone Laboratories, Inc. Dual channel frequency selective attenuator utilizing cross coupled impedance networks between input and output terminals. 3,103,601, 9-10-63, Cl. 307-88.5.
- Gordon, Bernard M., and R. P. Talambiras, to Epsco Inc. Data signal processing apparatus. 3,105,231, 9-24-63, Cl. 340-347.
- Gordon, Bernard M., and R. P. Talambiras, to Epsco, Inc. Signal conversion apparatus. 3,108,266, 10-22-63, Cl. 340-347.
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- Gordon, Carroll G., and W. F. Stoesser. Torque motors. 3,076,920, 2-5-63, Cl. 317-172.



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- Gordon-Chapman Co.: *See*—
- Gordon, Jack C. 3,074,835.
- Gordon, Jack C. 3,080,579.
- Gordon, Chester D.: *See*—
- Stuart, Frank A., and Gordon. 3,081,261.
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- Butler, Vaughn H., and Burleson. 3,079,779.
- Moyer, James D. 3,097,512.
- Read, Robert C., and Gregor. 3,108,533.
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- Gordon, Donald W., and A. E. Snow. Exercising and recreational apparatus. 3,083,037, 3-26-63, Cl. 280—206.
- Gordon, Dwight M., to ACF Industries, Inc. Engine idle speed control. 3,103,128, 9-10-63, Cl. 74—472.
- Gordon, Eugene I., to Bell Telephone Laboratories, Inc. Electron discharge device. 3,072,817, 1-8-63, Cl. 315—3.
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- Gordon, Frances M.: *See*—
- Macdonald, Angus S. 3,104,866.
- Gordon, Hayden S., R. C. Marker, and R. F. Post, to Applied Radiation Corp. Waveguide construction. 3,070,873, 1-1-63, Cl. 29—155.5.
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- Price, Dennis T., and Gordon. 3,109,787.
- Gordon, Irving, to Hooker Chemical Corp. Preparation of tertiary phosphine oxides. 3,076,034, 1-29-63, Cl. 260—606.5.
- Gordon, Irving, to Hooker Chemical Corp. Method of preparing phosphine. 3,109,785, 11-5-63, Cl. 204—90.
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- Gordon, Irwin, to Radio Corp. of America. Method and apparatus for preparing magnetic cores. 3,079,639, 3-5-63, Cl. 18—47.5.
- Gordon, Jack C., to Gordon-Chapman Co. Carpet tile. 3,074,835, 1-22-63, Cl. 154—49.
- Gordon, Jack C., to Gordon-Chapman Co. Platform structure for upholstered article and method of manufacture. 3,080,579, 3-12-63, Cl. 5—35.4.
- Gordon, James E., C. C. Evans, and N. J. Parratt, to T.I. (Group Services) Ltd. Process for the continuous production of thin, elongated, single crystals of zinc oxide and antimony tri-oxide. 3,096,155, 7-2-63, Cl. 23—144.
- Gordon, James F., to General Electric Co. Motor starting circuit. 3,071,717, 1-1-63, Cl. 318—221.
- Gordon, James F., to General Electric Co. Motor protection circuit. 3,071,718, 1-1-63, Cl. 318—473.
- Gordon, James H., to American Can Co. Screw cap assembling head. 3,100,366, 8-13-63, Cl. 53—317.
- Gordon, John E., to Joy Mfg. Co. Sealing means. 3,108,514, 10-29-63, Cl. 92—240.
- Gordon, Leon B., T. P. Moote, and H. Eckstrom, to Standard Oil Co. Olefin polymerization with catalyst containing  $\text{SiCl}_4$  extract of transition metal oxide. 3,112,297, 11-26-63, Cl. 260—88.2.
- Gordon, Louis. Towel washing machine. 3,112,631, 12-3-63, Cl. 68—19.
- Gordon Mfg. Co., Inc., The: *See*—
- Wyatt, Ernest V., Jr. 3,103,996.
- Gordon, Marshall H. Display rack for floor covering materials. 3,094,216, 6-18-63, Cl. 211—45.
- Gordon, Moses: *See*—
- Goodmann, Eugene P., Gordon, and Thompson. 3,075,914.
- Gordon, Percy, 50% to A. E. Broadnax. Railway rail mounting means. 3,104,059, 9-17-63, Cl. 238—284.
- Gordon, Philip N.: *See*—
- Bell, William E., Buckley, and Gordon. 3,093,659.
- Gordon & Piatt, Inc.: *See*—
- Robb, Wendell E. 3,076,497.
- Gordon, Ralph S., to The McKay Co. Device for sustaining loads having a deformable indicating element. 3,077,178, 2-12-63, Cl. 116—114.
- Gordon, Richard O., to Vickers Inc. Power transmission. 3,101,808, 8-27-63, Cl. 180—79.2.
- Gordon, Richard O., to Clark Equipment Co. Hydraulic valve. 3,106,938, 10-15-63, Cl. 137—621.
- Gordon, Robert B., and W. J. Hurford, to Westinghouse Electric Corp. Method of producing sound and homogeneous ingots. 3,072,982, 1-15-63, Cl. 22—200.
- Gordon, Roger G. Bundle feeder. 3,077,157, 2-12-63, Cl. 100—4.
- Gordon, Ronald H., and A. E. Schoennauer, to Varian Associates. Output window for electron tube apparatus. 3,098,207, 7-16-63, Cl. 333—98.
- Gordon, Samuel: *See*—
- Cantrall, Edward W., Littell, Bernstein, and Gordon. 3,094,541.
- Schlesinger, Albert, and Gordon. 3,073,842.
- Gordon, Sherman L., and F. L. Eluskie. Bottle counter. 3,094,279, 6-18-63, Cl. 235—91.
- Gordon, Sumner, to United States of America, Navy. Repetitive scanning of a dual record track on a fragment of a record. 3,105,227, 9-24-63, Cl. 340—174.1.
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- Gordon, Travis C. Ball-point pens. 3,079,895, 3-5-63, Cl. 120—42.12.
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- Wall, James R., Gordon, and Dempsey. 3,080,613.
- Gordon, William E., to United States Golf Association. Apparatus for measuring the coefficient of restitution of a resilient body. 3,093,995, 6-18-63, Cl. 73—13.
- Gordon, William E., and W. A. Salmon, to Arthur D. Little, Inc. Reduction of explosion hazards in the separation of gaseous mixtures. 3,080,724, 3-12-63, Cl. 62—20.
- Gordon, William E., and W. A. Salmon, to Arthur D. Little, Inc. Liquid composition comprising liquid free oxygen and method of reducing the sensitivity of same. 3,081,157, 3-12-63, Cl. 23—221.
- Gordon, William J. J., C. S. Marden, and C. R. Sperry, to Linen Supply Assn. of America. Apparatus for continuous restaurant counter place mats. 3,092,045, 6-4-63, Cl. 108—50.
- Gore, Le Roy D., to The Vendo Co. Particulate material dispenser. 3,109,564, 11-5-63, Cl. 222—196.
- Gore, Linn A.: *See*—
- Gilvary, John J., Gore, Augenstein, and Randels. 3,097,717.
- Gore, Owen L., and L. C. Williams, to Miehe-Goss-Dexter, Inc. Signature handling apparatus. 3,089,693, 5-14-63, Cl. 270—54.
- Gore, Robert H., and J. J. Barabas, to Castro Convertible Corp. Convertible chair. 3,093,412, 6-11-63, Cl. 297—217.
- Gore, Robert T.: *See*—
- Kenedi, Peter G., and Gore. 3,108,006.
- Gore, Robert W., to W. L. Gore & Associates, Inc. Multi-conductor wiring strip. 3,082,292, 3-19-63, Cl. 174—117.
- Gore, W. L., & Associates, Inc.: *See*—
- Gore, Robert W. 3,082,292.
- Gorell, John H.: *See*—
- May, George, and Gorell. 3,074,839.
- Goren, Mayer B., to Kerr-McGee Oil Industries, Inc. Process for the treatment of aqueous solutions. 3,082,059, 3-19-63, Cl. 23—1.
- Goren, Mayer B., to Kerr-McGee Oil Industries, Inc. Reduction of ferric ions in aqueous solutions. 3,109,732, 11-5-63, Cl. 75—101.
- Goren, Mayer B., to Kerr-McGee Oil Industries, Inc. Hydrometallurgical process for the recovery of uranium. 3,115,388, 12-24-63, Cl. 23—14.5.
- Gores, Philip, to Chrysler Corp. Automatic brake adjuster. 3,111,200, 11-19-63, Cl. 188—79.5.
- Gorgens, Joseph E., and E. J. Plavean, to Manning, Maxwell & Moore, Inc. Dial instrument with external calibration. 3,096,651, 7-9-63, Cl. 73—363.9.
- Gorgens, Joseph E., and R. Goff, to Manning, Maxwell & Moore, Inc. Bimetal coil for use in temperature recorders. 3,099,161, 7-30-63, Cl. 73—363.9.
- Gorham, Robert H.,  $\frac{1}{4}$  to A. Wopat, and  $\frac{1}{4}$  to A. Verwiebe. Crop gathering and chopping device. 3,090,188, 5-21-63, Cl. 56—503.
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- Görke, Rudolf. Electromagnetic electroacoustic transducer. 3,112,374, 11-26-63, Cl. 179—115.
- Gorin, Everett: *See*—
- Batchelor, James D., Curran, and Gorin. 3,101,303.
- Gorin, Everett, and R. J. Friedrich, to Consolidation Coal Co. Method of making formcoke. 3,073,751, 1-15-63, Cl. 202—26.
- Gorin, Everett, and W. B. Retallick, to Consolidation Coal Co. Method for the production of hydrogen. 3,108,857, 10-29-63, Cl. 23—212.
- Gorin, Everett, and C. H. Rice, to Consolidation Coal Co. Process for the production of hydrogen. 3,115,394, 12-24-63, Cl. 23—212.
- Gorin, Manuel H.: *See*—
- Rosenstein, Ludwig, and Gorin. 3,098,733.
- Gorloff, Anatoly: *See*—
- Payor, Oscar, and Gorloff. 3,106,082.
- Gorman, Charles F. Battery charging system. 3,090,871, 5-21-63, Cl. 307—10.
- Gorman, Charles F. Test probe and supporting bracket therefor. 3,108,842, 10-29-63, Cl. 339—108.
- Gorman, Edmond B., to McGraw-Edison Co. Refractory metal contacts and methods of manufacture. 3,107,418, 10-22-63, Cl. 29—182.3.
- Gorman, Francis P. Aerial harness. 3,098,539, 7-23-63, Cl. 182—3.
- Gorman-Rupp Co., The: *See*—
- McFarlin, Stanley B. 3,072,063.
- Gorman-Rupp Industries, Inc.: *See*—
- Foster, Arthur A. 3,074,410.
- Schmitt-Matzen, John G. 3,103,225.
- Smith, Edward M., and Steidley. 3,075,551.



- Gorman, Thomas P.: See—  
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- Gorman, William G., to Sterling Drug Inc. Miniature aerosol unit. 3,106,321, 10-8-63, Cl. 222-394.
- Gorman, William G., to Esta Medical Laboratories, Inc. Combination aerosol, container and applicator. 3,108,590, 10-29-63, Cl. 128-173.
- Gorman, William S., Jr., to National Gypsum Co. Process of deinking printed paper. 3,098,784, 7-23-63, Cl. 162-5.
- Gormley, Frederick J., to Pan American Sulphur Co. Sulfur purification process. 3,071,445, 1-1-63, Cl. 23-224.
- Gormley, Leslie E.: See—  
Davis, Billy E., and Gormley. 3,097,527.
- Gorn Electric Co., Inc.: See—  
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- Gorndt, John H., R. R. Peterson, and W. E. Schmidt, to Lord Mfg. Co. Rotor head. 3,106,965, 10-15-63, Cl. 170-160.53.
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- Gorozpe, Raul D. Process for preparing a quick-cooking rice product. 3,071,471, 1-1-63, Cl. 99-80.
- Gorrie, Harvard H., A. J. Hornfeck, H. H. Koppel, and J. F. Luhrs, to Bailey Meter Co. Load control for electric power systems. 3,076,097, 1-29-63, Cl. 290-4.
- Gorrill, William S.: See—  
Rossetto, Louis, Squassoni, Coleman, and Gorrill. Re. 25,354.
- Gorsich, Richard D., to Ethyl Corp. Cyclopentadienyl metal oxyhalides. 3,072,691, 1-8-63, Cl. 260-429.5.
- Gorsich, Richard D., to Ethyl Corp. Manufacture of cyclopentadienyl metal halides. 3,080,305, 3-5-63, Cl. 204-158.
- Gorsich, Richard D., to Ethyl Corp. Organo-bimetallic compositions. 3,088,814, 5-7-63, Cl. 44-69.
- Gorsich, Richard D., to Ethyl Corp. Bimetallic carbonyl halide compositions. 3,099,666, 7-30-63, Cl. 260-429.
- Gorsich, Richard D., to Ethyl Corp. Organo group IV-A metal manganese carbonyl ligand compounds and process for same. 3,099,667, 7-30-63, Cl. 260-429.
- Gorsich, Richard D., to Ethyl Corp. Manufacture of esters. 3,109,017, 10-29-63, Cl. 260-475.
- Gorski, Edward: See—  
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- Gorski, Henry L.: See—  
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- Gorsky, Egon: See—  
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- Gorsky, Rudolph J., to General Motors Corp. One-way device. 3,087,589, 4-30-63, Cl. 192-45.
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- Gorter, Evert W., F. K. Lotgering, G. H. Jonker, H. P. J. Wijn, and C. Kooy, to North American Philips Co., Inc. Ferromagnetic body and method of making the same. 3,072,575, 1-8-63, Cl. 252-62.5.
- Gorter, Evert W., J. A. Schultes, and J. Verweel, to North American Philips Co., Inc. Ferromagnetic material. 3,085,980, 4-16-63, Cl. 252-62.5.
- Gorton, Howard B.: See—  
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- Gorton, Robert T., to S. Curtis & Son, Inc. Reclosable boxes. 3,078,030, 2-19-63, Cl. 229-44.
- Gorton, Thomas S., Jr., to Riverside Inc. Apparatus for dumping debris from the deck of a vessel. 3,111,102, 11-19-63, Cl. 114-32.
- Gortvai, Alexander F., and E. J. Monfils, to United Merchants and Manufacturers, Inc. Textile finishing. 3,102,042, 8-27-63, Cl. 117-7.
- Gorychka, Carl A., and H. J. Wiek, to L. A. M. Phelan. Serving valve for continuous freezers. 3,081,920, 3-19-63, Cl. 222-509.
- Goryl, William M., and F. A. Howard, to Esso Research and Engineering Co. System for transporting oil under water. 3,085,533, 4-16-63, Cl. 114-16.
- Goshen Rubber Co., Inc.: See—  
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- Goshima, Takeshi, to Canon Camera Co., Inc. Exposure controlling mechanism for photographic cameras. 3,078,772, 2-26-63, Cl. 95-10.
- Goshima, Takeshi, to Canon Camera Co. Automatic iris diaphragm operating mechanisms for reflex type cameras. 3,081,680, 3-19-63, Cl. 95-42.
- Gosnell, Michael P., to Philco Corp. Control system for automatic dry-cleaning machines. 3,085,415, 4-16-63, Cl. 68-12.
- Gosnell, Michael P., to Philco Corp. Lint screen. 3,096,637, 7-9-63, Cl. 68-20.
- Goss, Herbert C. Sprinkler device. 3,101,176, 8-20-63, Cl. 239-524.
- Goss, John B. Hydraulic motor device. 3,104,529, 9-24-63, Cl. 60-53.
- Goss, Wesley R., and F. W. Suhr, to General Electric Co. Subsynchronous timing motor. 3,088,044, 4-30-63, Cl. 310-162.
- Goss, Worth C., to Gossol, Inc. Lignosulfonate derivative. 3,079,353, 2-26-63, Cl. 260-17.5.
- Gossard, Thomas F., to Standard Coil Products Co. Inc. Fixed frequency amplifier. 3,096,466, 7-2-63, Cl. 317-101.
- Gosselin, Kenneth F., and H. Shalit, to Air Products and Chemicals, Inc. Oxidative dehydrogenation. 3,113,984, 12-10-63, Cl. 260-677.
- Gosselink, Karl R., E. H. Fay, Jr., and F. M. Loop, to Pittsburgh Plate Glass Co. Halocarboxylic acid catalysts for mixtures of alkyl resins and aminoplast resins. 3,113,117, 12-3-63, Cl. 260-21.
- Gossen, Clarence E. Spaceband cleaner. 3,090,057, 5-21-63, Cl. 15-4.
- Gossen, P., & Co. G.m.b.H.: See—  
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- Gossett, Earle C. Wear adjustment apparatus and method for sprocket drives. 3,104,556, 9-24-63, Cl. 74-397.
- Gossland, John K., to Technical Oil Tool Corp. Transistor R-C oscillator. 3,101,454, 8-20-63, Cl. 331-111.
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- Gostyn, Ernest, to General Instrument Corp. Interleaved layer winding. 3,111,638, 11-19-63, Cl. 336-183.
- Goswick, George D. Poultry water fountain. 3,092,078, 6-4-63, Cl. 119-81.
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Svensson, Nils V., and Svenson. 3,083,541.
- Gotch, Ronald W., to Foster Wheeler Corp. Internal tube welding torch. 3,084,243, 4-2-63, Cl. 219-60.
- Gotex, Aktiebolaget: See—  
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- Göthberg, Karl E. A., to Svenska Kullagerfabriken Aktiebolaget. Cage for cylindrical roller bearings. 3,087,762, 4-30-63, Cl. 308-217.
- Goto, Eiichi: See—  
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- Goto, Yasutaka. Device for producing puppet animation films. 3,081,667, 3-19-63, Cl. 88-16.
- Goton, Roland P., to Union Carbide Corp. High temperature differential thermal analyzer. 3,084,534, 4-9-63, Cl. 73-15.
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- Gotsch, Lenard P., and D. E. Wobbe, to American Can Co. Method of forming the side seam of a can body. 3,077,171, 2-12-63, Cl. 113-120.
- Gottdenker, Friedrich, and P. Krumholz. Process for the separation of thorium, cerium and rare earth starting from their oxides or hydroxides. 3,111,375, 11-19-63, Cl. 23-14.5.
- Götte, August, W. Noll, H. H. Steinbach, and A. Zappel, to Farbenfabriken Bayer Aktiengesellschaft. Process for concentrating ores. 3,072,256, 1-8-63, Cl. 209-167.
- Gottesman, Roy T.: See—  
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- Gottesmann, Emanuel, to Veriscope Corp. Optical reader and indicator. 3,079,888, 1-1-63, Cl. 33-125.
- Gottfried, Max, to The Jobst Institute. Sleeve or legging for stimulating flow of fluids within an animal body. 3,083,708, 4-2-63, Cl. 128-39.
- Gottfried, Siegfried, and L. Baxendale, to Biorex Laboratories Ltd. Glycyrrhetic acid derivatives. 3,084,185, 4-2-63, Cl. 260-488.
- Gothardt, Manfred R., to Bell Telephone Laboratories, Inc. Translator checking circuit for telephone switching system. 3,099,720, 7-30-63, Cl. 179-175.2.
- Gottily, Arthur L., to Monsanto Chemical Co. Label dispenser. 3,093,278, 6-11-63, Cl. 225-42.
- Gottlieb, Irving J. Device for screening frames. 3,077,907, 2-19-63, Cl. 140-109.
- Gottlieb, Leon. Flow-boosting register for air ducts. 3,099,201, 7-30-63, Cl. 98-101.
- Gottman, Carman. Knee crutches. 3,074,420, 1-22-63, Cl. 135-50.
- Gottschald, Rudolf, to V. Langen. Ball and socket joints. 3,073,634, 1-15-63, Cl. 287-90.
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- Gottschald, Rudolf, to A. Ehrenreich & Co. Suspension joint. 3,099,469, 7-30-63, Cl. 287-90.
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- Gottschalk, Gordon W.: See—  
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- Gottschalk, Juan M., H. P. White, and C. K. Chow, to Burroughs Corp. Magnetic record transducer. 3,104,381, 9-17-63, Cl. 340-174.1.
- Gottschalk, Roy F., to Chemetron Corp. Process for cleaning and degassing molten aluminum and aluminum alloys. 3,087,808, 4-30-63, Cl. 75-68.
- Gottschalk, William H.: See—  
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- Gottsche, Marcus J., Jr.: See—  
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- Gottsch, Adolph, Inc.: *See*—  
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- Gottstein, William J.: *See*—  
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- Gottula, Gerard W. All-direction level. 3,101,554, 8-27-63, Cl. 33—212.
- Gottwald, Bruce C., and J. M. Haigh, to Albemarle Paper Mfg. Co. Method and apparatus for cast coating paper. 3,110,612, 11-12-63, Cl. 117—64.
- Gottzmann, Christian F.: *See*—  
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- Gotwald, David E. S., Jr., and C. J. Munchel, to The Dentist's Supply Co. of New York. High speed tool. 3,077,333, 2-12-63, Cl. 253—2.
- Gotz, Armin: *See*—  
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- Gougolot, Alain H. E.: *See*—  
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- Gough, Edward W., and P. D. Irwin. Plastic solar heater. 3,076,450, 2-5-63, Cl. 126—271.
- Gouirand, Rene. Means for controlling pressures in pneumatic suspension cushions of a tractor-trailer combination. 3,104,679, 9-24-63, Cl. 137—625.2.
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- Gould, Charles D., to Richdel, Inc. Electric programmer. 3,101,418, 8-20-63, Cl. 307—141.
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- Gould, Merle L., to Ethyl Corp. Organoaluminum compounds. 3,086,038, 4-16-63, Cl. 260—448.
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- Grabes, Walter, to American Tool Engineering, Inc. Turret type vertical milling machine. 3,080,794, 3-12-63, Cl. 90-17.
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- Graham, John. Sun visor for window. 3,107,760, 10-22-63, Cl. 189-63.
- Graham, John P.: *See*—
- Mitacek, Bill, and Graham. 3,112,270.
- Graham, John W., to Jersey Production Research Co. Apparatus for centering well tools in a well bore. 3,087,552, 4-30-63, Cl. 166-243.
- Graham, John W., to Anocut Engineering Co. Electrolytic grinding. 3,103,482, 9-10-63, Cl. 204-217.
- Graham, John W., and L. H. Robinson, Jr., to Jersey Production Research Co. Drilling of earth formation by extrusion. 3,078,934, 2-26-63, Cl. 175-331.
- Graham, John W., J. S. Osoba, and P. H. Monaghan, to Jersey Production Research Co. Increasing production of hydrocarbons. 3,083,766, 4-2-63, Cl. 166-42.
- Graham, John W., J. S. Osoba, and P. H. Monaghan, to Jersey Production Research Co. Increasing production of hydrocarbons. 3,102,589, 9-3-63, Cl. 166-15.
- Graham, John W., and J. K. Kerver, to Jersey Production Research Co. Method of reducing viscosity of drilling fluids during drilling. 3,113,195, 12-24-63, Cl. 175-17.
- Graham, Karl I., to Deere & Co. Cotton harvester. 3,088,262, 5-7-63, Cl. 56-41.
- Graham, Louis A. Storage cabinet. 3,080,203, 3-5-63, Cl. 312-10.
- Graham, Louis A. and R. A. Transmission. 3,085,450, 4-16-63, Cl. 74-796.
- Graham, Martin B. Reference gage for radiographic examination of tubing. 3,088,027, 4-30-63, Cl. 250-65.
- Graham, Ralph G., to L. A. James. Liquid distributor for dishwashing machines. 3,115,306, 12-24-63, Cl. 239-243.
- Graham, Richard A.: *See*—
- Graham, Louis A. and R. A. 3,085,450.
- Graham, Robert E., to Owens-Illinois Glass Co. Hermetically sealed food package with tamper resistant closure. 3,088,830, 5-7-63, Cl. 99-171.
- Graham, Robert E., to Bell Telephone Laboratories, Inc. Telewriting apparatus. 3,089,918, 5-14-63, Cl. 178-19.
- Graham, Robert L.: *See*—
- Mullinix, Lloyd M., and Graham. 3,073,727.
- Mullinix, Lloyd M., and Graham. 3,080,590.
- Graham, Robert P., L. F. Ginnette, and A. I. Morgan, Jr., to United States of America, Agriculture. Preparation of stable dehydrated products. 3,093,488, 6-11-63, Cl. 99-199.
- Graham, Robert W., to General Motors Corp. Air suspension control apparatus. 3,077,206, 2-12-63, Cl. 137-592.
- Graham, Robert W., to General Motors Corp. Threadless tubing connector. 3,112,939, 12-3-63, Cl. 285-238.
- Graham, Roger K., L. V. N. Bauer, and M. S. Gluckman, to Rohm & Haas Co. Graft copolymers. 3,087,875, 4-30-63, Cl. 204-154.
- Graham, Seymour: *See*—
- Mueller, Martin. 3,083,868.
- Graham, Thomas A., and T. L. Smith, to Smith-Blair, Inc. Pipe clamp. 3,089,212, 5-14-63, Cl. 24-279.
- Graham, Tom S.: *See*—
- Laborde, Aiden J., and Graham. 3,097,495.
- Graham, Ward A., and H. W. Stratford, to Stratford Engineering Corp. Sulfur dioxide and sludge removal process. 3,097,234, 7-9-63, Cl. 260-504.
- Graham, Ward A., and O. Webb, Jr., to Stratford Engineering Corp. Apparatus for continuous edible oil finishing. 3,102,062, 8-27-63, Cl. 159-3.
- Graham-White Mfg. Co.: *See*—
- Bernard, John E., Jr. 3,106,366.
- Graham-White Sales Corp.: *See*—
- Kelly, Daniel A., and Bernard. 3,102,464.
- Grahling, Josephine. Safety leaders. 3,104,650, 9-24-63, Cl. 119-96.
- Grahm, William H., and V. L. Gilbert. Sterilizer. 3,078,525, 2-26-63, Cl. 21-91.
- Grahn, Edwin O., and L. Gelfand, to General Motors Corp. Domestic appliance. 3,088,453, 5-7-63, Cl. 126-273.
- Grahn, Karl M. R., to Svenska Tandsticks Aktiebolaget. Method and apparatus for making fold lines in fibrous sheet material. 3,074,327, 1-22-63, Cl. 93-58.
- Grain Processing Corp.: *See*—
- Kathrein, Henry R. 3,108,402.
- Kathrein, Henry R. 3,108,928.
- Grall, John G., E. B. Nickles, R. J. Van De Hey, and J. D. West, to Manitowoc Engineering Corp. Drive system and mechanism. 3,088,564, 5-7-63, Cl. 192-98.
- Gram, James P. Drinking cup construction. 3,080,081, 3-5-63, Cl. 215-1.
- Gram, Sigmund R.: *See*—
- Balko, Verlie A., and Gram. 3,077,998.
- Gramenzi, Frank V. Control device for pump. 3,104,614, 9-24-63, Cl. 103-25.
- Grammer, George N., to Ethyl Corp. Stable solvent composition. 3,074,890, 1-22-63, Cl. 252-171.
- Grammer, George N., and P. W. Trotter, to Ethyl Corp. Stable methylchloroform compositions. 3,099,694, 7-30-63, Cl. 260-652.5.
- Grammer, Robert E.: *See*—
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- Gran, Burton E., J. O. Holmen, and R. J. Prosen, to Minneapolis-Honeywell Regulator Co. Magnetic films. 3,102,048, 8-27-63, Cl. 117-61.
- Gran, Carl A. Container and filling means therefor. 3,071,287, 1-1-63, Cl. 220-86.
- Granacher, Hugo, to E. Probstl. Cigarette perforating device. 3,080,872, 3-12-63, Cl. 131-170.
- Granatek, Alphonse P.: *See*—
- Buckwalter, Frank H., and Granatek. 3,087,858.
- Buckwalter, Frank H., Kaplan, and Granatek. 3,074,849.
- Granath, Axel G.: *See*—
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- Granco Products, Inc.: *See*—
- Napolin, Seymour. 3,085,182.
- Grand, Joseph A., and R. R. Miller, to United States of America, Navy. Expendable ammonia noisemaker. 3,093,107, 6-11-63, Cl. 116-27.
- Grand Specialties Co.: *See*—
- Hopfeld, Fred P. 3,085,656.
- Hopfeld, Fred P. 3,098,587.
- Grand Steel & Mfg. Co.: *See*—
- Blose, John A. 3,109,533.
- Grande, Paul: *See*—
- Nachtseim, Henry G., Meyer, and Grande. 3,089,786.
- Grandel, Felix, and H. Neumann, to Keimdiaet G.m.b.H. Process of producing ferment preparations and products obtained thereby. 3,071,517, 1-1-63, Cl. 195-71.



- Grandey, Max F., to General Electric Co. Copper foam material and method. 3,078,552, 2-26-63, Cl. 29—182.
- Grandey, Max F., and J. F. Kulp, to General Electric Co. Method of preparing silicon nitride foam material. 3,085,886, 4-16-63, Cl. 106—41.
- Grand Haven Brass Foundry: *See*—  
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- Grandine, Lester D., Jr., and W. K. Wilkinson, to E. I. du Pont de Nemours and Co. Process for preparing aqueous slurries of acrylonitrile polymer and resulting product. 3,075,934, 1-29-63, Cl. 260—29.6.
- Grandis, Stanley, and L. M. Baum. Ornamental hair clip. 3,106,215, 10-8-63, Cl. 132—48.
- Grandjacques, Francois: *See*—  
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- Grand Rapids Hardware Co.: *See*—  
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- Teggelaar, Claude J. 3,103,711.
- Teggelaar, Claude J., and Swierbut. 3,098,647.
- Grandsen, Lyle. Beet harvester. 3,084,785, 4-9-63, Cl. 198—103.
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- Granger Associates: *See*—  
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- Granger, Fred L., to Union Carbide Corp. Battery assembly. 3,078,329, 2-19-63, Cl. 136—108.
- Granier, Emile, to Laborde & Kupfer. Alternator armature teeth. 3,081,412, 3-12-63, Cl. 310—258.
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- Granqvist, Carl-Erik, to Svenska Aktiebolaget. Sound or pulse recording and reproducing apparatus. 3,078,351, 2-19-63, Cl. 179—100.2.
- Granqvist, Carl-Erik, to Svenska Aktiebolaget Gasaccumulator. Tunable high frequency circuit of wide frequency range. 3,082,385, 3-19-63, Cl. 333—82.
- Granryd, Thorvald G., to The Frank G. Hough Co. Transmission controlled loader hydraulic circuit. 3,095,990, 7-2-63, Cl. 214—140.
- Granstedt, Karl E., to Areno Aktiebolag. Apparatus for severing portions of a tobacco web. 3,076,366, 2-5-63, Cl. 83—98.
- Grant, Cameron B. Pelletizing mill. 3,108,055, 10-22-63, Cl. 204—196.
- Grant, Charles H. Airplane with stabilizing fins. Re. 25,418, 7-16-63, Cl. 244—91.
- Grant, Clyde P.: *See*—  
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- Grant, Edwin A., Jr., to Minnesota Mining and Mfg. Co. Heat-sensitive copying-paper. 3,080,254, 3-5-63, Cl. 117—36.8.
- Grant, Edwin A., Jr., to Minnesota Mining and Mfg. Co. Ultra-violet-radiation-desensitizable thermographic copy-sheet and method. 3,094,619, 6-18-63, Cl. 250—65.
- Grant, Eugene F.: *See*—  
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- Grant, Eugene F., and L. F. Fenton, to National Co., Inc. Frequency control apparatus for an atomic beam tube. 3,083,078, 4-30-63, Cl. 331—3.
- Grant, Frederic F., and G. E. Mosher, to North American Aviation, Inc. Slip clutch gear box. 3,084,880, 4-9-63, Cl. 242—55.13.
- Grant, Gardner L., to Universal Controls, Inc. Coin register. 3,104,057, 9-17-63, Cl. 235—99.
- Grant, Gardner L., to Universal Controls, Inc. Toll system for highways. 3,104,367, 9-17-63, Cl. 340—31.
- Grant, George S. Column and mounting socket therefor. 3,080,186, 3-5-63, Cl. 287—119.
- Grant, Harold C.: *See*—  
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- Grant, James J.: *See*—  
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- Grant, John, to Sylvania Electric Products Inc. Intercommunication system. 3,071,647, 1-1-63, Cl. 179—1.
- Grant, John A., to Owens-Corning Fiberglass Corp. Coated glass fiber combinations. 3,079,664, 3-5-63, Cl. 28—75.
- Grant, John B., to Richardson-Merrell Inc. Containers and closures therefor. 3,096,903, 7-9-63, Cl. 220—42.
- Grant, Louis A. Checker chamber cleaning apparatus. 3,084,921, 4-9-63, Cl. 263—19.
- Grant, Louis A. Power operated brush attachment for earth moving machine. 3,099,852, 8-6-63, Cl. 15—50.
- Grant, Leslie L., to Massey-Ferguson (United Kingdom) Ltd. Grain feeding attachment for hillside operation of a combine. 3,103,064, 10-22-63, Cl. 209—247.
- Grant, Maro E. Method of preparing meat. 3,100,713, 8-13-63, Cl. 99—194.
- Grant, Nicholas J., K. M. Zwilsky, and A. S. Bufferd, to New England Materials Laboratory, Inc. Dispersion strengthened molybdenum. 3,105,760, 10-1-63, Cl. 75—206.
- Grant, Peter J., to The General Electric Co. Ltd. Nuclear reactors. 3,081,248, 3-12-63, Cl. 204—193.2.
- Grant, Reginald H. Portable machine shop apparatus. 3,073,193, 1-15-63, Cl. 82—2.
- Grant, Richard W. Differential valve having a tubular diaphragm encircled by an annular sealing surface. 3,087,507, 4-30-63, Cl. 137—414.
- Grant, Verna C. Convertible scarf and retaining collar. 3,088,119, 5-7-63, Cl. 2—207.
- Grant, Walter F. Cable slitting tool. 3,091,031, 5-28-63, Cl. 30—91.
- Grantham, Lloyd B., and R. A. Mengelkamp, to Phillips Petroleum Co. Liquid petroleum gas converter. 3,077,745, 2-19-63, Cl. 62—52.
- Grantham, Raymond J., and J. W. Shepherd, to Callery Chemical Co. Preparation of synthetic polyesters using borane catalysts. 3,113,125, 12-3-63, Cl. 260—75.
- Granzow, Carl A., to United States of America, Air Force. Gage-snap roll thread. 3,080,660, 3-12-63, Cl. 33—199.
- Graper, Lawrence F., to Armour and Co. Suspension device. 3,090,990, 5-28-63, Cl. 17—44.3.
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- Graser, Earl J., to Olin Mathieson Chemical Corp. Top loading article carrier. 3,086,680, 4-23-63, Cl. 220—112.
- Graser, Earl J., to Olin Mathieson Chemical Corp. Linerless carton. 3,107,837, 10-22-63, Cl. 229—3.1.
- Grass, Edward P.: *See*—  
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- Grasseti, Davide R.: *See*—  
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- Grassi, Donald A., and R. W. Noyes, to Raytheon Co. Control knob. 3,082,643, 3-26-63, Cl. 74—553.
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- Grasso's Koninklijke Machinefabrieken N.V.: *See*—  
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- Graswich, Edward, and J. W. Cedarquist, to Dohrman Sales Co. Rotatable baffle for kitchen range ventilators. 3,077,717, 2-19-63, Cl. 55—404.
- Grathwohl, Kenneth T. Disposable razor. 3,070,883, 1-1-63, Cl. 30—32.
- Grattan, Worthin F. Automatic transmission for automotive vehicles. 3,115,792, 12-31-63, Cl. 74—752.
- Gratzmuller, Jean L. Hydraulic pumping units. 3,073,255, 1-15-63, Cl. 103—204.
- Gratzmuller, Jean L. Electro-magnetic control device. 3,082,358, 3-19-63, Cl. 317—157.
- Grau, Henry W. Feed mechanism attachment for power driven portable drills. 3,089,357, 5-14-63, Cl. 77—33.9.
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- Grael, Ernest R. Detergent dispensing shower head. 3,083,915, 4-2-63, Cl. 239—310.
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- Graumann, John L., and A. N. Major, to The Whitlock Mfg. Co. Drying apparatus and method. 3,087,533, 4-30-63, Cl. 159—13.
- Gravelle, Arthur J. Latch guard. 3,097,008, 7-9-63, Cl. 292—346.
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- Graves, Edward B.: *See*—  
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- Graves, Henry B., to Electronic Devices Corp. Transceiver construction. 3,091,734, 5-28-63, Cl. 325—25.
- Graves, Howard K., to Bell & Howell Co. Automatic exposure control. 3,074,335, 1-22-63, Cl. 95—64.
- Graves, Howard K. Piano action. 3,096,675, 7-9-63, Cl. 84—237.
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- Graves, Richard H.: *See*—  
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- Graves, Richard L. Score recording attachment for game machines. 3,112,979, 12-3-63, Cl. 346—33.
- Graves, Shelby J., to Otis Engineering Corp. Well tools. 3,088,521, 5-7-63, Cl. 166—214.
- Graves, Thomas L., to Burlington Industries, Inc. Thread cutting means for sewing machines. 3,087,449, 4-30-63, Cl. 112—252.
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- Graviner Mfg. Co. Ltd.: *See*—  
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- Grawey, Charles E., and R. W. Untz, to Caterpillar Tractor Co. Method of sealing contacting surfaces, and article of manufacture produced thereby. 3,116,198, 12-31-63, Cl. 161—217.
- Grawitz, Jacques, to Societe Anonyme dite: Compagnie Francaise de Raffinage. Refining of lubricant oils. 3,112,259, 11-26-63, Cl. 208—264.
- Gray, Alan H.: *See*—  
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- Gray, Alfred E., H. J. Malin, and H. B. Thompson, to Magnavox Co. Card processing apparatus. 3,074,711, 1-22-63, Cl. 271—5.
- Gray, Alfred E., H. J. Malin, and H. B. Thompson, to Magnavox Co. Card processing apparatus. 3,081,872, 3-19-63, Cl. 209—74.
- Gray, Alvin E., to International Business Machines Corp. Unit document originating machine. 3,075,194, 1-22-63, Cl. 346—74.
- Gray, Alvin N., to Western Electric Co., Inc. Methods of and apparatus for extruding thermoplastic compounds. 3,078,514, 2-26-63, Cl. 18—13.
- Gray, Burl B.: *See*—  
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- Gray, Charles L., Jr., to E. I. du Pont de Nemours and Co. Solvent-soluble water-repellency compositions. 3,083,114, 3-26-63, Cl. 106—271.
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- Gray, Edward E., T. P. Pappas, and R. L. Taylor, to General Precision, Inc. Terrain radar simulation. 3,113,989, 12-10-63, Cl. 35—10.4.
- Gray, Frank, C. W. Robinson, and R. Collins, to International Standard Electric Corporation. Programe controlled board piercing equipment. 3,073,518, 1-15-63, Cl. 234—28.
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- Gray, George W., to McAcx Corp. Wall structure. 3,087,586, 4-30-63, Cl. 189—34.
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- Gray, Harvey & Associates, Inc.: *See*—  
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- Gray, Howard E. Baseball game board. 3,105,688, 10-1-63, Cl. 273—93.
- Gray, James H., to Gray, Harvey, & Associates, Inc. Parachute risers. 3,086,736, 4-23-63, Cl. 244—151.
- Gray, John, to Ekco Products Co. Merchandise handling rack. 3,111,915, 11-26-63, Cl. 108—6.
- Gray, John B., to Packard-Bell Electronics Corp. Tape feed mechanism. 3,109,898, 11-5-63, Cl. 179—100.2.
- Gray, John R.,  $\frac{1}{2}$  to W. George, Jr., and  $\frac{1}{2}$  to J. A. Elfarr. Apparatus for flowing oil from a well. 3,106,170, 10-8-63, Cl. 103—234.
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- Gray, John W., to General Precision, Inc. Variable frequency multivibrator. 3,077,567, 2-12-63, Cl. 332—16.
- Gray, John W., W. H. Heath, and R. A. Finkler, to General Precision Inc. Navigation system. 3,108,182, 10-22-63, Cl. 235—61.5.
- Gray, Lowell C., and L. H. Bishop, to The Bendix Corp. Pilot type solenoid valve. 3,114,532, 12-17-63, Cl. 251—30.
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- Gray, Milo C., and J. I. Pope, to Hall-Toledo, Inc. Machine tool and pilot therefor. 3,106,804, 10-15-63, Cl. 51—90.
- Gray, Oscar S. Method and apparatus for sterilizing. 3,092,503, 6-4-63, Cl. 99—217.
- Gray, Paul A., Jr.: *See*—  
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- Gray, Peter R., to The Dow Chemical Co. Separation of cesium values from aqueous solution. 3,075,826, 1-29-63, Cl. 23—25.
- Gray, Philip J.: *See*—  
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- Gray, Raymond K., and S. C. Wolniak, to The Illinois Lock Co. Door closer. 3,078,499, 2-26-63, Cl. 16—52.
- Gray, Reuben F., to United States of America, Navy. Resuscitation apparatus. 3,078,842, 2-26-63, Cl. 128—30.
- Gray, Reuben F., to United States of America, Navy. Apparatus for controlling the volume of air and the distribution of blood in the body. 3,089,482, 5-14-63, Cl. 128—1.
- Gray, Richard I., Jr., to Walrus Mfg. Co. Adjustable support for bulletin board. 3,081,972, 3-19-63, Cl. 248—33.
- Gray, Robert A., Jr., to Mueller Brass Co. Plastic closures for protective use. 3,104,681, 9-24-63, Cl. 138—96.
- Gray, Robert H. Pawl and ratchet mechanism for load binding winch. 3,077,791, 2-19-63, Cl. 74—577.
- Gray, Robert H. Load binding winch. 3,101,927, 8-27-63, Cl. 254—161.
- Gray, Robert T. Answer guard. 3,089,260, 5-14-63, Cl. 35—48.
- Gray, Russell M. Method and application of surgical sponge. 3,097,649, 7-16-63, Cl. 128—296.
- Gray, Thomas E. H., and J. Jones-Hinton, to Dunlop Rubber Co. Ltd. Inflatable eight-corner reflector. 3,103,662, 9-10-63, Cl. 343—18.
- Gray Tool Co.: *See*—  
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- Gray, Vivian C. Electrical sound reproducing devices. 3,090,461, 5-21-63, Cl. 181—31.
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- Gray, Walter W., to Specialties, Inc. Fluid flow instrument. 3,085,430, 4-16-63, Cl. 73—179.
- Gray, Walter W., to Specialties, Inc. Instrument adjusting device. 3,088,307, 5-7-63, Cl. 73—1.
- Gray, Walter W., to Specialties, Inc. Compensated vertical speed indicator. 3,111,029, 11-19-63, Cl. 73—179.
- Gray, William T., to Minneapolis-Honeywell Regulator Co. Motor testing apparatus. 3,111,841, 11-26-63, Cl. 73—116.
- Graybar Precast Ltd.: *See*—  
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- Graybeal, Warren E., to Standard Conveyor Co. Transfer mechanism for conveyors. 3,083,808, 4-2-63, Cl. 198—20.
- Graybill, Clinton L., to Graybill Industries, Inc. Mixing machine and portable dispenser. 3,084,917, 4-9-63, Cl. 259—177.
- Graybill Industries, Inc.: *See*—  
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- Graybill, Paul J. Dispensing container with reclosable cover for dispensing containers. 3,096,921, 7-9-63, Cl. 229—17.
- Graybill, Paul J. Dispensing containers. 3,096,922, 7-9-63, Cl. 229—17.
- Grayhill, Inc.: *See*—  
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- Grayson, Martin, to American Cyanamid Co. Method of preparing dichlorides primary phosphine. 3,074,994, 1-22-63, Cl. 260—464.
- Grayson, Martin, and P. A. Keough, to American Cyanamid Co. Organic tertiary phosphines. 3,116,317, 12-31-63, Cl. 260—465.1.
- Grayson, Richard D.: *See*—  
 Ray, William A., and Grayson. 3,108,532.
- Grayson, Richard D., to General Controls Co. Top burner control for gas ranges. 3,072,337, 1-8-63, Cl. 236—32.
- Greanias, Evon C., and A. Hamburg, to International Business Machines Corp. Apparatus for analyzing intelligence manifestations. 3,072,886, 1-8-63, Cl. 340—146.3.
- Greanias, Evon C., and A. Hamburg, to International Business Machines Corp. Character recognition system. 3,105,956, 10-1-63, Cl. 340—146.3.
- Great Dane Trailers, Inc.: *See*—  
 Jewell, Robert A. 3,087,717.
- Great Lakes Carbon Corp.: *See*—  
 Bishop, Fred W. 3,091,588.  
 Fann, James D. 3,073,150.  
 Fann, James D. 3,073,151.
- Fryer, Glenn E., and Armand. 3,081,625.
- Martin, Samuel W. 3,097,151.
- Shea, Frederick L., Jr., and Hsu. 3,077,439.
- Great Lakes Pipe Line Co.: *See*—  
 Klein, Vernon W., and Jones. 3,090,038.
- Great Lakes Runway Co.: *See*—  
 Raich, Walter L. 3,109,526.
- Great Neck Saw Manufacturers, Inc.: *See*—  
 Jacoff, Salem L. 3,114,402.
- Great West Super Markets, Inc.: *See*—  
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- Great Western Consolidated No Liability: *See*—  
 Denham, Kenneth E. 3,090,511.
- Grebe, Carl E.: *See*—  
 Rice, Warren A. 3,106,058.
- Grebe, Carl E., to The Dow Chemical Co. Method for loading a bore hole. 3,091,177, 5-28-63, Cl. 102—22.
- Grebe, Carl E., to The Dow Chemical Co. Disc for upgrading work of explosives. 3,112,701, 12-3-63, Cl. 102—22.
- Greco, Peter: *See*—  
 Raila, Edward S., and Greco. 3,105,870.
- Greco, Thomas J. Automatic battery charger control circuit. 3,076,127, 1-29-63, Cl. 320—36.
- Greder, Raymond V.: *See*—  
 Jennings, William R., and Greder. 3,077,014.
- Grading, Robert, to Dominion Engineering Works Ltd. Winders and rewinders for paper machines. 3,107,873, 10-22-63, Cl. 242—66.
- Greedy, Edwin F., and E. J. Schaaf, to FMC Corp. Corn conveying, orienting and husking machine. 3,113,574, 12-10-63, Cl. 130—5.
- Gregor, Ralph H., to The Kinnear Mfg. Co. Chain hoist governor. 3,102,580, 9-3-63, Cl. 160—133.
- Green, A. P., Fire Brick Co.: *See*—  
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- Green, Alan H.: *See*—  
 Sherman, Albert J., and Green. 3,114,211.



- Green, Albert J., H. O. Randall, P. H. Williams, and F. R. Werner, to The National Cash Register Co. Line finding mechanism for cash registers and accounting machines. 3,100,037, 8-6-63, Cl. 197-127.
- Green, Albert L., to Clover Lamp Co., Inc. Lamp switch combined with an illuminating indicator. 3,113,197, 12-3-63, Cl. 200-167.
- Green, Albert P., and A. W. Fridley, to Warner Bros. Pictures, Inc. Preparation of magnetic oxide coatings. 3,114,971, 12-24-63, Cl. 29-566.
- Green, Albert W.: See—
- Brown, Marion L., Jr., and Green. 3,088,919.
- Green, Albert W., to Fairchild Camera and Instrument Corp. Analogue-to-digital transducer. 3,113,262, 12-3-63, Cl. 323-75.
- Green, Armin H.: See—
- Schlage, Ernest L., and Green. 3,095,021.
- Green, Bertram P., to North American Philips Co., Inc. Linear amplifier for modulated high frequency oscillations. 3,116,461, 12-31-63, Cl. 330-109.
- Green, Berry W.: See—
- Mason, Roy, Jr., and Green. 3,081,799.
- Green, Carl: See—
- Burgwin, Stephen L., and Green. 3,101,424.
- Green, Daniel C.: See—
- Flower, Walter T., and Green. 3,098,435.
- Green, David J., to Lear Siegler, Inc. Airborne navigation system for correlating position data from two sources. 3,103,579, 9-10-63, Cl. 235-151.
- Green, Edward H. Spray head and guide assembly for aerosols. 3,075,709, 1-29-63, Cl. 239-579.
- Green, Edward H. Dispenser valve. 3,095,127, 6-25-63, Cl. 222-394.
- Green, Edward H. Spray head for an aerosol dispenser. 3,112,074, 11-26-63, Cl. 239-493.
- Green, Elkan. Camping outfit for use with road motor vehicles. 3,111,955, 11-26-63, Cl. 135-1.
- Green, Ernest W.: See—
- Duke, James B., and Green. Re. 25,464.
- Green, Frank T., to Noble Mfg. Co., Inc. Bolt action magazine firearm with a cantilever spring for holding cartridges in the magazine. 3,094,803, 6-25-63, Cl. 42-18.
- Green, Frank W., to West Virginia Pulp and Paper Co. Glue lap closure. 3,113,713, 12-10-63, Cl. 229-51.
- Green, George E., to Haalmer Corp. Method for obtaining more economical extraction of the valuable constituents of those minerals which contain iron at lower states of oxidation than  $\text{Fe}_2\text{O}_3$  in their molecular structures. 3,105,755, 10-1-63, Cl. 75-1.
- Green, George E., to Haalmer Corp. Method of lowering the iron content of chromite ores or concentrates without appreciable lowering of the contained  $\text{Cr}_2\text{O}_3$ . 3,105,756, 10-1-63, Cl. 75-1.
- Green, Gourley H. Printing head. 3,108,673, 10-29-63, Cl. 197-1.
- Green, Harold A., to Air Products and Chemicals, Inc. Recovery of uranium from lignite. 3,092,445, 6-4-63, Cl. 23-14.5.
- Green, Harold H.: See—
- Bennett, William D., and Green. 3,103,037.
- Green, Herman: See—
- Zimny, Sidney J., and Green. 3,080,669.
- Green, Homer T., to The Parker Pen Co. Hubbed washer overflow ink collector. 3,115,119, 12-24-63, Cl. 120-50.
- Green Instrument Co.: See—
- Dionne, Leonard J. 3,110,226.
- Green, J. W., Co.: See—
- Estabrooks, Roger S., and Gibbons. 3,080,040.
- McGill, Thomas A. 3,095,956.
- Green, Jack R., to Vickers Research Ltd. Control valves. 3,092,144, 6-4-63, Cl. 137-625.3.
- Green, James A.: See—
- Dobbratz, Ervin C., and Green. 3,098,532.
- Green, James R.: See—
- Bluth, Edward J., and Green. 3,084,210.
- Green, James W., Jr., to The Eastern Co. Fire detector device. 3,079,886, 3-5-63, Cl. 116-106.
- Green, Joseph, and P. R. Watt, to Vitamins Ltd. Frames for use in two dimensional paper chromatography. 3,086,439, 4-23-63, Cl. 95-100.
- Green, Joseph G., R. W. Settles, and M. T. Thorsson, to Fairbanks, Morse & Co. Force measuring system. 3,077,236, 2-12-63, Cl. 177-12.
- Green, Julius, to General Foods Corp. Beverage flavors and process for their production. 3,102,817, 9-3-63, Cl. 99-140.
- Green, Julius, and P. S. Smith, to General Foods Corp. Sugar coating process. 3,094,947, 6-25-63, Cl. 107-54.
- Green, Julius, R. W. Morse, and D. R. Westfall, to General Foods Corp. Batch-type apparatus for tumble coating discrete particles. 3,095,326, 6-25-63, Cl. 118-11.
- Green, Julius, N. A. Vanasse, R. G. Garner, and R. J. Scarpellino, to General Foods Corp. Beverage flavor and process for its production. 3,102,816, 9-3-63, Cl. 99-140.
- Green, Larry Q., to E. I. du Pont de Nemours and Co. Wax-like fluorocarbon telomer compositions. 3,103,490, 9-10-63, Cl. 252-15.
- Green, Larry Q., and R. W. Moses, to E. I. du Pont de Nemours and Co. Wax-like telomer compositions. 3,102,862, 9-3-63, Cl. 252-28.
- Green, Larry Q., and R. W. Moses, to E. I. du Pont de Nemours and Co. Aqueous fluorocarbon telomer dispersion and process of preparing same. 3,105,824, 10-1-63, Cl. 260-29.6.
- Green, Lawrence B., to Plastic Age Sales Inc. Method of fabricating a glass fiber reinforced plastic luminaire globe. 3,097,125, 7-9-63, Cl. 156-38.
- Green, Louis E., Jr., to Standard Oil Co. Gas analysis device. 3,095,278, 6-25-63, Cl. 23-254.
- Green, Lowell J.: See—
- Bixby, William H., and Green. 3,080,516.
- Green, Martin. Venetian blind. 3,079,988, 3-5-63, Cl. 160-168.
- Green, Martin, and F. Fishbein. Apparatus for dispensing measured quantities of granular materials. 3,089,620, 5-14-63, Cl. 222-89.
- Green, Max L., to Relton Corp. Tile cutter. 3,111,866, 11-26-63, Cl. 77-69.
- Green, Melvin E. Rack spacing structure. 3,103,422, 9-10-63, Cl. 34-238.
- Green, Milton: See—
- Blout, Elkan R., Cohen, Green, and Simon. 3,077,402.
- Blout, Elkan R., Green, Rogers, and Simon. 3,076,820.
- Green, Milton, to Polaroid Corp. Novel photographic products, processes and compositions. 3,108,001, 10-22-63, Cl. 96-29.
- Green, Milton, and H. G. Rogers, to Polaroid Corp. Derivative of nitro and amino aralkylene thiohydroquinone-0,0' diacetate and preparation thereof. 3,081,339, 3-12-63, Cl. 260-479.
- Green, Milton, M. M. Morse, and M. S. Simon, to Polaroid Corp. Photographic products, processes and compositions. 3,091,530, 5-28-63, Cl. 96-29.
- Green, Paul R., and F. G. Palkanis, to Esso Research and Engineering Co. System for filling closed containers with volatile liquids. 3,106,071, 10-8-63, Cl. 62-55.
- Green-Penny Co.: See—
- Baybarz, Fred L. 3,096,108.
- Green, Philip R., to The English Electric Co. Ltd. Method for making combined plastic and metallic structures. 3,074,116, 1-22-63, Cl. 18-59.
- Green, Richard M., to Phillips Petroleum Co. Crystallization method and apparatus. 3,082,211, 3-19-63, Cl. 260-290.
- Green, Richard W. Disposable applicator. 3,081,480, 3-19-63, Cl. 15-509.
- Green, William G.,  $\frac{1}{2}$  to Otis Engineering Corp. Oil well service tool assembly. 3,079,999, 3-5-63, Cl. 166-177.
- Green, William G., to Aquatron Engineering Corp. Water conditioning apparatus. 3,095,365, 6-25-63, Cl. 204-229.
- Green, William G.,  $\frac{1}{2}$  to D. M. Moody. Method of formation testing in petroleum wells. 3,115,776, 12-31-63, Cl. 73-155.
- Green, William J.: See—
- Andersen, Holger C., Romeo, and Green. 3,098,712.
- Greenaway, John F.: See—
- Marwing, Kenneth G., Greenaway, and Milton. 3,107,271.
- Greenaway, John F., D. Halton, K. G. Marwing, and W. A. C. Hemmings, to Automatic Telephone & Electric Co. Ltd. Register translators for use in automatic telephone switching systems. 3,113,182, 12-3-63, Cl. 179-18.
- Greenaway, Richard, to L. B. Weber. Combination sound reproducing and slide projecting apparatus. 3,078,762, 2-26-63, Cl. 88-27.
- Greenbaum, Maurice. Flood control valve. 3,115,890, 12-31-63, Cl. 137-423.
- Greenbaum, William: See—
- Rosemond, Leland E., Greenbaum, and Hellekjaer. 3,104,290.
- Greenbaum, William H.: See—
- Pearson, Harry A., Herrmann, and Greenbaum. 3,110,868.
- Green Bay Foundry and Machine Works: See—
- Steber, Joseph F. 3,115,915.
- Green Bay Packaging Inc.: See—
- Van Den Berg, Joseph A. 3,094,210.
- Greenberg, David R., to Burroughs Corp. Computing device for optical landing systems. 3,091,751, 5-28-63, Cl. 340-26.
- Greenberg, Elmer H. and W. B. Metal-plate-treating apparatus. 3,103,767, 9-17-63, Cl. 51-14.
- Greenberg, Harry, to Channel Master Corp. End fire planar dipole array with line transposition between dipoles and impedance increase towards feed. 3,086,206, 4-16-63, Cl. 343-815.
- Greenberg, Jerome S., and M. J. Sajdak, to Amtab Mfg. Co. Folding table construction. 3,072,451, 1-8-63, Cl. 311-87.
- Greenberg, Jonnard: See—
- Chusid, Edward, Greenberg, and Knowles. 3,076,527.
- Greenberg, Julius. Ear muff. 3,112,493, 12-3-63, Cl. 2-209.
- Greenberg, Leon S., to Raytheon Co. Methods of making rectifying and ohmic junctions. 3,104,992, 9-24-63, Cl. 148-1.5.
- Greenberg, Myron L.: See—
- Starr, Louis, Kaplan, Greenberg, and Cox. 3,100,986.
- Greenberg, Samuel M., and J. F. Herndon, Sr., to Smith Kline & French Laboratories. Method with tri-(dialkylaminoalkyl) phosphates of reducing cholesterol levels. 3,073,740, 1-15-63, Cl. 167-55.
- Greenberg, Walter H.: See—
- Church, James M., and Greenberg. 3,095,336.



- Greenberg, William B.: *See*—  
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- Greenblatt, Joseph, to Talb Industries, Inc. Culture dish. 3,073,750, 1-15-63, Cl. 195-139.
- Greendale, Allen E.: *See*—  
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- Greene, Abbot, and P. Densen. Self sealing container. 3,116,008, 12-31-63, Cl. 229-48.
- Greene, Benjamin F., Jr., H. M. Knight, M. L. Ernst, F. F. Slack, E. D. Ostroff, J. B. Cawley, and R. O. McManus, to United States of America, Air Force. Aircraft traffic control. 3,109,170, 10-29-63, Cl. 343-73.
- Greene, Charles H. Drill pipe float. 3,089,551, 5-14-63, Cl. 175-318.
- Greene, Chester W., to United Shoe Machinery Corp. Ammunition handling apparatus. 3,101,647, 8-27-63, Cl. 89-46.
- Greene, Earnest J.: *See*—  
Millman, William V., and Greene. 3,102,654.
- Greene, Earnest J., and W. V. Millman, to American Air Filter Co., Inc. Air filtering apparatus. 3,098,731, 7-23-63, Cl. 55-274.
- Greene, Edgeworth. Insertable, self-locking and non-refillable closure for bottles. 3,073,470, 1-15-63, Cl. 215-22.
- Greene, Ernest W.: *See*—  
Duke, James B., and Greene. 3,080,214.
- Greene, Ernest W., J. B. Duke, and J. L. Hunter, to Minerals & Chemicals Philipp Corp. Method of brightening clay by froth flotation of sulfidized clay pulp. 3,072,255, 1-8-63, Cl. 209-166.
- Greene, Eugene C. Portable urinal. 3,082,434, 3-26-63, Cl. 4-110.
- Greene, George. Structural eaves covering. 3,098,322, 7-23-63, Cl. 50-4.
- Greene, George B. Computing and recording apparatus. 3,105,636, 10-1-63, Cl. 235-60.25.
- Greene, Harold L. Sleep alarm headpiece. 3,076,186, 1-29-63, Cl. 340-279.
- Greene, Harry R.: *See*—  
Coffield, Cornelius C., and Greene. 3,071,241.
- Greene, Jack E., J. M. Terlato, and B. M. Updike, to International Business Machines Corp. Operation checking system for data storage and processing machines. 3,077,579, 2-12-63, Cl. 340-172.5.
- Greene, Janice L., and J. D. Idol, Jr., to The Standard Oil Co. Method of making cyclo-butane-1,2-dicarboxamide. 3,110,729, 11-12-63, Cl. 260-557.
- Greene, Joseph L., to General Motors Corp. Electroplating. 3,097,148, 7-9-63, Cl. 204-43.
- Greene, Leonard M., to Safe Flight Instrument Corp. Device for measuring lift of the swept back wing of an airplane. 3,092,353, 6-4-63, Cl. 244-1.
- Greene, Leonard M., to Safe Flight Instrument Corp. Indicator. 3,106,185, 10-8-63, Cl. 116-129.
- Greene, Leonard M., to Safe Flight Instrument Corp. Airplane instruments. 3,112,905, 12-3-63, Cl. 244-77.
- Greene, Norman A. Bubble making toy. 3,093,925, 6-18-63, Cl. 46-8.
- Greene, Norman A. Toy. 3,094,331, 6-18-63, Cl. 273-101.
- Greene, Oren W., R. W. Twitty, and T. L. Richie, to Crompton & Knowles Corp. Photoelectrically controlled apparatus and method for blending fibres. 3,073,402, 1-15-63, Cl. 177-80.
- Greene, Percy W., to Barbour Corp. Method of making beaded wetting. 3,103,024, 9-10-63, Cl. 12-146.
- Greene, Ralph D.: *See*—  
Scott, Edward F., and Greene. 3,095,256.
- Greene, Ralph L., and C. C. Willwerth, to Owens-Illinois Glass Co. Self-locking tray. 3,073,504, 1-15-63, Cl. 229-34.
- Greene, Robert A. Football downs marker. 3,086,307, 4-23-63, Cl. 40-77.
- Greene, Robert A. Apparatus for carburetion. 3,086,758, 4-23-63, Cl. 261-44.
- Greene, Robert E., to United States of America, Army. Tail holder. 3,103,204, 9-10-63, Cl. 119-103.
- Greene, Robert R., and F. T. Rowland, to Rockwell-Standard Corp. Tapered spring leaf. 3,079,139, 2-26-63, Cl. 267-47.
- Greene, Samuel. Metal window frame, sash and weather strip therefor. 3,080,950, 3-12-63, Cl. 189-65.
- Greene, Tweed & Co.: *See*—  
Scannell, John D. 3,107,386.
- Greene, Whitney E. Tube coupling. 3,107,108, 10-15-63, Cl. 283-341.
- Greene, William J.: *See*—  
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- Greene, William J., to Air Reduction Co., Inc. Electron beam welding. 3,082,316, 3-19-63, Cl. 219-117.
- Greene, William J., to Air Reduction Co., Inc. Method and apparatus for transmitting intelligence. 3,084,333, 4-2-63, Cl. 340-172.5.
- Greene, William J., to Air Reduction Co., Inc. Analogue-controlled amplifier. 3,114,101, 12-10-63, Cl. 323-66.
- Greenewald, Herbert, Jr.: *See*—  
Beasley, Jack M., and Greenewald. 3,106,594.
- Greenfield, Bill E., to Phillips Petroleum Co. Pipe cleaner. 3,101,499, 8-27-63, Cl. 15-104.7.
- Greenfield, Charles. Dehydration of fluid fatty mixtures. Re. 25,322, 1-15-63, Cl. 99-56.
- Greenfield, Charles. Dehydration of fluid fatty mixtures above normal coagulation temperature. 3,076,715, 2-5-63, Cl. 99-210.
- Greenfield, George L.: *See*—  
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- Greenfield, Jack R.: *See*—  
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- Greenhalgh, Colin W., to Ilford Ltd. Pyrazolone color coupler for color photography. 3,110,717, 11-12-63, Cl. 260-310.
- Greenhalgh, Frank G.: *See*—  
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- Long, Everett, Greenhalgh, and Hack. 3,087,884.
- Greenhaus, Albert: *See*—  
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- Greenhaw, David O. Hydraulic jack. 3,080,147, 3-5-63, Cl. 254-2.
- Greenhill, Hy, to Klemp Metal Grating Corp. Traffic lane dividers. 3,084,604, 4-9-63, Cl. 94-15.
- Greenhouse, Harold, to Aladdin Industries, Inc. Ferrites having rectangular hysteresis loops and method for manufacture of same. 3,072,576, 1-8-63, Cl. 252-62.5.
- Greening, John H., and J. F. Horgan, to Micromatic Hone Corp. Stack honing. 3,087,281, 4-30-63, Cl. 51-34.
- Greenleaf, Francis D., and R. F. Meyer, to Servo Corp. of America. Pulse separator and repetition-rate discriminator. 3,074,019, 1-15-63, Cl. 328-110.
- Greenleaf, Walter J. Cutting tool. 3,104,452, 9-24-63, Cl. 29-96.
- Greenleaf, Walter J. Rotary cutting tool. 3,104,453, 9-24-63, Cl. 29-105.
- Greenlee Bros. & Co.: *See*—  
Carlson, Carl R., Hawkinson, Hedderich, and Jannenga. 3,081,976.
- Hedderich, William E., Jannenga, Carlson, and Hawkinson. 3,078,535.
- Greenlee, Eligya S. Fish lures. 3,079,722, 3-5-63, Cl. 43-42.06.
- Greenlee, Sylvan O., and J. W. Pearce, to S. C. Johnson & Son. Polyepoxide polyesters of tetrahydrophthalic acid and glycols esterified with long-chain saturated aliphatic acids and preparation of same. 3,112,284, 11-26-63, Cl. 260-22.
- Greenlee, Sylvan O., and J. W. Pearce, to S. C. Johnson & Sons. Drying compositions comprising polyepoxide polyesters of tetrahydrophthalic acid and aliphatic glycols modified with unsaturated monocarboxylic acid. 3,113,932, 12-10-63, Cl. 260-22.
- Greenlees, William D. Electromagnetic radiation proof igniting device. 3,094,932, 6-25-63, Cl. 102-28.
- Greenless, James C., Jr.: *See*—  
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- Greenlie, David G.: *See*—  
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- Greeno, John R., and T. J. Dull. Helical wire trimming and forming mechanism. 3,090,477, 5-21-63, Cl. 140-92.7.
- Greenough, Edward E. Fish preservation. 3,110,285, 11-12-63, Cl. 119-3.
- Greensburg Concrete Block Co.: *See*—  
Repasky, Joseph and G. 3,094,225.
- Greenspan, Frank P., to FMC Corp. Composition comprising epoxy polybutadiene and limonene diepoxide. 3,073,792, 1-15-63, Cl. 260-29.8.
- Greenspan, Frank P., and R. E. Light, Jr., to FMC Corp. Thermoset epoxy resin plasticized with a glycol ether-ester. 3,073,793, 1-15-63, Cl. 260-31.4.
- Greenstadt, Joseph C., and D. F. Ziers, to Mfg. Specialties Co., Inc. Drapery apparatus. 3,098,520, 7-23-63, Cl. 160-34.6.
- Greenstreet, Bill L., to United States of America, Atomic Energy Commission. Reactor moderator structure. 3,116,214, 12-31-63, Cl. 176-84.
- Greenview Mfg. Co.: *See*—  
Siemund, Herbert A. 3,074,092.
- Greenwald Associates: *See*—  
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- Greenwald, Bertrand W.: *See*—  
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- Kerschner, Paul M., and Greenwald. 3,086,044.
- Greenwald, Bertrand W., to Cities Service Research and Development Co. Irradiation of wax. 3,092,564, 6-4-63, Cl. 204-162.
- Greenwald, Bertrand W., and A. K. Lazarus, to Cities Service Research and Development Co. Irradiation of hydrocarbon oils. 3,094,472, 6-18-63, Cl. 204-162.
- Greenwald, H. Co., Inc.: *See*—  
Greenwald, Harry. 3,099,341.
- Greenwald, Harold A., to The Garrett Corp. Single valve refrigeration control. 3,070,974, 1-1-63, Cl. 62-197.
- Greenwald, Harold A., to The Garrett Corp. Seal for refrigerant compressor. 3,094,271, 6-18-63, Cl. 230-116.
- Greenwald, Harold L., to Rohm & Haas Co. Process for emulsification and demulsification by surfactants and the recovery thereof. 3,102,100, 8-27-63, Cl. 252-303.
- Greenwald, Harold L., to Rohm & Haas Co. Recovery of oil from tar sands and other oil-bearing formations. 3,107,726, 10-22-63, Cl. 166-8.
- Greenwald, Harold L., to Rohm & Haas Co. Recovery of oil by strip-mining. 3,108,059, 10-22-63, Cl. 208-11.
- Greenwald, Harry, to Greenwald Associates. Theft proof lock assembly for coin operated machines. 3,083,563, 4-2-63, Cl. 70-417.
- Greenwald, Harry, to H. Greenwald Co., Inc. Coin controlled timer system. 3,099,341, 7-30-63, Cl. 194-9.



- Greenwalt, Elmer J., to Amsted Industries Inc. Railway coupler. 3,075,650, 1-29-63, Cl. 213-133.
- Greenwell, Harvey F. Sieve shaker. 3,109,808, 11-5-63, Cl. 209-309.
- Greenwell, Robert H., R. G. Kadleck, G. V. Richards, and B. E. Van Dyke, to Container Corp. of America. Carton for packaging frangible articles. 3,082,931, 3-26-63, Cl. 229-37.
- Greenwood, Allan, to General Electric Co. Gettering arrangement for a vacuum circuit interrupter. 3,090,852, 5-21-63, Cl. 200-144.
- Greenwood, Allan N., and T. H. Lee, to General Electric Co. Vacuum type circuit interrupter. 3,082,307, 3-19-63, Cl. 200-144.
- Greenwood, Eugene C.: *See*—
- Shaffer, Donald U., and Greenwood. 3,077,931.
- Greenwood, Eugene C. Safety joint for oil well drilling string. 3,098,667, 7-23-63, Cl. 285-376.
- Greenwood, Ivan A., Jr., to General Precision, Inc. Nuclear gyroscope. 3,103,623, 9-10-63, Cl. 324-5.
- Greenwood, Ivan A., Jr., J. R. Lowdenslager, and J. H. Simpson, Jr., to General Precision, Inc. Nuclear gyroscope. 3,103,624, 9-10-63, Cl. 324-5.
- Greer, Albert H., to Pfaudler Permutit Inc. Process for producing monochloromethyl methyl ether. 3,086,060, 4-16-63, Cl. 260-614.
- Greer, Edward M., and J. R. Southland, to Greer Hydraulics, Inc. Gauge calibration unit. 3,077,102, 2-12-63, Cl. 73-4.
- Greer Hydraulics, Inc.: *See*—
- Greer, Edward M., and Southland. 3,077,102.
- Greer, John H., and J. E. Fleming. Transportation unit carrying, loading, and unloading equipment. 3,073,466, 1-15-63, Cl. 214-35.
- Greer, Leonard S., to Penn-Union Electric Corp. Electrical stirrup connector. 3,115,540, 12-24-63, Cl. 174-71.
- Greer, Robert. Rotary shower brush. 3,085,269, 4-16-63, Cl. 15-21.
- Grefte, André, M. Asselin, and F. Grandjacques, to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Process for casting ingots in a mold containing slag. 3,096,550, 7-9-63, Cl. 22-209.
- Greger, Paul, E. Doring, and R. Sommer, to Voigtlander A. G. Photographic camera with means for setting a diaphragm automatically in accordance with a range setting. 3,073,226, 1-15-63, Cl. 95-10.
- Greger, Paul, and O. Fischer, to Voigtlander A. G. Adjustable mechanical scanning device for pointers of indicating meters. 3,087,380, 4-30-63, Cl. 88-23.
- Greger, Paul, and E. Doring, to Voigtlander A. G. Camera with exposure meter and auxiliary light source. 3,087,398, 4-30-63, Cl. 95-10.
- Gregg, David P., to Winston Research Corp. Scanning with light-conducting rod. 3,112,360, 11-26-63, Cl. 178-5.4.
- Gregg, Joseph and W., and J. S. Pyle. Vehicle sub-frame having a caster axle. 3,112,935, 12-3-63, Cl. 280-81.
- Gregg, Robert A.: *See*—
- Graham, George T. E., and Gregg. 3,105,062.
- Gregg, Robert A., and C. V. Tallman, to United States Rubber Co. Elastic polyurethane filamentary material and method of making same. 3,111,369, 11-19-63, Cl. 18-54.
- Gregg, Robert Q.: *See*—
- Barton, Hugh M., Jr., and Gregg. 3,078,756.
- Gregg, William: *See*—
- Gregg, Joseph and W., and Pyle. 3,112,935.
- Grego, Peter, and R. G. Howell, to Corning Glass Works. Glass staining method and material. 3,079,264, 2-26-63, Cl. 106-34.
- Groigore, Jean A. Stretchers and the like hand-operable conveyances. 3,084,352, 4-9-63, Cl. 5-82.
- Groigore, Stephen E., to The Bendix Corp. Electrical connector. 3,088,089, 4-30-63, Cl. 339-94.
- Groigore, Stephen E., R. J. Davies, and S. A. Schroeder, to The Bendix Corp. High temperature lead assembly. 3,084,303, 4-2-63, Cl. 339-30.
- Gregor, Frank J.: *See*—
- Read, Robert C., and Gregor. 3,108,533.
- Gregor, Wilhelm, to Licentia Patent-Verwaltungs-G.m.b.H. Fluid motor or pump. 3,108,543, 10-29-63, Cl. 103-162.
- Gregorian, Razmic S., to W. R. Grace & Co. Blended polyethylene compositions of improved clarity and method of making same. 3,090,770, 5-21-63, Cl. 260-45.5.
- Gregory, Benjamin F., to F. N. Maloof. Power transmission assembly. 3,113,471, 12-10-63, Cl. 74-701.
- Gregory, Buck A., deceased; L. Gregory, administratrix of said B. A. Gregory. Peanut digging machine. 3,106,250, 10-8-63, Cl. 171-61.
- Gregory, Charles W., to Phillips Petroleum Co. Vehicle frame assembly. 3,098,656, 7-23-63, Cl. 280-106.
- Gregory, Derek P.: *See*—
- Williams, Keith R., and Gregory. 3,116,170.
- Gregory, Gerrett W., and N. H. Tjemea, to Rohr Corp. Plastic screw type temporary fastener for anchor type nut plate or the like. 3,102,447, 9-3-63, Cl. 85-1.
- Gregory Industries, Inc.: *See*—
- Baker, Elbert H., III. 3,110,379.
- Flynn, Robert D., and Singleton. 3,094,607.
- Mowry, Lorenz J., and Jenkins. 3,096,429.
- Gregory, James N. Method of underground fluid storage. 3,106,824, 10-15-63, Cl. 61-5.
- Gregory, James W. Playground device. 3,081,083, 3-12-63, Cl. 272-7.
- Gregory, John W. G., and R. B. Owen, to United Kingdom Atomic Energy Authority. Apparatus for measuring the amount of uranium contamination on the outer surfaces of fuel elements. 3,085,156, 4-9-63, Cl. 250-83.6.
- Gregory, Louie E. Hydraulically operated lazy tongs structure. 3,095,061, 6-25-63, Cl. 182-141.
- Gregory, Lucille: *See*—
- Gregory, Buck A. 3,106,250.
- Gregory, Walter A., and H. L. Klopping, to E. I. du Pont de Nemours and Co. 3-alkyl (sulfonyl and sulfoxy) acrylic acid esters and nitriles. 3,078,298, 2-19-63, Cl. 260-465.4.
- Greif Bros. Cooperage Corp. The: *See*—
- Carpenter, Herbert L., and H. L. Carpenter, Jr. 3,116,001.
- Carpenter, Herbert L., Sr. 3,104,599.
- Gaylord, Paul C. 3,072,517.
- Greif, Donald S.: *See*—
- Gold, Samuel, and Greif. 3,113,888.
- Greif, Martin, to American Cyanamid Co. Prolonged release oral pharmaceutical preparations. 3,078,216, 2-19-63, Cl. 167-82.
- Greif, Norman L.: *See*—
- Abramson, Bernard, Greif, and Silson. 3,095,355.
- Greig, Harold G., to Radio Corp. of America. Electrostatic printing. 3,076,722, 2-5-63, Cl. 117-37.
- Greig, Harold G., to Radio Corp. of America. Method of electrophotography employing a heat glossing composition. 3,079,253, 2-26-63, Cl. 96-1.
- Greig, Harold G., to Radio Corp. of America. Method of developing an electrostatic image. 3,079,272, 2-26-63, Cl. 117-37.
- Greig, John H.: *See*—
- Herrick, George Q., Fredrick, and Greig. 3,110,891.
- Greil, Gerhart. Mountain cable-way cabins. 3,094,079, 6-18-63, Cl. 105-150.
- Greiman, Benjamin F. Washing device. 3,103,226, 9-10-63, Cl. 134-94.
- Greiner, Eugen, to Escher Wyss Aktiengesellschaft. Control device for adjusting a variable-pitch marine propeller. 3,110,348, 11-12-63, Cl. 170-135.74.
- Greiner, Helmut, to Georg Schafer Kugelfischer & Co. Anti-friction bearing seals. 3,071,385, 1-1-63, Cl. 277-94.
- Greiner, Leonard: *See*—
- York, Douglas H., and Greiner. 3,109,821.
- Greiner, Rudolf. Navigational aid. 3,112,874, 12-3-63, Cl. 235-61.
- Greisl, Don H., R. E. Thompson, and W. M. Spurgeon, to United States of America, Air Force. Electropolishing of titanium base alloys. 3,087,874, 4-30-63, Cl. 204-140.5.
- Gremar Mfg. Co., Inc.: *See*—
- Somerset, Sherman J. 3,104,145.
- Grembecki, Elmer C., and A. J. Nelson. Means for cleaning the cylindrical surface of printing press blanket roller. 3,089,415, 5-14-63, Cl. 101-425.
- Gremigni, Giuseppe: *See*—
- Marchioli, Giorgio, and Gremigni. 3,099,061.
- Gremillet, Jean. Machine for typewriting, stenotyping or teleprinting, enabling the simultaneous operation of several character and space keys, single or multiple. 3,073,427, 1-15-63, Cl. 197-7.
- Greminger, George K., Jr., R. W. Swinehart, and M. A. Weaver, to The Dow Chemical Co. Wax-free paint remover. 3,094,491, 6-18-63, Cl. 252-171.
- Gremmelmaier, Rolf, to Siemens-Schuckertwerke Aktiengesellschaft. Apparatus for pulling crystals from molten compounds. 3,074,785, 1-22-63, Cl. 23-273.
- Gren, William E.: *See*—
- Stegman, Raymond V., and Gren. 3,099,446.
- Grendelmeier, Werner, to Paliz-Holding A. G. Patterning device for knitting machine. 3,075,373, 1-29-63, Cl. 66-60.
- Grenell, Leland H. Roll bonded tubing fittings. 3,086,559, 4-23-63, Cl. 138-157.
- Grenier, Aime J.: *See*—
- Perry, Frederick G., Grenier, and Wilson. 3,099,732.
- Grenier, Aime J., to Texas Instruments Inc. Electromagnetic switching mechanism. 3,099,725, 7-30-63, Cl. 200-87.
- Grenier, Aime J., to Texas Instruments Inc. Circuit making and breaking apparatus. 3,103,563, 9-10-63, Cl. 200-88.
- Grenier, Maurice, to L'Air Liquide Societe Anonyme Pour l'Etude et l'Exploitation des Procédes Georges Claude. Process for degassing an ethylenic liquid. 3,073,129, 1-15-63, Cl. 62-28.
- Greninger, Joseph E., and R. A. Lewis, to Henry Heide, Inc. Process of making gelled confections. 3,097,951, 7-16-63, Cl. 99-134.
- Grenley, Dallas G.: *See*—
- Townsend, Harold J., and Grenley. 3,097,178.
- Grenon, Michel, L. Berthod, G. Cohen de Lara, M. Delachanal, and G. Halbronn, to Commissariat a l'Energie Atomique. Nuclear reactors. 3,074,874, 1-22-63, Cl. 204-193.2.
- Grenon, William C. Film clipboard. 3,083,427, 4-2-63, Cl. 24-84.
- Gres, Marcel E., to United States of America, Navy. Depth charge pistol. 3,115,832, 12-31-63, Cl. 102-7.
- Gresham, Donald C.: *See*—
- Allen, Gordon S. J., Mawby, and Gresham. 3,096,394.
- Allen, Gordon S. J., Mawby, and Gresham. 3,110,761.
- Gresham, George S., to Reynolds Metals Co. Extruded snap lock joint cover for interlocking extrusions. 3,111,205, 11-19-63, Cl. 189-34.
- Gresham, William F., and N. G. Merckling, to E. I. du Pont de Nemours and Co. Polymerization catalyst and process. 3,085,084, 4-9-63, Cl. 260-94.9.



- Gresham, William F., and M. Hunt, to E. I. du Pont de Nemours and Co. Copolymers of olefines containing at least three carbon atoms. 3,093,624, 6-11-63, Cl. 260-88.2.
- Gresko, Raymond S., to Bendix-Westinghouse Automotive Air Brake Co. Air starter safety system. 3,087,467, 4-30-63, Cl. 121-37.
- Gresko, Stephen J., 1/2 to D. C. Shady. Shoe scraping device. 3,097,388, 7-16-63, Cl. 15-237.
- Gress, Frank. Refuse can holder. 3,080,978, 312-63, Cl. 211-71.
- Gressard, Charles F.: *See*—  
Payler, Frank S., and Gressard. 3,091,130.
- Gressard, William M. Fish lure. 3,104,486, 9-24-63, Cl. 43-42.17.
- Gresser, Herbert D., G. M. Grosf, L. R. Solon, and T. S. Shultz, to TRG, Inc. Photo-cauterizer with coherent light source. 3,096,767, 7-9-63, Cl. 128-395.
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Ehrat, Kurt. 3,111,658.
- Greten, Ernst, to Bahre Metallwerk Kommanditgesellschaft. Apparatus for controlling the production of chipboards. 3,072,293, 1-8-63, Cl. 222-55.
- Greten, Ernst, to Metallwerk Bahre K.G. Apparatus for producing wood particle boards. 3,098,781, 7-23-63, Cl. 156-373.
- Greth, Arthur, and J. Reese, to Chemische Werke Albert. Fungicides and their production. 3,081,323, 3-12-63, Cl. 260-429.
- Gretler, Albert C., and J. C. Wilcox, to Armour and Co. Sausage preparation and dyeing. 3,081,173, 3-12-63, Cl. 99-109.
- Gretler, Albert C., and J. C. Wilcox, to Armour and Co. Method of manufacturing meat products. 3,092,499, 6-4-63, Cl. 99-109.
- Grettve, Karl E. L., to Lilla Edets Pappersbruks Aktiebolag. Machine for winding a web into rolls. 3,087,687, 4-30-63, Cl. 242-56.
- Gretz, Charles: *See*—  
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- Gretz, Charles, to L. H. Mellin, Inc. Rapidly retractable pencil mechanism. 3,106,908, 10-15-63, Cl. 120-18.
- Gretzky, Anthony J.: *See*—  
Torresen, Robert, and Gretzky. 3,094,325.
- Greuet, Pierre, to North American Philips Co., Inc. High-frequency energy branching circuit. 3,103,638, 9-10-63, Cl. 333-9.
- Greunke, Orville V., to United Aircraft Corp. Capacitance sensing circuit. 3,100,879, 8-13-63, Cl. 331-135.
- Grew, Ferdinand: *See*—  
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- Grew, Ferdinand: *See*—  
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Regel, Erik, Wegler, Grew, and Kaspers. 3,097,130.  
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- Grey, Hugh M., Jr., and H. E. Coley. Automatic nailer. 3,104,395, 9-25-63, Cl. 1-6.
- Griaznov, Levgueniy M.: *See*—  
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- Grib, Boris F., to Philmon Laboratories, Inc. Transistorized tuning fork oscillator. 3,116,466, 12-31-63, Cl. 331-116.
- Gribben, Bruce D., and W. C. Brown, to General Motors Corp. Vacuum control assembly for distributors. 3,072,758, 1-8-63, Cl. 200-19.
- Gribble, Joseph J., to Square D Co. Connector. 3,081,507, 3-19-63, Cl. 24-125.
- Gribble, Virgle S. Carriage holder. 3,086,664, 4-23-63, Cl. 214-1.
- Griebe, Erwin S. Terminal station and system and method. 3,074,082, 1-22-63, Cl. 9-8.
- Griebel, Herbert: *See*—  
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- Grieco, Angelo M. Children's seat for use in vehicles. 3,103,385, 9-10-63, Cl. 297-253.
- Grief Bros. Co. Co. The: *See*—  
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- Griehl, Wolfgang, to Inventa, A.G. fuer Forschung und Patentverwertung. Process for the production of stabilized polyesters. 3,115,475, 12-24-63, Cl. 260-22.
- Griem, Milton E., to Milprint, Inc. Compartmented container arranged to simultaneously heat food in the various sections at differing heat rates. 3,079,912, 3-5-63, Cl. 126-390.
- Griem, Milton E., to Milprint, Inc. Breather filter for flexible boil-in and sterilization packages. 3,088,255, 5-7-63, Cl. 53-14.
- Griesbach, Fernd: *See*—  
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- Griesemer, Douglas E., and M. R. Weingarten, to Radio Corp. of America. Apparatus for painting tubular surfaces. 3,108,023, 10-22-63, Cl. 118-215.
- Griesemer, John A.: *See*—  
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- Grieshaber, Emil W., to Minnesota Mining & Mfg. Co. Method of copying. 3,103,881, 9-17-63, Cl. 101-149.2.
- Griesmer, James H., and E. G. Wagner, to International Business Machines Corp. Cryogenic adder. 3,079,083, 2-26-63, Cl. 235-176.
- Griesser, Ernest E.: *See*—  
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- Griffel, Maurice: *See*—  
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- Griffen, Ralph R., to Holley Carburetor Co. Fuel supply system including level maintaining float valve means. 3,073,378, 1-15-63, Cl. 158-38.
- Griffen, Ralph R., to Holley Carburetor Co. Centrifugal weight assembly. 3,110,186, 11-12-63, Cl. 73-535.
- Griffen, Thomas J., to General Motors Corp. Indicator mechanism. 3,084,659, 4-9-63, Cl. 116-124.
- Griffin, George O., and E. S. Hanshaw, to Trurun, Inc. Fabrication of wear resistant abrasive cutting blades. 3,092,094, 6-4-63, Cl. 125-15.
- Griffin, Harry M., and A. R. Savu, to McDonnell Aircraft Corp. Exothermic heated metal for heat treating and forming. 3,074,828, 1-22-63, Cl. 148-13.1.
- Griffin, Hazel E.: *See*—  
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- Griffin Industries, Inc.: *See*—  
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- Griffin, Joseph D., to H. E. and S. C. Griffin. Process and apparatus for the treatment of organically polluted waste. 3,103,488, 9-10-63, Cl. 210-6.
- Griffin, Lindsay I., Jr., K. E. Draeger, and W. J. Braulick, to Esso Research and Engineering Co. Hydraulic isomerization with moving bed containing aluminum halides. 3,087,977, 4-30-63, Cl. 260-683.7.
- Griffin, Roger L., to Swift & Co. Stacking apparatus. 3,081,081, 3-12-63, Cl. 271-64.
- Griffin, Searcy F., and S. D. Turner, Jr., to Varo, Inc. Electronic selecting systems. 3,100,819, 8-13-63, Cl. 179-15.
- Griffin, Sylvia C.: *See*—  
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- Griffin, Waldo R. Elevating wheel chair seat. 3,076,678, 2-5-63, Cl. 297-339.
- Griffin, William F., to Radio Corp. of America. Electron discharge tube and its method of fabrication. 3,101,428, 8-20-63, Cl. 313-252.
- Griffin, William F., and J. F. Miller, to Radio Corp. of America. Method of and apparatus for spraying cathodes with emissive materials. 3,082,115, 3-19-63, Cl. 117-38.
- Griffin, William P., Jr.: *See*—  
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- Griffing, Robert S., to The Garrett Corp. Surge control device for centrifugal compressors. 3,079,121, 2-26-63, Cl. 251-28.
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- Griffith, Alan A. Jet lift vertical take-off aircraft. 3,073,549, 1-15-63, Cl. 244-12.
- Griffith, Alan A., to Rolls-Royce Ltd. Supersonic aircraft. 3,076,625, 2-5-63, Cl. 244-117.
- Griffith, Benjamin W., Jr., to Firmatron, Inc. Electrotherapy system. 3,096,768, 7-9-63, Cl. 128-422.
- Griffith, Bert P.: *See*—  
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- Griffith, Charles R.: *See*—  
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- Griffith, George L., G. A. Lyte, and F. B. Wells, to Trojan Powder Co. Detonatable cartridges having insensitive explosive cores. 3,082,089, 3-26-63, Cl. 102-24.
- Griffith, George L., and F. B. Wells, to Trojan Powder Co. Aqueous nitrostarch explosive slurries. 3,083,127, 3-26-63, Cl. 149-59.
- Griffith, George L., and G. A. Lyte, to Trojan Powder Co. Pentolite-dipped cap wells in seismic cans. 3,097,601, 7-16-63, Cl. 102-23.
- Griffith, George L., Jr. Expandable explosive unit for use in wet boreholes. 3,087,425, 4-30-63, Cl. 102-24.
- Griffith, James R. Alkoxide catalysts for urethane formation. 3,077,494, 2-12-63, Cl. 260-471.
- Griffith, Jerry D.: *See*—  
Behun, Eugene, Cronkwright, Griffith, Moore, and Stalcup. 3,090,583.
- Griffith, John D. Swimming aid. 3,097,375, 7-16-63, Cl. 9-307.
- Griffith Laboratories, Inc., The: *See*—  
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- Griffith, Richard: *See*—  
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Buxton, Jarvis C. 3,095,944.
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- Griffith, William F. Boot strap electronic amplifier having in-phase grids. 3,100,878, 8-13-63, Cl. 330-81.
- Griffith, William T., to Phillips Petroleum Co. Furnace tube arrangement. 3,105,467, 10-1-63, Cl. 122-356.
- Griffiths, Edward G.: *See*—  
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- Griffiths, Edward G., to Camloc Fastener Corp. Support for wires and the like. 3,084,409, 4-9-63, Cl. 24-132.
- Griffiths, Edward H., Jr., to Westinghouse Electric Corp. Electrostatic atomizing head. 3,083,911, 4-2-63, Cl. 239-15.



- Griffiths, Frank, K. C. Waldron, and R. Rajan, to The Austin Motor Co. Ltd. Production of cushioned seats. 3,112,987, 12-3-63, Cl. 18-59.
- Griffiths, Jack, and W. G. Harland, to The Cotton Silk and Man-Made Fibres Research Assn. Apparatus for flash aging printed fabrics. 3,104,954, 9-24-63, Cl. 34-85.
- Griffiths, Kenneth F.,  $\frac{1}{2}$  to J. L. Kerby. Method and apparatus for treating solid particles with liquid. 3,083,126, 3-26-63, Cl. 134-25.
- Griffiths, Kenneth F. Method for producing the refractory metals hafnium, titanium, vanadium, silicon, zirconium, thorium, columbium and chromium. 3,085,871, 4-16-63, Cl. 75-84.1.
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- Griffiths, Kenneth F. Method for collecting and separating the refractory metal component from the reaction products in the production of the refractory metals titanium, zirconium, vanadium, hafnium, silicon, thorium, chromium, or columbium. 3,085,873, 4-16-63, Cl. 75-84.1.
- Griffiths, Robert L.: See—
- Brenton, William P., Jr. 3,114,155.
- Griffiths, William P. Mailbox. 3,081,025, 3-12-63, Cl. 232-39.
- Griffo, Joseph B., to Lincoln Tool and Machine Co., Inc. Regulator. 3,113,756, 12-10-63, Cl. 251-57.
- Griggs, John O., W. L. Ross, and A. R. Fraser, to Carb-Rite Co. Refractory composition and process of making same. 3,086,876, 4-23-63, Cl. 106-61.
- Griggs, William H., and R. D. Zaffrann, to Eastman Kodak Co. Method of manufacturing paper from partially esterified cellulose fibers. 3,096,231, 7-2-63, Cl. 162-157.
- Griggs, William H., A. H. Gray, and R. D. Zaffrann, to Eastman Kodak Co. Method of improving the strength characteristics of paper prepared from partially acylated cellulose fibers. 3,103,462, 9-10-63, Cl. 162-136.
- Grigsby, Chester E., to General Refractories Co. Refractory roof construction. 3,093,099, 6-11-63, Cl. 110-99.
- Grigsby Co., Inc. The: See—
- Eadie, Hugh S. 3,093,713.
- Grigsby, John De R.: See—
- Sampietro, Achilles C., and Grigsby. 3,084,324.
- Grijseels, Robert A.: See—
- Martenssen, Anthony K., Scholten, Stam, Grijseels, and Veldkamp. 3,088,107.
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- Kerrigan, James E., and Grikis. 3,097,771.
- Kerrigan, James E., and Grikis. 3,097,772.
- Grill, Raymond J., and T. Barish, to Thompson Ramo Wooldridge Inc. Dual flow means for gear fuel pumps. 3,105,441, 10-1-63, Cl. 103-11.
- Grillo, Salvatore J.: See—
- Carson, Ralph C., Jr., Grillo, and Jansen. 3,094,896.
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- McConaghy, George, Jr., and Grillot. 3,110,246.
- Grim, Wayne M., to Merck & Co., Inc. Solutions of benzoquinone derivatives. 3,113,073, 12-3-63, Cl. 167-58.
- Grimes, Edgar S., to The Western Union Telegraph Co. Vestigial sideband transmission. 3,083,337, 3-26-63, Cl. 325-65.
- Grimes, George: See—
- Meek, Paul D., Snyder, Allison, and Grimes. 3,100,763.
- Grimes, Willard M., Jr., to Westinghouse Electric Corp. Current and voltage regulator. 3,074,007, 1-15-63, Cl. 323-22.
- Grimes, William W., to The Standard Oil Co. Catalytic reformer gas handling system. 3,085,851, 4-16-63, Cl. 23-2.
- Grimm, Eric, to Associated Patenteers, Inc. Machines for operating on separate lines of stock and combining parts made from the separate lines of stock. 3,094,767, 6-25-63, Cl. 29-33.
- Grimm, Frank: See—
- Fisher, Keith L., and Grimm. 3,074,997.
- Grimm, Otto, to Rohm & Haas G.m.b.H. Method of unhairing skin and hides. 3,076,749, 2-5-63, Cl. 195-6.
- Grimm, Otto, to Rohm & Haas G.m.b.H. Method of unhairing skins and hides. 3,103,469, 9-10-63, Cl. 195-6.
- Grimmeiss, Hermann G.: See—
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- Grimmer, George G.: See—
- Schwab, Carl M., Grimmer, and Garwood. 3,075,586.
- Grimmer, George G., and H. B. Schramm, deceased (by J. Schramm, executrix), to Otis Engineering Corp. Well tools. 3,100,452, 8-13-63, Cl. 103-232.
- Grimsey, Charles F., Jr., to United Aircraft Corp. Zero thermal expansion device. 3,077,958, 2-19-63, Cl. 189-34.
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- Grimston, Francis B. S. Hydrofoils. 3,087,452, 4-30-63, Cl. 114-66.5.
- Grindheim, Earl A.: See—
- Wales, Donald A., Dundovic, and Grindheim. 3,075,653.
- Griner, Arthur J., and R. J. Albrecht. Metering apparatus. 3,086,334, 4-23-63, Cl. 53-26.
- Griner, Thomas E.: See—
- Cline, Ernest E., and Griner. 3,114,314.
- Grinnell Corp.: See—
- Boteler, Henry W. 3,091,427.
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- Duncan, James A. 3,071,713.
- Loepsinger, Albert J. 3,115,886.
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- Thielsch, Helmut J. 3,095,844.
- Grinnell, George G. Sheet binder. 3,073,355, 1-15-63, Cl. 140-71.
- Grintz, Joseph J. Mixing and dispensing apparatus. 3,102,004, 8-27-63, Cl. 23-252.
- Griot, Rudolf: See—
- Bourquin, Jean-Pierre, Brack, Schenker, Griot, and Steffen. 3,100,175.
- Griot, Rudolf, and T. Wagner-Jauregg, to Siegfried Aktiengesellschaft. Process for preparing novel cyclic amines. 3,094,534, 6-18-63, Cl. 260-313.
- Grip Nut Co.: See—
- Abbott, Gail C. 3,084,359.
- Grise, Frederick G., to Electric Spoon, Inc. Portable culinary electric mixing and beating appliances. 3,076,638, 2-5-63, Cl. 259-144.
- Grise, Frederick G. J., 50% to L. Grise, Jr., trustee, and 50% to N. S. Blodgett. Earth mover load applied to facilitate gear shifting. 3,097,441, 7-16-63, Cl. 37-129.
- Grise, Lionel, Jr.: See—
- Grise, Frederick G. J. 3,097,441.
- Grisel, Denis W.: See—
- Babeock, Stephen W., and Grisel. 3,087,131.
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- Griset, Ernest J., Jr., T. L. Reissmann, and J. Nichols, to Ethicon, Inc. Collagenous article and the manufacture thereof. 3,114,372, 12-17-63, Cl. 128-335.5.
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- Grisler, Carl A., Jr., to General Electric Co. Auxiliary unit drive mechanism. 3,071,227, 1-1-63, Cl. 192-101.
- Grisley, Daniel W., Jr., to Monsanto Chemical Co. Methods for preparing salicylic acid esters. 3,076,017, 1-29-63, Cl. 260-474.
- Griss, Charles H., and M. F. Brillhart, to Libbey-Owens-Ford Glass Co. Method and apparatus for optical inspection of glass sheets. 3,081,665, 3-19-63, Cl. 88-14.
- Grisman, Frank L.: See—
- Steen, Stephen N., and Grissman. 3,101,082.
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- Griswold, David E., to D. G. Griswold. Differential pressure control system for centrifugal pumps. 3,087,430, 4-30-63, Cl. 103-11.
- Griswold, Donald G.: See—
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- Griswold, Frank B., and W. K. Banister. Safety shoe and instep guard therefor. 3,102,347, 9-3-63, Cl. 36-72.
- Griswold, Hector W., to Johnson & Johnson. Method of producing apertured nonwoven fabric. 3,081,512, 3-19-63, Cl. 28-72.
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- Griswold, Roger W., II. Sweptwing jet flow control means. 3,100,094, 8-6-63, Cl. 244-42.
- Griswold, Roger W., II. Airfoil jet reaction control means. 3,102,704, 9-3-63, Cl. 244-42.



- Griswold, Stanley M., to United Shoe Machinery Corp. Methods of making flocked solvent activatable stiffening and shoe lining materials. 3,073,715, 1-15-63, Cl. 117-25.
- Griswold, Stanley M., to United Shoe Machinery Corp. Sheet material comprising fibers and plastic particles. 3,102,836, 9-3-63, Cl. 162-108.
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- Gritzman, Jurji J.: *See—*
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- Grob, Benjamin. Roller tool mounting and driving means. 3,094,888, 6-25-63, Cl. 80-16.
- Grob, Cyril, and O. Schier, to Ciba Corp. New cyclic diamines and process for their manufacture. 3,093,631, 6-11-63, Cl. 260-239.
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- Grob, Willy. Speed regulated let-off. 3,100,511, 8-13-63, Cl. 139-107.
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- Groce, Arlie L. Minnow traps. 3,082,564, 3-26-63, Cl. 43-102.
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- Groenewegen, Johannes B., to Consolidated Electrodynamics Corp. Switchable drive system. 3,079,056, 2-26-63, Cl. 226-178.
- Groeneweghe, Leo C. D., to Monsanto Chemical Co. Method of converting a secondary phosphine sulfide to the corresponding secondary phosphine. 3,071,616, 1-1-63, Cl. 260-543.
- Groff, Emory L., to Poor & Co. Rail joint. 3,111,264, 11-19-63, Cl. 238-14.5.
- Groff, Harold M. Waste container. 3,115,986, 12-31-63, Cl. 220-63.
- Groff, James C., to Astro Science Corp. Refrigeration system with controls. 3,090,210, 5-21-63, Cl. 62-197.
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- Groh, Edward F., to United States of America, Atomic Energy Commission. Fastener for an assembly of plates. 3,101,309, 8-20-63, Cl. 204-193.2.
- Groh, Edward F., and D. H. Lennox, United States of America, Atomic Energy Commission. Assembly of parallel plates. 3,086,935, 4-23-63, Cl. 204-193.2.
- Grohe, Edward J., Jr.: *See—*
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- Grohmann, Emil. Plate-shaped sound-absorbing element. 3,080,938, 3-12-63, Cl. 181-33.
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- Gromacki, Richard E., and K. C. Frisch, to Wyandotte Chemicals Corp. Polyurethane foams and process for preparing same. 3,112,281, 11-26-63, Cl. 260-2.5.
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- Gross, Charles J., to United Shoe Machinery Corp. Ramming mechanism for a gun. 3,102,452, 9-3-63, Cl. 89-47.
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- Gross, Richard, W. Kirst, and R. Mohr, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for the production of water-insoluble metalliferous azo-dyestuffs on the fiber. 3,071,428, 1-1-63, Cl. 8-42.
- Gross, Richard, H. Hertel, R. Mohr, and W. Staab, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Complex metal compounds and water-insoluble azo-dyestuffs and a process for their manufacture. 3,071,571, 1-1-63, Cl. 260-151.
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- Gross, Robert D. Game involving manipulation of a suspended object by bodily movements of cooperating players. 3,104,877, 9-24-63, Cl. 273—95.
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- Gross, Thomas A. O., to Raytheon Co. Feed-through nulling systems. 3,077,593, 2-12-63, Cl. 343—8.
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- Grosskopf, Karl, to O. H. Dräger. Process for detecting nitrogen dioxide in gases. 3,106,458, 10-8-63, Cl. 23—232.
- Grosskopf, Karl, to O. H. Dräger. Reagent for detection of arsenic hydride or phosphorus hydride. 3,112,998, 12-3-63, Cl. 23—254.
- Grosskopf, Karl, to O. H. Dräger. Carbon monoxide detecting device. 3,112,999, 12-3-63, Cl. 23—254.
- Grossman, Aaron, and F. Transport, to Donrico Inc. Shock-proof or cushioned carton. 3,075,683, 1-29-63, Cl. 229—14.
- Grossman, Abraham. Dual movable sash window. 3,106,754, 10-15-63, Cl. 20—52.
- Grossman, Abraham. Fixed and movable sash window construction. 3,111,726, 11-26-63, Cl. 20—52.
- Grossman, Harold, to Hassenfeld Bros., Inc. Lead pencil and method of manufacture. 3,086,903, 4-23-63, Cl. 156—273.
- Grossman, Harold. Door and casing for shower stall or the like. 3,111,208, 11-19-63, Cl. 189—46.
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- Grossmann, Samuel W., to Allied Chemical Corp. Production of urea from ammonia and CO<sub>2</sub>. 3,072,721, 1-8-63, Cl. 260—555.
- Grossmann, Samuel W., to Allied Chemical Corp. Ammonium nitrate explosive composition and process for preparing it. 3,103,457, 9-10-63, Cl. 149—46.
- Grossmann, Ugo C., to Sulzer Freres, S.A. Method for purifying gases. 3,083,545, 4-2-63, Cl. 62—34.
- Grossmann, Walter G., to Autokapie A-G. Apparatus for optically printing photographic negatives. 3,102,450, 9-3-63, Cl. 88—24.
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- Grotta, Henry M., to Martin-Marietta Corp. Carbazole compounds. 3,074,959, 1-22-63, Cl. 260—315.
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- Grove, George L., to The Cincinnati Milling Machine Co. Centerless grinder infeed workrest and ejector mechanism. 3,071,898, 1-8-63, Cl. 51—103.
- Grove, Herbert D., Jr., and B. L. Satterley, to Monsanto Chemical Co. Gauze catalyst support. 3,073,685, 1-15-63, Cl. 23—288.
- Grove, Marvin H. Valve construction with hollow resilient sealing means. 3,076,631, 2-5-63, Cl. 251—173.
- Grove, Marvin H. Gate valve construction. 3,085,782, 4-16-63, Cl. 251—124.
- Grove, Marvin H. Method for the manufacture of valve bodies. 3,089,224, 5-14-63, Cl. 29—157.1.
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- Grover, Lyndon V., to Color Tran Industries. Adjustable lamp housing. 3,086,107, 4-16-63, Cl. 240—52.
- Grover, Victor T., J. P. Jakob, H. H. Kluesener, and F. F. Borkmann, to American Can Co. Punch press having ejector and divergent product removal means. 3,111,874, 11-26-63, Cl. 83—107.
- Groves, Dale D., and W. R. Wagner, to The B. F. Goodrich Co. Tire vent trimmer. 3,075,574, 1-29-63, Cl. 157—13.
- Groves, Henry W., and B. E. Treganowan, to The De Havilland Aircraft Co. Ltd. Aircraft air conditioning systems. 3,080,728, 3-12-63, Cl. 62—172.
- Groves, Jacquelyn L. Fountain brush. 3,107,388, 10-22-63, Cl. 15—541.
- Groves, James D.: *See—*  
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Evans, Arthur W., and Groves. 3,086,843.
- Groves, James D., to British Titan Products Co. Ltd. Reactor feed method. 3,105,736, 10-1-63, Cl. 23—87.
- Groves, Katherine B.: *See—*  
Smith, Walter H. B., and Groves. 3,077,045.
- Groves, Robert C. Method and apparatus for making hot beverages. 3,079,485, 2-26-63, Cl. 219—41.
- Grow, Bruce W.: *See—*  
Grow, Harlow B. 3,081,091.
- Grow, Craig H.: *See—*  
Grow, Harlow B. 3,081,091.
- Grow, Harlow B.  $\frac{1}{4}$  to C. H. Grow and  $\frac{1}{4}$  to B. W. Grow. Practice ball. 3,081,091, 312-63, Cl. 273—186.
- Growald, Martin C., 15% to A. C. Nolte, Jr. Self-rupturing container. 3,091,053, 5-28-63, Cl. 46—116.
- Gro-Wel Fish-Ade Co., Inc.: *See—*  
Goldman, Marvin. 3,095,852.
- Growth, John A., Jr., and N. Deduck, to American Cyanamid Co. Tetracycline fermentation. 3,092,556, 6-4-63, Cl. 195—80.
- Grow-Rite Corp.: *See—*  
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- Grubb, Gunnar A., to Electrolux, Aktiebolaget. Absorption refrigeration. 3,080,729, 3-12-63, Cl. 62—497.
- Grubb, Gunnar A., to Electrolux, Aktiebolaget. Absorption refrigeration apparatus. 3,093,978, 6-18-63, Cl. 62—236.



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- Grubb, Kenneth W., to The Originators Engineering and Development Co. Compensated key slot building construction. 3,082,492, 3-26-63, Cl. 20-92.
- Grube, Wilhelm. Suspension railway. 3,101,678, 8-27-63, Cl. 104-95.
- Grube, Wolfgang O.: *See*—  
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- Grubelic, Nicholas. Moistening device for envelopes, stamps and the like. 3,080,848, 3-12-63, Cl. 118-249.
- Grubelich, Matthew J., to Bell Telephone Laboratories, Inc. Continuity device. 3,074,520, 1-22-63, Cl. 189-36.
- Gruber, Bernard A., to Monsanto Chemical Co. Process for the production of metal borides. 3,096,149, 7-2-63, Cl. 23-14.
- Gruber, Bernard A., R. A. Ruehrwein, and F. V. Williams, to Monsanto Chemical Co. Boron phosphide articles and coatings. 3,090,703, 5-21-63, Cl. 117-127.
- Gruber, Emil: *See*—  
Pinkwart, Dieter, Schneider, Strittmatter, and Gruber. 3,090,732.
- Gruber, Francis E., C. A. Johnson, and A. D. Verlo, to Standard Packaging Corp. Cigarette lighters. 3,088,301, 5-7-63, Cl. 67-71.
- Gruber, Josef, and K. Wintersberger, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process for the production of acicular gamma-iron (II) oxide. 3,075,919, 1-29-63, Cl. 252-62.5.
- Gruber, Leslie G. Casket adjustment means. 3,083,436, 4-2-63, Cl. 27-12.
- Gruber, Thomas J., to Eaton Mfg. Co. Broken discharge line indicator. 3,098,500, 7-23-63, Cl. 137-456.
- Gruber, Warren M., to Tinius Olsen Testing Machine Co. Materials testing equipment. 3,076,603, 2-5-63, Cl. 235-179.
- Gruber, Wilhelm, to Stahlgruber Otto Gruber & Co. Tire patch. 3,101,764, 8-27-63, Cl. 152-367.
- Gruber, Wilhelm. Instrument for repairing tubeless tires. 3,111,048, 11-19-63, Cl. 81-15.2.
- Grubitsch, Heribert, to FMC Corp. Process for storage of chlorine dioxide. 3,084,995, 4-9-63, Cl. 23-152.
- Grudowski, Daniel A., to Blazon, Inc. Play swing. 3,088,734, 5-7-63, Cl. 272-85.
- Gruen, Harold: *See*—  
Zechter, Sol, Gruen, and Golden. 3,111,622.
- Gruen, Henry. Airplane construction embodying reduced aerodynamic drag and isolated fuel compartments. 3,082,981, 3-26-63, Cl. 244-130.
- Gruenewald, Lou A. Face masks. 3,101,709, 8-27-63, Cl. 128-146.
- Gruenewald, Frederick P. Charging device for charging pressurized containers. 3,106,946, 10-15-63, Cl. 141-20.
- Gruenhagen, Richard H., to The Dow Chemical Co. Method of control of fungal organisms with phenoxathiin-10-oxide compounds. 3,071,506, 1-1-63, Cl. 167-33.
- Gruenz, Otto O., Jr., to Bell Telephone Laboratories, Inc. Number comparison and display circuits. 3,090,942, 5-21-63, Cl. 340-146.2.
- Gruere, Charles. Large diameter earth drill. 3,092,190, 6-4-63, Cl. 175-173.
- Gruetjen, Frederick A., to A. O. Smith Corp. Brazing fixture. 3,094,958, 6-25-63, Cl. 113-133.
- Gruetzman, Stanley A. Wood core sample cutter. 3,110,184, 11-12-63, Cl. 73-425.
- Grumman Aircraft Engineering Corp.: *See*—  
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- Boccaccio, Anthony A., and Kolodzeski. 3,114,201.
- Bradshaw, Robert W., Fitzpatrick, and Teufel. 3,083,995.
- Coleman, William J., and De Santo. 3,071,705.
- Erlandsen, Oscar. 3,080,176.
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- Grumann, Felix J. Memory drum for coin operated record player. 3,103,824, 9-17-63, Cl. 74-116.
- Grün, Gustav. Method and apparatus for mixing pulverulent or fine-grain material. 3,097,828, 7-16-63, Cl. 259-4.
- Grun, Hans-Hellmut: *See*—  
Köhler, Rudolf, Grun, and Kosche. 3,092,619.
- Grünbaum, Heinrich. Arrangement for the automatic coaxial clamping of a sleeve over a shaft. 3,073,632, 1-15-63, Cl. 287-52.09.
- Grundel, Willy, to G. Wagner. Method of producing an endless typewriter ribbon. 3,111,441, 11-19-63, Cl. 156-157.
- Grundig, Max: *See*—  
Mayer, Walter. 3,086,077.
- Sinkewitsch, Leonid. 3,111,281.
- Wunderlich, Gerhard, and Sippel. 3,096,432.
- Grundmann, Christoph J.: *See*—  
Ottmann, Gerhard F., and Grundmann. 3,088,933.
- Grundmark, Bengt, to Allmänna Svenska Elektriska Aktiebolaget. Lightning arrester with resilient sealing lid. 3,096,461, 7-2-63, Cl. 315-36.
- Grundon, John L. Turntable structure. 3,075,614, 1-29-63, Cl. 184-6.
- Grundvig, Reubin G.: *See*—  
Heller, Leon A., and Grundvig. 3,072,433.
- Grüneberg, Gerhard, M. Jung, and H. Spengler, to Accumulatoren-Fabrik Aktiengesellschaft, and Siemens-Schuckert-Werke Aktiengesellschaft. Process for operating fuel cells. 3,082,282, 3-19-63, Cl. 136-86.
- Gruner, Edward C.: *See*—  
Maher, James B., and Gruner. 3,078,686.
- Gruner, Heinz E. R., to Bausch & Lomb Inc. Light sensing method and apparatus therefor. 3,114,283, 12-17-63, Cl. 88-24.
- Grunert, Erhard, to Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques. Process for eliminating titanium for products obtained by the carbothermic reduction of aluminum ores. 3,083,093, 3-26-63, Cl. 75-63.
- Grunewald, Heinz, to E.F.-Textilien- & Apparate-Bau- & Vertriebsgesellschaft, Eilers & Witt K.G. Washing apparatus. 3,071,954, 1-8-63, Cl. 68-27.
- Grünke, Erich: *See*—  
Forster, Jakob, and Grünke. 3,089,444.
- Gunning, Sven E. Device for indicating the bisector of an angle. 3,087,249, 4-30-63, Cl. 33-91.
- Grunswieg & Hartmann A.G.: *See*—  
Eberle, Hans. 3,114,671.
- Grunvogel, Vinzenz A., to Muller & Co. K.G. Utensil washing machine with washing equipment placed in the bottom of the receptacle, especially tumble spray apparatus. 3,108,606, 10-29-63, Cl. 134-57.
- Grunwald, John J., to MacDermid, Inc. Method of and composition for producing electroless black nickel coatings. 3,097,117, 7-9-63, Cl. 148-6.14.
- Grunwald, Wolfgang: *See*—  
Balli, Heinz, Leuchs, Hehl, Grunwald, and Schmidt. 3,082,114.
- Mard, Roland I. E., and Grunwald. 3,074,110.
- Stilz, Walter, Pommer, Gehm, Schmidt, Mertens, Hehl, and Grunwald. 3,076,020.
- Grunwaldt, Gottfried: *See*—  
Rusche, Georg, and Grunwaldt. 3,092,777.
- Grunwaldt, Gottfried, to North American Philips Co., Inc. Transistor-battery supply for gas-discharge tubes. 3,084,283, 4-2-63, Cl. 315-205.
- Grunzke, Marvin E., to United States of America, Air Force. Liquid dispensing device. 3,089,463, 5-14-63, Cl. 119-71.
- Gruodis, Algirdas J., to International Business Machines Corp. Esaki diode memory with diode coupled readout. 3,107,345, 10-15-63, Cl. 340-173.
- Grupp, Edward L. Lawn edging and trimming tool. 3,087,295, 4-30-63, Cl. 56-25.4.
- Grupp, Heinrich, to OTRA Ringlauffer G.m.b.H. Portable apparatus for applying travelers to the ring of a spinning or twisting frame. 3,106,770, 10-15-63, Cl. 29-207.
- Gruss, George A., L. E. McKean, and D. L. Zeiters, to American Machine & Foundry Co. Bowling ball handling mechanism. 3,098,653, 7-23-63, Cl. 273-43.
- Grust, Gerhard, and R. Kaiser, to Telefunken G.m.b.H. Method of producing low-capacitance barrier layers in semiconductor bodies. 3,116,174, 12-31-63, Cl. 148-1.5.
- Gruter, Bernhard. Spiral pipe welding machine. 3,090,336, 5-21-63, Cl. 113-35.
- Grutsch, James F.: *See*—  
Austin, Robert J., Grutsch, and Mallatt. 3,101,321.
- Gruver, Jerry T.: *See*—  
Kraus, Gerard, and Gruver. 3,084,141.
- Gruver, Jerry T., to Phillips Petroleum Co. Method of curing polymeric materials and product thereof. 3,097,193, 7-9-63, Cl. 260-85.1.
- Gruver, John H., to Addressograph-Multigraph Corp. Printing machines. 3,092,021, 6-4-63, Cl. 101-216.
- Gruver, Walter E., Jr.: *See*—  
Moore, William H., and Gruver. 3,095,300.
- Gryetko, Carl E., and K. Ball, to I-T-E Circuit Breaker Co. Thermal magnetic current by-pass. 3,096,413, 7-2-63, Cl. 200-88.
- Gryk, Leon, to Royal McBee Corp. Matrix encoders. 3,088,103, 4-30-63, Cl. 340-347.
- Grzegorzczak, Daniel E., to General Motors Corp. Potting mechanism. 3,081,492, 3-19-63, Cl. 18-30.
- Gsching, Wilhelm, to J. M. Voith, G.m.b.H. Maschinenfabrik. Drive with variable prime mover and fluid transmission with continuously filled fluid circuit. 3,076,353, 2-5-63, Cl. 74-645.
- Gschwind, Charles L.: *See*—  
Dever, Lewis A., and Gschwind. 3,084,899.
- Guala, Angelo. Valved bottle closure. 3,084,822, 4-9-63, Cl. 215-21.
- Guala, Angelo. Bottle closure. 3,115,264, 12-24-63, Cl. 215-76.
- Guanche, Guarino D. Safety clasp. 3,092,885, 6-11-63, Cl. 24-230.
- Guanella, Gustav, to Patelloid Patentverwertungs- & Elektro-Holding A.G. Apparatus for camouflaging communication signals. 3,077,518, 2-12-63, Cl. 179-1.5.
- Guanella, Gustav, to Brown, Boveri & Cie, Aktiengesellschaft. Device for producing an impulse sequence in dependence on the variation of a primary current. 3,085,161, 4-9-63, Cl. 307-88.
- Guardian Electric Mfg. Co.: *See*—  
Wright, William W. 3,085,139.
- Guarino, Louis S.: *See*—  
Beck, Cyrus, and Guarino. 3,077,575.
- Corson, Alan S., Beck, and Guarino. 3,091,962.
- Guarino, Louis S., and P. G. Holt, to United States of America, Navy. Vertical display. 3,094,971, 6-25-63, Cl. 116-129.
- Guarino, Russell S.: *See*—  
Harvel, Loyd F., and Guarino. 3,079,724.
- Guarnaschelli, Stephen, to Atlas Corp. Electrical distribution system. 3,098,115, 7-16-63, Cl. 174-102.



- Guarnaschelli, Stephen, to Atlas Corp. Rotary swivel fluid coupling. 3,107,107, 10-15-63, Cl. 285-275.
- Guarnaschelli, Vincent. Means for increasing fuel efficiency in internal combustion engines. 3,112,741, 12-3-63, Cl. 123-122.
- Guarnaschelli, Vincent, and E. F. Rauch. Fuel pump adjusters. 3,080,825, 3-12-63, Cl. 103-150.
- Guarraia, Charles, to Combustion Engineering, Inc. Water-cooled panels for rear pass enclosure. 3,103,207, 9-10-63, Cl. 122-177.
- Guastavino, Antonio. Process and apparatus for controlling register on rotogravure printing machines. 3,084,621, 4-9-63, Cl. 101-181.
- Gubbels, Christoph. Hook fastener. 3,095,626, 7-2-63, Cl. 24-225.
- Gubbio, Lino, to Società Variatori Gubbio S.r.l. Mechanically operating continuous speed variator. 3,097,538, 7-16-63, Cl. 74-112.
- Gubela, Hans: *See*—
- Nier, Erich-Arthur. 3,100,172.
- Gubelman, William S., deceased, by W. S. Gubelmann, executor, to Realty & Industrial Corp. Key controls for calculating machines. 3,115,300, 12-24-63, Cl. 235-63.
- Gubelmann, Walter S.: *See*—
- Gubelmann, William S. 3,098,609.
- Gubelmann, William S. 3,100,603.
- Gubelmann, William S. 3,115,300.
- Gubelmann, William S. and Walter S. 3,090,553.
- Gubelmann, William S., to Realty and Industrial Corp. Register decimal markers. 3,082,944, 3-26-63, Cl. 235-61.
- Gubelmann, William S., deceased (Walter S. Gubelmann, executor); said Walter S. Gubelmann assor. to Realty and Industrial Corp. Carriage shifting and tabulating mechanisms. 3,090,553, 5-21-63, Cl. 235-63.
- Gubelmann, William S., deceased; by Walter S. Gubelmann, executor; said William S. Gubelmann, assor. to Realty and Industrial Corp. Calculating machine driving mechanism and the like. 3,098,609, 7-23-63, Cl. 235-62.
- Gubelmann, William S., deceased, by Walter S. Gubelmann, executor, to Realty & Industrial Corp. Multiplier-quotient register control mechanisms. 3,100,603, 8-13-63, Cl. 235-63.
- Guckel, Gerhart A.: *See*—
- Stewart, Aubrey P., Jr., and Guckel. 3,083,943.
- Guckel, Henry: *See*—
- Jarosik, Norman A., and Guckel. 3,109,106.
- Gudebrod Brothers Silk Co., Inc.: *See*—
- Krupp, Frederick W. 3,094,209.
- Saylor, Harry D. 3,079,665.
- Gudermuth, Clyde S., to Missouri Wood Heel Co. Locking means for top lift and pin combination. 3,074,186, 1-22-63, Cl. 36-34.
- Gudixsen, Ingvard, to T. J. Mulroy. Baby lift. 3,096,917, 7-9-63, Cl. 224-6.
- Gudmundsen, Austin, and R. F. Davis, to McCulloch Corp. Fluted-cutter sharpener. 3,098,325, 7-23-63, Cl. 51-95.
- Guelfi, James V. Portable whirlpool device. 3,099,986, 8-6-63, Cl. 128-66.
- Guenon, Leon C., to M. R. Burris. Edger attachment. 3,077,230, 2-12-63, Cl. 172-13.
- Guenst, William, to Master Etching Machine Co. Etching machine. 3,078,857, 2-26-63, Cl. 134-46.
- Guenther, Emmerich, to Phillips Petroleum Co. Fluid-actuated toroidal-ring valve. 3,085,440, 4-16-63, Cl. 73-421.5.
- Guenther, Herman G.: *See*—
- Doerer, Richard P., and Guenther. 3,110,427.
- Guenther, John M. Box making machine. 3,088,114, 5-7-63, Cl. 1-111.
- Guenther, Paul E. Tally card with shiftable leaf for selective indicia viewing. 3,113,779, 12-10-63, Cl. 273-148.
- Guenther, Walter F.: *See*—
- Noreen, Donald H., and Guenther. 3,099,826.
- Guentner, Robert L.: *See*—
- Thomas, Eugene P., Guentner, and Vaughn. 3,099,747.
- Guentner, Robert L., and E. F. Moran, to Westinghouse Electric Corp. Teletherapy device. 3,073,960, 1-15-63, Cl. 250-108.
- Guerne, William, to Brevets Aero-Mecaniques S.A. Centrifugally armed fuze for rotating projectile. 3,076,410, 2-5-63, Cl. 102-79.
- Guerra, Alberto: *See*—
- Taramasso, Marco, and Guerra. 3,094,155.
- Guerra, Edmundo R. Protective garment for carrying parcels. 3,079,610, 3-5-63, Cl. 2-16.
- Guerrant, Edmonds L. Circular mortise hinge. 3,081,482, 3-19-63, Cl. 16-128.
- Guerrant, Edmonds L., to Camp'otel Corp. Combined carrier and tent for automobile. 3,102,546, 9-3-63, Cl. 135-1.
- Guerrero, John J. Melon and fruit cutting template. 3,071,171, 1-1-63, Cl. 146-150.
- Guerrieri, Giorgio: *See*—
- Bortolini, Paolo, and Guerrieri. 3,087,867.
- Guerrieri, Salvatore A., and M. Wolf, to The Lummus Co. Chemical recovery of waste liquors. 3,105,738, 10-1-63, Cl. 23-131.
- Guerry, Davenport, to Monsanto Chemical Co. Preventing self-heating. 3,109,034, 10-29-63, Cl. 260-647.
- Guerth, Fritz A. Servosystem and pulse type amplifier. 3,079,539, 2-26-63, Cl. 318-28.
- Guertin, Clifford D., to American Bank Note Co. Safety inks and documents. 3,088,841, 5-7-63, Cl. 117-1.
- Guest, Howard R.: *See*—
- Stansbury, Harry A., Jr., and Guest. 3,090,803.
- Guest, Howard R., and B. W. Kiff, to Union Carbide Corp. Process for the production of 1,3-cyclohexadiene. 3,085,121, 4-9-63, Cl. 260-666.
- Guest, Howard R., B. W. Kiff, and C. B. Halstead, to Union Carbide Corp. Modified acrolein-pentaerythritol resins. 3,087,918, 4-30-63, Cl. 260-88.3.
- Guest, Howard R., and B. W. Kiff, to Union Carbide Corp. Oxidation of polyethers. 3,088,970, 5-7-63, Cl. 260-496.
- Guest, Howard R., B. W. Kiff, and C. B. Halstead, to Union Carbide Corp. Flamer-resistant spirobi(metadioxane) polymers. 3,110,703, 11-12-63, Cl. 260-88.3.
- Guest, Howard R., and B. W. Kiff, to Union Carbide Corp. Dehydrogenation of hydrocarbons. 3,116,338, 12-31-63, Cl. 260-666.
- Guest, Lawrence V., to BSR Ltd. Tape recorder drive. 3,073,540, 1-15-63, Cl. 242-55.12.
- Guest, Lawrence V., to Birmingham Sound Reproducers Ltd. Magnetic tape recorder and reproducer. 3,085,759, 4-16-63, Cl. 242-55.12.
- Guestaux, Claude L., and J. Léauté, to Eastman Kodak Co. Antistatic photographic films. 3,082,087, 3-19-63, Cl. 96-87.
- Guetersloh, Donald G.: *See*—
- Flatt, James H., and Guetersloh. 3,081,793.
- Guetersloh, Donald G., to General Motors Corp. Electrical condenser container closure. 3,109,127, 10-29-63, Cl. 317-260.
- Guex, Waldemar: *See*—
- Butenandt, Adolf, Guex, Hecker, Rüegg, and Schwieter. 3,072,526.
- Erlemann, Gustav, Guex, Ruegg, and Schaeren. 3,098,879.
- Guex, Waldemar, R. Marbet, and M. Montavon, to Hoffmann-La Roche Inc. Process and intermediates for cyclic ketones. 3,109,861, 11-5-63, Cl. 260-587.
- Guex, Waldemar, O. Isler, R. Ruegg, and G. Ryser, to Hoffmann-La Roche Inc. 7-carbo-lower-alkoxy-3-methyl-2,4,6-octatrien-1-ylidene-triphenylphosphorane. 3,113,961, 12-10-63, Cl. 260-469.
- Guffan, Samuel. Window shade cleaner. 3,110,343, 11-12-63, Cl. 160-11.
- Guffra, Joseph A. Atomizing device for carburetors. 3,077,391, 2-12-63, Cl. 48-180.
- Guggemos, Ralph B. Control system for loading and weighing assembly. 3,074,654, 1-22-63, Cl. 241-34.
- Guggenheim, S. Frederic. Method and apparatus for molding. 3,071,814, 1-8-63, Cl. 18-42.
- Guggenheim, S. Frederic, and H. Wormser. Ganged potentiometer structure. 3,112,465, 11-26-63, Cl. 338-132.
- Guglielmi, Vito. Hydraulically operated over-bed table. 3,080,835, 3-12-63, Cl. 108-116.
- Guglielmo, Richard J., Sr., 50% to A. L. Barber, Jr. Method of coating ferromagnetic materials and resultant article. 3,072,497, 1-8-63, Cl. 117-47.
- Guhl, August. Room air conditioning apparatus. 3,070,976, 1-1-63, Cl. 62-264.
- Guhl & Scheibler A. G.: *See*—
- Huber, Fritz. 3,094,925.
- Guibert, Bertrand R. G., to Commissariat a l'Energie Atomique. Devices for securing fuel elements in tubular metal casings for use in nuclear reactors. 3,110,658, 11-12-63, Cl. 204-193.2.
- Guichard, Raymond A. E. Suspended files. 3,093,140, 6-11-63, Cl. 129-16.7.
- Guida, Frank C. Self-extinguishing cigarette. 3,091,243, 5-28-63, Cl. 131-4.
- Guida, Frank C. Electric welding torch. 3,097,290, 7-9-63, Cl. 219-75.
- Guide, Anthony. Spiral stitching attachment for sewing machines. 3,073,266, 1-15-63, Cl. 112-2.
- Guidi, Eugen, to Sulzer Freres, S.A. Manipulators for replacing fuel units in a nuclear reactor. 3,098,811, 7-23-63, Cl. 204-193.2.
- Guiducci, Mariano A.: *See*—
- Fried, Josef, and Guiducci. 3,077,471.
- Fried, Josef, and Guiducci. 3,089,880.
- Guier, William. Swingable practice club with pivoted sound-producing member. 3,113,781, 12-10-63, Cl. 273-186.
- Guier, William. Swingable practice club with magnetically retained slidable sounding device. 3,113,782, 12-10-63, Cl. 273-186.
- Guignard, Boris, to Compagnie Financiere pour le Developpement Industriel C.O.F.I.D.I. Societe Anonyme. Method and apparatus for forming containers. 3,109,198, 11-5-63, Cl. 18-30.
- Guilbert, Jean M.: *See*—
- Ber, Esther, Dvolutsky, and Guilbert. 3,079,441.
- Guild Molders, Inc.: *See*—
- Davidson, Emil. 3,073,473.
- Davidson, Emil. 3,092,281.
- Davidson, Emil. 3,109,427.
- Guiles, Glen A., to Corning Glass Works. Coated optical screens and their production. 3,114,668, 12-17-63, Cl. 161-116.
- Guilfoyle, Thomas M., to Continental Can Co., Inc. Reclosable bag. 3,107,842, 10-22-63, Cl. 229-62.
- Guillemette, Gerard, to R. Carrier. Snow blower. 3,085,832, 4-16-63, Cl. 302-37.
- Guillet, James E., and H. W. Coover, Jr., to Eastman Kodak Co. Hydrocarbon wax coatings and their process of preparation. 3,106,485, 10-8-63, Cl. 117-119.2.



- Guillon, Henri G., to Commissariat a l'Energie Atomique. Sequential switching device. 3,116,608, 12-24-63, Cl. 328-105.
- Gullory, Paul, Sr. Multi-stage centrifugal pump. 3,076,411, 2-5-63, Cl. 103-102.
- Gullou-Keredan, Raymond P. P., to Societe d'Etudes et de Construction de Chaudières en Acier. Boiler. 3,081,747, 3-19-63, Cl. 122-225.
- Guillow, Paul K., Inc.: *See—*  
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- Guindon, Bertrand E., to Draper Corp. Filling carrier for shuttleless looms. 3,088,497, 5-7-63, Cl. 139-122.
- Guiness, Arthur, Son and Co. (Park Royal) Ltd.: *See—*  
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- Guinet, Paul: *See—*  
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- Guiney, Edwin W. Pneumatic splint. 3,074,398, 1-22-63, Cl. 128-87.
- Guingand, Jean R., to Heurtey, Societe Anonyme. Forced convection, removable bell type furnaces. 3,113,766, 12-10-63, Cl. 263-40.
- Guinness Hop Farms Ltd.: *See—*  
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- Guion, Thomas H., to Monsanto Chemical Co. Process for union dyeing of acrylonitrile polymers and basic nitrogenous fiber blends. 3,098,690, 7-23-63, Cl. 8-21.
- Guiot, Maurice, to R.E.T.E.M. Recherches et Etudes Electroniques et Mecaniques. Devices for measuring torques. 3,104,544, 9-24-63, Cl. 73-136.
- Guise, Arthur B., and C. Forrester, to Aneul Chemical Co. Fire extinguisher. 3,092,183, 6-4-63, Cl. 169-31.
- Guiton, Jean, and C. Lallemant, to Commissariat a l'Energie Atomique. Geophysical prospecting device for identifying radioactive elements. 3,105,149, 9-24-63, Cl. 250-71.5.
- Gulaian, Vartan A.: *See—*  
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- Gulbrandsen, Richard E., to Raytheon Co. Electron discharge device having improved pin connections. 3,082,350, 3-19-63, Cl. 313-318.
- Guldager, Clinton H., deceased; R. L. Saxton, P. J. Simmons, and A. A. Andersen, co-executors, to Likit Windows, Inc. Deformation resisting sliding closure assembly. 3,106,753, 10-15-63, Cl. 20-19.
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- Gulick, Ronald A., to ACF Industries, Inc. Structural center section for fabricated gate valve. 3,096,072, 7-2-63, Cl. 251-329.
- Gulick, William K., to United States of America, Air Force. Flow limiting valve. 3,103,950, 9-17-63, Cl. 137-494.
- Gulley, Irvin G., to Olin Mathieson Chemical Corp. Drills. 3,104,563, 9-24-63, Cl. 77-65.
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- Gumprecht, William H., and D. J. Reif, to E. I. du Pont de Nemours and Co. Bleach-fast fiber-reactive orange to red diazo dyes. 3,109,841, 11-5-63, Cl. 260-153.
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- Gustavson, Roger W., and M. C. Mosher, to Crompton & Knowles Corp. Means and methods for forming a welt-loop selvage. 3,102,557, 9-3-63, Cl. 139-124.
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- Guterman, Sadia S., and R. D. Kodis, to Raytheon Co. Intelligence control systems. 3,095,554, 6-25-63, Cl. 340-174.
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- Haebler, John A., to Shell Oil Co. Well casing hanger with releasable slip means. 3,081,113, 3-12-63, Cl. 285-23.
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- Haefliger, William W.: See—Crownover, Joseph W. 3,073,915.
- Haen, Eugene P. Double deck feed bunk. 3,103,203, 9-10-63, Cl. 119-59.
- Haendeler, Walter: See—Billen, Peter, Emmerich, Haendeler, and Linnerz. 3,085,684.
- Haenni, David E. and J. W. Ratchet-type wrench. 3,104,570, 9-24-63, Cl. 81-126.
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- Haenni, John W.: See—Haenni, David E. and J. W. 3,104,570.
- Haertel, W. J., & Co.: See—Purdy, Burl O. 3,093,221.
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- Hafner, Theodore. Suspension and tensioning of successive sections of surface wave transmission lines between supports with coupling between sections at supports. 3,098,988, 7-23-63, Cl. 333-95.
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- Hafstad, Carl E. Door latch mechanism. 3,109,674, 11-5-63, Cl. 292-76.
- Hafke, Jozef J., to Babcock & Wilcox Ltd. Pressure vessels. 3,087,883, 4-30-63, Cl. 204-193.2.
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- Haga, Seiko: See—Nishiyama, Shizuo, Takagi, Anzal, and Haga. 3,114,654.
- Hagadorn, Elmore W. Spraying apparatus. 3,084,870, 4-9-63, Cl. 239-305.
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- Hagelstein, Emma A.: See—  
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- Hageman, George E., to Daystrom, Inc. Thermometer. 3,089,340, 5-14-63, Cl. 73—363.9.
- Hageman, Howard A., and J. A. Riddell, to United States Rubber Co. Fungicides. 3,081,222, 3-12-63, Cl. 167—33.
- Hagemeyer, Hugh J., Jr.: See—  
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- Hagen, Glenn E., C. R. Williams, A. Y. Baker, and R. E. Jackson, to Alwac International Inc. Computer system with high capacity random access memory. 3,089,124, 5-7-63, Cl. 340—172.5.
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- Hagen, Marcus W. Fluid seal for rotor. 3,112,868, 12-3-63, Cl. 230—145.
- Hagen, Marcus W., and D. S. Strader, to The Frank G. Hough Co. Multiple control mechanism. 3,101,624, 8-27-63, Cl. 74—471.
- Hagenah, Hans G.: See—  
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- Hager, Bror O. Preserving agent stabilized with carbon dioxide. 3,089,810, 5-14-63, Cl. 167—38.5.
- Hager, Gerald L.: See—  
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- Hager, Harvey L., % to H. L. Hager, Jr. Check protector. 3,104,610, 9-24-63, Cl. 101—24.
- Hager, Harvey L., Jr.: See—  
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- Hager, Richard E., and E. R. Lowrey, to The Procter & Gamble Co. Cake mixes and method of preparing the same. 3,071,472, 1-1-63, Cl. 99—94.
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- Hager, Robert R., to The Bendix Corp. By-pass valve for low input hydrovac. 3,076,315, 2-5-63, Cl. 60—54.5.
- Hager, Robert R., to The Bendix Corp. Power operated master cylinder. 3,103,786, 9-17-63, Cl. 60—54.6.
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- Hager, Robert R., and D. S. Wahlstrom, to The Bendix Corp. Multi-diaphragm fluid pressure motor construction. 3,103,855, 9-17-63, Cl. 137—791.
- Hager, Robert R., and D. J. Gardner, to The Bendix Corp. Fastening means for ball-ended members. 3,107,111, 10-15-63, Cl. 287—126.
- Hagerty, Andrew T., C. A. Bailey, and T. F. Brennenman, to The Adlake Co. Window construction. 3,076,535, 2-5-63, Cl. 189—64.
- Hagerty, John P. Ignition system for solid fuel charges. 3,101,590, 8-27-63, Cl. 60—35.6.
- Hagerty, John P. Nose cooling means for missiles. 3,106,162, 10-8-63, Cl. 102—92.5.
- Hagg, Don R., and O. G. Grove, to National Dairy Farm Equipment, Inc. Milking apparatus. 3,077,180, 2-12-63, Cl. 119—14.1.
- Haggard, Alfred S. Matrix for determining cuts on pattern cams. 3,089,248, 5-14-63, Cl. 33—174.
- Haggard, John M.: See—  
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- Haggerty, John P.: See—  
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- Haggerty, William A., to The Cincinnati Milling Machine Co. Drill grinding method. 3,109,270, 11-5-63, Cl. 51—288.
- Hagglund, Kjell H., E. G. Westerlund, and U. A. Peuron, to Telefonaktiebolaget L M Ericsson. Device for suppressing fundamental and subharmonic ferromagnetic oscillations in alternating current circuits. 3,106,651, 10-8-63, Cl. 307—105.
- Hagglund & Soner, Aktiebolaget: See—  
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- Hagglund, Sven E., to Borsig Aktiengesellschaft, and Svensk Torforadling, Aktiebolaget. Diaphragm filter press. 3,098,429, 7-23-63, Cl. 100—115.
- Haggott, John C., and W. J. A. Connor. Automatic fire protection apparatus. 3,113,624, 12-10-63, Cl. 169—5.
- Hagler, Norman R., to General Motors Corp. Solenoid operated vacuum regulator. 3,073,345, 1-15-63, Cl. 137—623.
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- Hagmann, Foster M., H. B. Graham, and R. B. Morris. Seal for jar caps. 3,111,237, 11-19-63, Cl. 215—40.
- Hagner, Lawrence R., to Western Electric Co., Inc. Apparatus for percussively welding electrical components to circuit boards. 3,100,530, 8-13-63, Cl. 219—79.
- Hagner, Lawrence R., and H. M. Larsen, to Western Electric Co., Inc. Mechanism for intermittently advancing and positioning articles. 3,082,859, 3-26-63, Cl. 198—135.
- Hagood, Cecil C., Sr. Speech prompter. 3,083,487, 4-2-63, Cl. 40—86.
- Hagstrom, Arthur A., to Teletype Corp. Contact assemblage for key controlled printing telegraph apparatus. 3,084,218, 4-2-63, Cl. 178—17.
- Hague, Louise D.: See—  
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- Hague, Robert Z., H. Karby, and A. B. Newbury, to Rockwell Mfg. Co. Meter registers and drive mechanisms therefor. 3,093,307, 6-11-63, Cl. 235—94.
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- Hahn, Gilbert B., to The Murray Ohio Mfg. Co. Convertible bicycle frame. 3,088,747, 5-7-63, Cl. 280—7.11.
- Hahn Harold G.: See—  
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- Hahn, Harold G., to The Dow Chemical Co. Composition of chloroethylene polymer latex with a chlorate and osmium tetroxide. 3,092,599, 6-4-63, Cl. 260—29.6.
- Hahn, Harold G., R. L. Visger, and W. J. Raich, to The Dow Chemical Co. Thermal stabilization of latexes of haloethylene polymers with chlorine dioxide or chlorites. 3,092,598, 6-4-63, Cl. 260—29.6.
- Hahn, Harold T.: See—  
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- Hahn, James H., to Basic Motor Developments, Inc. Printed disc electrical machinery. 3,096,455, 7-2-63, Cl. 310—268.
- Hahn, James H., and R. J. Nadherny, to Schulze and Burch Biscuit Co. Article conveying, separating, and stacking apparatus. 3,071,236, 1-1-63, Cl. 198—32.
- Hahn, James H., and R. J. Nadherny, to Schulze and Burch Biscuit Co. Apparatus for handling bakery articles. 3,093,281, 6-11-63, Cl. 225—97.
- Hahn, Johann, and E. Sauer, to Zeiss Ikon Aktiengesellschaft. Single lens mirror reflex cameras. 3,074,333, 1-22-63, Cl. 95—42.
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- Hahn, Marion. Bridge structures. 3,103,026, 9-10-63, Cl. 14—13.
- Hahn, Norman E., and J. Miller. Harvesting device. 3,105,342, 10-1-63, Cl. 56—328.
- Hahn, Oscar W. Boom stabilizing and safety control apparatus. 3,097,749, 7-16-63, Cl. 212—59.



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- Hahn, Paul T.: *See*—  
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- Hahn, Rea L., W. H. Powers, R. A. Heath, and E. Lentz, to Walker Mfg. Co. Filter. 3,115,873, 12-31-63, Cl. 123-119.
- Hahn, Richard H., and H. V. French. Coupling. 3,082,394, 3-19-63, Cl. 339-16.
- Hahn, Robert S., to The Heald Machine Co. Grinding machine. 3,089,288, 5-14-63, Cl. 51-50.
- Hahn, Volker, to Ed. Zublin, A.G. Device for anchoring tensioning elements. 3,099,109, 7-30-63, Cl. 50-128.
- Hahn, Walter J., to Springfield Metallic Casket Co., Inc. Magnetically attached crucifix for caskets. 3,115,434, 12-24-63, Cl. 161-8.
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- Hahn, Erich, and W. 3,076,398.
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- Hahn, Werner, and R. Noack, to VEB Kamera- und Kinowerke Dresden. Photographic cameras. 3,072,033, 1-8-63, Cl. 95-10.
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- Hahn, William C., to General Electric Co. Impulse systems. 3,103,661, 9-10-63, Cl. 343-73.
- Haibt, Luther H., to International Business Machines Corp. Memory system. 3,104,380, 9-17-63, Cl. 340-174.
- Haidasch, Ingo, and J. Voss, to Kalle Aktiengesellschaft. Polymerizable mixed allyl carboxymethyl cellulose esters and salts thereof. 3,071,572, 1-1-63, Cl. 260-231.
- Haig, Arthur N.: *See*—  
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- Haig, James, Inc.: *See*—  
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- Haigler, Henry E., Jr., and H. B. Dowell, Jr., to Monsanto Chemical Co. Discharge chute for stuffer crimpers. 3,108,352, 10-29-63, Cl. 28-1.
- Hailes, William D., to General Railway Signal Co. Remote control system for vehicles. 3,072,785, 1-8-63, Cl. 246-177.
- Hailes, William D., to General Signal Corp. Magnetic stick type relay. 3,109,126, 10-29-63, Cl. 317-172.
- Hailes, William D., to General Signal Corp. Centralized traffic control system for railroads. 3,109,160, 10-29-63, Cl. 340-163.
- Hailes, William D., to General Signal Corp. Automatic recorder for centralized traffic controlling system. 3,109,616, 11-5-63, Cl. 246-107.
- Hailes, William D., to General Signal Corp. Centralized zone control system. 3,112,908, 12-3-63, Cl. 246-23.
- Haimbaugh, Omer L.: *See*—  
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- Haine, Walter A.: *See*—  
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- Hair, Benjamin F., to Ford Motor Co. Low energy load leveling vehicle suspension. 3,095,213, 6-25-63, Cl. 280-124.
- Hairston, Festus. Display device. 3,071,965, 1-8-63, Cl. 73-190.
- Hait, James M., to FMC Corp. Peach pitter. 3,093,173, 6-11-63, Cl. 146-28.
- Hait, James M., to FMC Corp. Method of pitting peaches. 3,102,568, 9-3-63, Cl. 146-238.
- Hait, James M., to FMC Corp. Earth moving vehicle. 3,105,311, 10-1-63, Cl. 37-4.
- Haith, William J. Rock drilling bit. 3,094,180, 6-18-63, Cl. 175-401.
- Halvala, William S. Concrete working tool. 3,082,460, 3-26-63, Cl. 15-235.4.
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- Hajos, Eugene, to Hydrator Co. Towel stacking system. 3,081,996, 3-19-63, Cl. 271-74.
- Hajos, Eugene, to The Hydrator Co. Apparatus for processing sheet materials. 3,103,755, 9-17-63, Cl. 38-143.
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- Hake, Richard, to Joh. Friedrich Ohler Maschinenfabrik, Fa. Overloading protection device for cold circular saws. 3,110,206, 11-12-63, Cl. 83-62.
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- Hakogi, Ichiro. Printing machine. 3,115,091, 12-24-63, Cl. 101-40.
- Halacsy, Andrew A. Method of applying insulating incapsulation. 3,089,199, 5-14-63, Cl. 18-59.
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- Brunner, Walter H., and Halasz. 3,088,878.
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- Halbach, Ralph H., to Dorr-Oliver Inc. Centrifuge machine. 3,080,109, 3-5-63, Cl. 233-28.
- Halbach, Ralph H., to Dorr-Oliver Inc. Centrifuge machine. 3,111,490, 11-19-63, Cl. 233-14.
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- Haldeman, Donald F., and C. A. Stone. Letter opener. 3,102,335, 9-3-63, Cl. 30-294.
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- Haldeman, Robert G., and G. Castellion, to American Cyanamid Co. Process for the dealkylation of alkyl naphthalene. 3,102,151, 8-27-63, Cl. 260-672.
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- Hale, Denver. Gamma radiation dosimeter. 3,073,955, 1-15-63, Cl. 250-83.
- Hale, Everett W., and H. B. Laudenslager, Jr., to Blackstone Corp. Process for the production of cast iron. 3,080,228, 3-5-63, Cl. 75-130.
- Hale, John D., to Fairbanks, Morse & Co. Scale suspension system. 3,103,390, 9-10-63, Cl. 308-2.
- Hale, John W.: *See*—  
Reed, Edwin E., Hale, and Hamlin. 3,097,516.
- Hale, Murray E.: *See*—  
Fuller, Harrison W., Hale, and McCormack. 3,106,606.
- Hale, Myron T. and N. S. Surgical instrument for performing a tracheotomy. 3,104,666, 9-24-63, Cl. 128-305.
- Hale, Nathan S.: *See*—  
Hale, Myron T. and N. S. 3,104,666.
- Halenar, Simeon L., and W. A. Kaepernik, to Ethicon, Inc. Filament-handling device and method. 3,079,078, 2-26-63, Cl. 235-132.
- Hales, Ralph A., J. W. Le Maistre, and G. O. Orth, Jr., to Atlas Chemical Industries, Inc. Preparation of hydroxy-methyl furfural. 3,071,599, 1-1-63, Cl. 260-347.8.
- Haley, Alfred J.: *See*—  
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- Cohn, Johann G. E., and Haley. 3,092,444.



- Haley, Floyd C., to E. I. du Pont de Nemours and Co. Extrusion coating under reduced pressure. 3,082,144, 3-19-63, Cl. 156-244.
- Haley, Harold A., to American Viscose Corp. Differential wind-up apparatus. 3,085,764, 4-16-63, Cl. 242-75.53.
- Haley, Kenneth M., B. L. Arntz, and R. L. Reed, to Reserve Mining Co. Air draft for pelletizing furnace. 3,088,723, 5-7-63, Cl. 266-21.
- Haley, Richard M.: *See*—  
Butler, Jacob C., and Haley. 3,103,217.
- Halford, Edward J. Method of producing artistic castings. 3,094,375, 6-18-63, Cl. 18-58.
- Halford, Wilfrid C. J. Block and tackle apparatus with rope brake means. 3,112,816, 12-3-63, Cl. 188-65.2.
- Haliburton Co.: *See*—  
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- Halkey-Roberts Corp.: *See*—  
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- Hall, Anthony P., and S. R. Gillanders, to Imperial Chemical Industries Ltd. Production of staple fibers from waste material. 3,107,412, 10-22-63, Cl. 28-72.
- Hall, Archie A., and J. R. Sabbia, to United States of America, Navy. Supinating pilot's seat. 3,098,631, 7-23-63, Cl. 244-122.
- Hall, Bennie, Jr., and R. H. Indorf, to H & I Tool Development Co., Inc. Tool for removing auto body dents and the like. 3,113,478, 12-10-63, Cl. 81-15.
- Hall, Bertie R. Phone holder. 3,091,670, 5-28-63, Cl. 179-156.
- Hall, C. M., Lamp Co.: *See*—  
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- Hall, Calvin H.: *See*—  
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- Hall, Dewey J., Jr., to International Minerals & Chemical Corp. Process for beneficiating ores. 3,113,922, 12-10-63, Cl. 209-166.
- Hall, Dick S., to Phillips Petroleum Co. Recovery of polymers from solution. 3,076,795, 2-5-63, Cl. 260-94.7.
- Hall, Edward N., to Avir Research Corp. Utilization of promoters in effecting reactions. 3,086,354, 4-23-63, Cl. 60-35.4.
- Hall, Elmer D. Hydraulic method and apparatus for flexing stuck pipe in well bores. 3,096,822, 7-9-63, Cl. 166-35.
- Hall, Emery L., to Skil Corp. Combination polisher handle and polish dispenser. 3,104,783, 9-24-63, Cl. 222-191.
- Hall, Frank: *See*—  
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- Hall, Fred F. Self-propelled irrigation trailer. 3,101,903, 8-27-63, Cl. 239-183.
- Hall, Freeman F.: *See*—  
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- Hall, Gardner V. Silk screen printing press. 3,101,665, 8-27-63, Cl. 101-125.
- Hall, George D.: *See*—  
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- Hall, George H.: *See*—  
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- Hall, Gloria E., and F. H. Jenkins. Bathing chair for children. 3,086,222, 4-23-63, Cl. 4-185.
- Hall, Harlow H.: *See*—  
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- Hall, Harry D.: *See*—  
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- Hall, Harry H., and R. P. Gutterman. Acoustical doppler firing device. 3,115,833, 12-31-63, Cl. 102-18.
- Hall, Henry J. Device for freezing and releasing ice cubes. 3,075,365, 1-29-63, Cl. 62-355.
- Hall, Horace N.: *See*—  
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- Hall, Horace N., to E. J. Lavino and Co. Teyere block and reinforcing insert therefor. 3,088,725, 5-7-63, Cl. 266-41.
- Hall, Hugh E., Jr.: *See*—  
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- Hall, Hugh E., Jr., to Texaco Inc. Radioactivity well logging. 3,072,791, 1-8-63, Cl. 250-83.3.
- Hall, Hugh E., Jr., to Texaco Inc. Radioactivity well logging. 3,072,793, 1-8-63, Cl. 250-83.6.
- Hall, Hugh E., Jr., and R. W. Pitts, Jr., to Texaco Inc. Collar locating system. 3,088,068, 4-30-63, Cl. 324-34.
- Hall, Hugh E., Jr., and A. S. McKay, to Texaco Inc. Radioactivity well logging for carbon determination. 3,115,579, 12-24-63, Cl. 250-83.3.
- Hall, Hugh J., to Varian Associates. Tuning means for flexible wall of resonant cavity of klystron amplifier. 3,082,386, 3-19-63, Cl. 333-83.
- Hall, James A.: *See*—  
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- Hall, James I., and C. S. Forde, to Kaiser Aluminum & Chemical Corp. Writer for recording rotation vertical variations of an apparatus. 3,112,153, 11-26-63, Cl. 346-113.
- Hall, James R.: *See*—  
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- Hall, James R., and W. F. Hennessey, Jr., to The Bendix Corp. Electrical connector. 3,090,028, 5-14-63, Cl. 339-174.
- Hall, Jesse E., Sr., to Trojan, Inc. Rotary scratcher. 3,111,170, 11-19-63, Cl. 166-173.
- Hall, Jesse E., Sr., and L. A. Bailey, to Abastecedora Jefe, S.A. Close tolerance scratchers. 3,071,191, 1-1-63, Cl. 166-173.
- Hall, Joseph M., to American Can Co. Protective cover. 3,081,018, 3-12-63, Cl. 229-40.
- Hall, Joseph P., Jr., J. F. Hardy, and M. E. Jordan, to Cabot Corp. Newsinks having excellent rub-off characteristics. 3,075,844, 1-29-63, Cl. 106-27.
- Hall, Kenneth M.: *See*—  
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- Hall, Laurence S., to United States of America, Atomic Energy Commission. Method for exchanging energy with a plasma by magnetic pumping. 3,116,209, 12-31-63, Cl. 176-3.
- Hall, Lawrence G., L. G. Cole, and C. E. Berry, to Consolidated Electrodynamics Corp. Electrode structure. 3,081,250, 3-12-63, Cl. 204-195.
- Hall, Leslie B. Solid bullet lubricant. 3,097,169, 7-9-63, Cl. 252-23.
- Hall, Lewis D., to Ultek Corp. Single cell vacuum apparatus. 3,107,844, 10-22-63, Cl. 230-69.
- Hall, Lewis D., and J. W. Sugg, to Ultek Corp. Modular electronic ultrahigh vacuum pump. 3,112,864, 12-3-63, Cl. 230-69.
- Hall, Lewis W., Jr., to Sun Oil Co. Preparation of methyl pentenes. 3,094,573, 6-18-63, Cl. 260-683.15.
- Hall, Llewellyn J. Mobile weed and brush cutter. 3,113,411, 12-10-63, Cl. 56-25.
- Hall, Marchand B.: *See*—  
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- Hall, Marchand B., E. Staron, and R. E. Hager, to Acme Steel Co. Automatic box strapping machine. 3,101,663, 8-27-63, Cl. 100-30.
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- Hall, Matthew & Co. Ltd.: *See*—  
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- Hall, Michael A., to Beckman Instruments, Inc. High resolution digital position transducer including a magnetic switch. 3,114,020, 12-10-63, Cl. 200-87.
- Hall, Michael M. J., to British Dielectric Research Ltd. Capacitors. 3,090,895, 5-21-63, Cl. 317-260.
- Hall, Mitchell A. Timer. 3,075,055, 1-22-63, Cl. 200-35.
- Hall, Mitchell A. Cost wheel. 3,075,056, 1-22-63, Cl. 200-38.
- Hall, Mitchell A. Timer mechanism. 3,090,843, 5-21-63, Cl. 200-38.
- Hall, Mitchell A. Adapter for coin slide. 3,106,278, 10-8-63, Cl. 194-92.
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- Hall, Norris R.: *See*—  
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- Hall, Raymond L., to Ski-Dek Corp. Ski binding. 3,101,201, 8-20-63, Cl. 280-11.35.
- Hall, Richard C., and R. E. Wien, to Westinghouse Electric Corp. Rolling silicon-iron. 3,099,176, 7-30-63, Cl. 80-60.
- Hall, Richard H., to Xerox Corp. Method for formation of electrostatic image. 3,084,061, 4-2-63, Cl. 117-17.5.
- Hall, Richard H., to United States of America, Army. Stepping motor. 3,087,077, 4-23-63, Cl. 310-37.
- Hall, Richard H. Means responsive to sewing-machine presser-foot operation for work-control positioning of needle bar. 3,092,055, 6-4-63, Cl. 112-221.
- Hall, Richard H., to Xerox Corp. Xerographic apparatus with magnetic conveyor. 3,113,042, 12-3-63, Cl. 118-637.
- Hall, Richard W., to Barnes Engineering Co. Reflectometer. 3,091,154, 5-28-63, Cl. 88-14.
- Hall, Robert D., and R. W. Johnston, to Sylvania Electric Products Inc. Pneumatic abrasive cutting apparatus. 3,084,484, 4-9-63, Cl. 51-8.
- Hall, Robert E., to Dean L. Burdick Associates, Inc. Device for applying creams and the like to the skin. 3,088,470, 5-7-63, Cl. 132-79.
- Hall, Robert H.: *See*—  
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- Hall, Robert M.: *See*—  
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- Hall, Roger N.: *See*—  
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- Hall, Ronald H., to Aplin & Barrett Ltd. Production of nisin. 3,093,551, 6-11-63, Cl. 195-96.
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- Hall, Russell V. Power lawn mower. 3,091,906, 6-4-63, Cl. 56-25.4.
- Hall, Thomas R., to McCabe-Powers Body Co. Single-boom derricks. 3,096,886, 7-9-63, Cl. 212-35.
- Hall-Toledo, Inc.: *See*—  
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- Hall, Trevor W., to Panel Engineering Corp. Precast panel construction. 3,100,952, 8-20-63, Cl. 50-413.
- Hall, Victor C., to Snyder Tool & Engineering Co. Capsule handling machine. 3,108,712, 10-29-63, Cl. 221-172.
- Hall, Victor C., to Merck & Co., Inc. Disposable ampul. 3,114,369, 12-17-63, Cl. 128-216.
- Hall, Wade E., and A. C. Poshkus, to Armstrong Cork Co. Preparation of expandable polystyrene particles. 3,088,925, 5-7-63, Cl. 260-2.5.
- Hall, William F.: *See*—  
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- Hall, William G.: *See*—  
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- Hall, William G., to Bell Telephone Laboratories, Inc. Unanimity memory circuit utilizing transistor resistor logic means. 3,081,407, 3-12-63, Cl. 307-88.5.
- Hall, William M., to Raytheon Co. Radar navigational display apparatus with a plurality of sweep voltages. 3,114-908, 12-17-63, Cl. 343-10.
- Hall, William O.: *See*—  
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- Hall, William R. Filtering systems. 3,100,747, 8-13-63, Cl. 210-167.
- Hall, William R. Adjustable multiple V-belt pulley control mechanism with removable pulley sections. 3,108,485, 10-29-63, Cl. 74-230.17.
- Hallam, Henry A., to Partridge's Models Ltd. Ski bindings. 3,095,210, 6-25-63, Cl. 280-11.35.
- Hallas, Harry H., to The Chase-Shawmut Co. Method for manufacturing fuse links. 3,092,715, 6-4-63, Cl. 219-117.
- Hallbauer, Dankmar, to General Electric Co. Cover latch for meter socket. 3,112,839, 12-3-63, Cl. 220-3.8.
- Hallberg, Frederick C.: *See*—  
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- Hallberg, Irving H., to Borg-Warner Corp. Unthrottled internal combustion engine. 3,079,901, 3-5-63, Cl. 123-32.
- Hallberg, Leif Y. G., to Hassle Apotekare Paul Nordstroms Fabriken, Aktiebolaget. Pharmaceutical iron preparations. 3,076,747, 2-5-63, Cl. 167-68.
- Halden, Carl E., Jr., to E. I. du Pont de Nemours and Co. Yarn fluid treatment apparatus. 3,084,413, 4-9-63, Cl. 28-1.
- Halle, Kurt, to Siemens-Schuckertwerke Aktiengesellschaft. Regulating system for steam power plants with forced-flow boilers. 3,089,308, 5-14-63, Cl. 60-106.
- Halle, Roger J. Connection of structural elements in the art of building. 3,097,730, 7-16-63, Cl. 189-36.
- Hallenbeck, Emerson J. Rotary lawn mower. 3,112,594, 12-3-63, Cl. 56-25.4.
- Hallenbeck, Virgil R., to General Motors Corp. Vehicle body. 3,096,117, 7-2-63, Cl. 296-107.
- Haller, Augustine C.,  $\frac{1}{2}$  to A. C. and P. T. Blakely. Process for preserving perishable products by refrigeration. 3,082-097, 3-19-63, Cl. 99-192.
- Haller, John. Self-aligning spherical bearing. 3,115,375, 12-24-63, Cl. 308-72.
- Haller, John F., and R. D. Twelves, to Olin Mathieson Chemical Corp. Process for the adsorption and desorption of diborane. 3,116,132, 12-31-63, Cl. 55-58.
- Haller, Martin N., and C. J. Owen, to United States of America, Air Force. Printed circuit on a ceramic base and method of making same. 3,079,282, 2-26-63, Cl. 117-212.
- Haller, Reinhold, and L. Scheffner, to W. Kauffmann. Vertical turning mill. 3,107,561, 10-22-63, Cl. 82-2.
- Haller, Wolfgang K., to Mycellex Corp. of America. Method and apparatus for making reconstituted synthetic mica sheet. 3,087,482, 4-30-63, Cl. 125-24.
- Hallerberg, Don M. Illuminated warning device with switch-operating mechanism. 3,090,949, 5-21-63, Cl. 340-366.
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- Hallett, Henry A., to Cheltenham Auto Controls Ltd. Position indicators. 3,094,863, 6-25-63, Cl. 73-37.5.
- Hallett, Henry A., and R. W. Young, to Cheltenham Auto Controls Ltd. Gas filtration plant. 3,073,097, 1-15-63, Cl. 55-283.
- Hallett, James T.: *See*—  
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- Halley, Angus M., to James Halley & Sons Ltd. Apparatus for joining a fresh web to an exhausting web continuously feeding processing machinery. 3,093,337, 6-11-63, Cl. 242-58.2.
- Halley, Angus M., to James Halley & Sons, Ltd. Apparatus for coating a moving web. 3,116,166, 12-31-63, Cl. 118-68.
- Halley, Angus M., and L. E. Stapleford, to James Halley & Sons Ltd. Apparatus for drying printed webs of material. 3,079,702, 3-5-63, Cl. 34-86.
- Halley, James, & Sons Ltd.: *See*—  
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- Hallford, Ben R., and W. B. Davis, to Collins Radio Co. Temperature regulated chamber. 3,088,673, 5-7-63, Cl. 236-49.
- Hallgren, Carl T. M., and A. G. L. Alden, to International Harvester Co. Marker shifting device for an agricultural implement. 3,101,787, 8-27-63, Cl. 172-127.
- Halliburton Co.: *See*—  
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- Halliburton Co.: *See*—Continued  
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- Hallcrafters Co., The: *See*—  
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- Halliday, William. Flaw-detection and like systems using sonic or ultrasonic waves. 3,086,195, 4-16-63, Cl. 340-15.
- Hallidy, William M., to The Leece-Neville Co. Generating system regulation. 3,082,370, 3-19-63, Cl. 322-25.
- Hallinan, Francis J., E. J. Czarnetzky, and A. I. Coombes, to Wilson & Co., Inc. Pet foods and method of packaging same. 3,115,409, 12-24-63, Cl. 99-7.
- Halliwell, Carl W.: *See*—  
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- Halliwell, Ronald H., to E. I. du Pont de Nemours and Co. Low pressure tetrafluoroethylene polymerization process. 3,110,704, 11-12-63, Cl. 260-92.1.
- Hallmark Cards, Inc.: *See*—  
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- Hallock, Edward C. Louver assembly. 3,070,855, 1-1-63, Cl. 20-62.
- Hallock, Robert L., to Elastic Stop Nut Corp. of America. Deformable tubular fastener with external tapping threads. 3,085,463, 4-16-63, Cl. 85-40.
- Hallock, Robert L. Driven fastener. 3,088,361, 5-7-63, Cl. 85-28.
- Hallock, Robert L. Driven fastener having penetrating point for attaching objects to metal. 3,095,777, 7-2-63, Cl. 85-31.
- Hallonquist, Earland G., to MacMillan & Bloedel Ltd. Wood patching composition containing acrylic ester polymer and method of use. 3,098,053, 7-16-63, Cl. 260-31.2.
- Hallowell, Dennis F., Jr., to Richfield Oil Corp. Oil and grease lubricating compositions and additive therefor. 3,106,533, 10-8-63, Cl. 252-34.7.
- Hallows, Leonard B.: *See*—  
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- Halls, Lawrence M., to Sperry Rand Corp. Reciprocating mower drive. 3,113,412, 12-10-63, Cl. 56-296.
- Halls, Lawrence M., and L. M. Bumm, to Sperry Rand Corp. Hay conditioner. 3,100,367, 8-13-63, Cl. 56-1.
- Hallstrom, Bengt H.: *See*—  
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- Hallstrom, Bengt H., to Separator, Aktiebolaget. Method and apparatus for preventing infection of heat exchange chambers. 3,099,520, 7-30-63, Cl. 21-2.
- Hallstrom, Bengt H., to Separator, Aktiebolaget. Apparatus for heat treatment of liquids, such as milk, fruit juices and the like. 3,101,041, 8-20-63, Cl. 99-251.
- Hallsworth, Arnold, to Steels Engineering Products Ltd. Remote control of Ward Leonard drive by generator speed variation. 3,099,779, 7-30-63, Cl. 318-157.
- Halm Instrument Co., Inc.: *See*—  
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- Halpern, Alfred, to Synergistics, Inc. Colchicine glycyrrhetinate. 3,076,027, 1-29-63, Cl. 260-559.
- Halpern, Alfred, to Synergistics, Inc. N-morpholine-beta-ethyl hydrazine and acid addition salts thereof. 3,086-975, 4-23-63, Cl. 260-247.5.
- Halpern, Alfred, to Synergistics, Inc. Novel [nitric acid ester] derivatives of nicotinic acid. 3,092,634, 6-4-63, Cl. 260-295.5.
- Halpern, Alfred, to Synergistics Inc. Gamma-aminobutyryl nicotinate. 3,108,113, 10-22-63, Cl. 260-295.5.
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- Halpern, Bernard R., to E. I. du Pont de Nemours and Co. Process for preparing photographic negatives. 3,072,496, 1-8-63, Cl. 117-5.5.
- Halpern, Bernard R., and J. P. McNutt, III., to E. I. du Pont de Nemours and Co. Machine for obtaining images. 3,113-342, 12-10-63, Cl. 18-1.
- Halpern, John W. Message transmission plants. 3,082,974, 3-26-63, Cl. 243-16.
- Halpern, Otto: *See*—  
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- Halpern, Otto: *See*—Continued  
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- Halpern, Otto, to Syntex Corp. Steroidal lactones. 3,102,117, 8-27-63, Cl. 260—239-57.
- Halpern, Otto, and H. J. Ringold, to Syntex Corp. Steroid hydrazones and hydrazides. 3,105,830, 10-1-63, Cl. 260—239-5.
- Halpern, William, to Beckman Instrument, Inc. System for continuous blood pressure determination. 3,104,661, 9-24-63, Cl. 128—2-05.
- Halstead, Calvert B.: *See*—  
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- Halstead, John S. Resilient fairing strip for use in connection with resilient landing gears of aircraft and the like. 3,075,730, 1-29-63, Cl. 244—104.
- Halstead, William E.: *See*—  
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- Halsted, George O.: *See*—  
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- Halter, Howard M., and J. V. Fiore to American Machine & Foundry Co. Tobacco manufacture. 3,106,212, 10-8-63, Cl. 131—17.
- Haltner, Arthur J., and C. S. Oliver, to General Electric Co. Method of providing a bearing surface. 3,075,279, 1-29-63, Cl. 29—149-5.
- Halton, Donald: *See*—  
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- Haluska, Loren A., to Dow Corning Corp. Acyloxysilcarbosiloxanes and their uses. 3,109,013, 10-29-63, Cl. 260—448-2.
- Halvorsen, Harold W., to United States of America, Navy. Position indicator and coincidence circuit. 3,075,300, 1-29-63, Cl. 35—12.
- Halvorsen, Harry W. Can piercer. 3,070,882, 1-1-63, Cl. 30—16.
- Halvorsen, Henry J.: *See*—  
 Reed, John W., and Halvorsen. 3,073,017.
- Halvorsen, Roy A., and W. S. Russell, to Hooker Chemical Corp. Method of pickling and coating with vitreous enamel. 3,082,116, 3-19-63, Cl. 117—50.
- Halvorsen, Trygve, and A. Cozza, to Combustion Engineering, Inc. Shell and tube type vapor generating unit. 3,103,206, 9-10-63, Cl. 122—34.
- Halverson, Emmett H. Slingshot arrangement. 3,099,256, 7-30-63, Cl. 124—20.
- Halverson, Ernest N., and F. P. C. Coker, to Canadian Industries Ltd. Pelletizing apparatus with a tangential flow entry. 3,103,700, 9-17-63, Cl. 18—12.
- Halverson, Merlin L. Sports equipment carrying cart. 3,100,048, 8-6-63, Cl. 211—2.
- Halverson, Milton A., and G. V. Olson. Rivet guns. 3,100,578, 8-13-63, Cl. 218—42.
- Ham, Donald M., to General Electric Co. Mechanism for resetting rotatable shafts. 3,075,392, 1-29-63, Cl. 74—1.
- Ham, Donald M., to General Electric Co. Gear assemblies with phased tooth displacement. 3,075,399, 1-29-63, Cl. 74—412.
- Ham, Donald M., to General Electric Co. Indicating demand meter. 3,092,318, 6-4-63, Cl. 235—104.
- Ham, Edward J., to Westinghouse Electric Corp. Electroluminescent device with integral arc-suppressing means. 3,103,608, 9-10-63, Cl. 313—108.
- Ham, George E., to The Dow Chemical Co. Mixed ketals. 3,071,626, 1-1-63, Cl. 260—611.
- Ham, George E., to J. T. Baker Chemical Co. Hard resilient copolymers of alpha-alkylstyrene with alkyl methacrylate and process for the preparation thereof. 3,072,622, 1-8-63, Cl. 260—86-7.
- Ham, George E., to Monsanto Chemical Co. Diamine-urea-thiourea copolymer. 3,080,343, 3-5-63, Cl. 260—77-5.
- Ham, John L.: *See*—  
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- Ham, John L., and M. L. Torti, Jr., to National Research Corp. Purification of tantalum metal by reduction of the oxygen content by means of carbon. 3,107,165, 10-15-63, Cl. 75—10.
- Hamac-Hansella Aktiengesellschaft: *See*—  
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- Hamada, Kazuo: *See*—  
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- Hamada, Yoshitsugu, to Yasuhito Yamaoka. Cooling system for internal-combustion engines. 3,078,831, 2-26-63, Cl. 123—41-52.
- Hamaker, John C., Jr., to Vanadium-Alloys Steel Co. Anti-friction bearings and alloy steels used therein. 3,105,723, 10-1-63, Cl. 308—3.
- Hamberg, Holger J. E., to Aktieselskabet Gavereklame. Cigarette dispensing apparatuses. 3,112,843, 12-3-63, Cl. 221—185.
- Hamblin, Henry J., and H. J. Nation, to National Research Development Corp. Hydraulic power transmission systems. 3,085,403, 4-16-63, Cl. 60—97.
- Hamblin, Robert J. J.: *See*—  
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- Hamblin, Robert J. J., to Universal Oil Products Co. Apparatus for injecting secondary air into engine exhaust gases and for other uses. 3,082,597, 3-26-63, Cl. 60—30.
- Hambling, James K.: *See*—  
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- Hamburgen, Arthur: *See*—  
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- Hamel, Denis M. H., to Pneumatiques et Caoutchour Manufacture Kleber Colombes. Expansion and compression joints for road surface layers. 3,106,879, 10-15-63, Cl. 94—18.
- Hamel, Jacob S.: *See*—  
 Fowler, Joseph W., and Hamel. 3,114,333.
- Hamel, William W. Electrical connectors. 3,112,975, 12-3-63, Cl. 339—89.
- Hamelink, William B., to Minneapolis-Honeywell Regulator Co. Burner control apparatus. 3,082,813, 3-26-63, Cl. 158—28.
- Hamell, Matthew: *See*—  
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- Hamer, Leland S., to FMC Corp. Rotary valve having segmental seat inserts and a resilient retaining sleeve. 3,072,379, 1-8-63, Cl. 251—171.
- Hamer, Martin, and R. H. Brown, to Standard Oil Co. Motor fuel composition. 3,098,727, 7-23-63, Cl. 44—56.
- Hamermesh, Charles L., to Interchemical Corp. Thermosetting coating compositions comprising amine resins and triacrylic-hexahydro-s-triazine adducts. 3,084,139, 4-2-63, Cl. 260—47.
- Hamermesh, Charles L., and N. G. Gaylord, to Interchemical Corp. Phosphorus containing monomers. 3,076,011, 1-29-63, Cl. 260—461.
- Hamermesh, Charles L., R. Bolstad, and G. J. Del Franco, to Interchemical Corp. New vinyl latex adhesives and laminates made therefrom. 3,077,427, 2-12-63, Cl. 154—46.
- Hamernik, Edward L.: *See*—  
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- Hamerstrand, George E.: *See*—  
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- Hames, William A., Jr., L. J. Jungemann, and G. W. Sisk, Jr., to Whirlpool Corp. Reverse air cycle air conditioner. 3,084,522, 4-9-63, Cl. 62—262.
- Hamill, Gordon B.: *See*—  
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- Hamill, Thomas M. Heat exchanger. 3,080,915, 3-12-63, Cl. 165—72.
- Hamilton, Alan R., to Koehring-Waterous Ltd. Cylinder mold. 3,081,821, 3-19-63, Cl. 162—357.
- Hamilton, Alva H. Liquid applicator for livestock. 3,071,111, 1-1-63, Cl. 119—157.
- Hamilton, Billy H., to Bell Telephone Laboratories, Inc. Regulator protection circuits. 3,106,674, 10-8-63, Cl. 323—22.
- Hamilton, Charles W. F. Hydraulic jet propulsion apparatus for water-borne craft. 3,083,529, 4-2-63, Cl. 60—35-54.
- Hamilton, Charles W. F. Hydraulic jet propulsion apparatus for water-borne craft. 3,097,623, 7-16-63, Cl. 115—12.
- Hamilton Clamp & Stampings Ltd.: *See*—  
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- Hamilton, Clark H. Syringe. 3,101,084, 8-20-63, Cl. 128—218.
- Hamilton Cosco, Inc.: *See*—  
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- Hamilton, Donald A.: *See*—  
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- Hamilton, Douglas J., to General Electric Co. Clock pulse distribution system for synchronously driving a plurality of flip-flops. 3,104,330, 9-17-63, Cl. 307—88-5.
- Hamilton, Earl F., to Hamilton Cosco, Inc. Back rest. 3,114,578, 12-17-63, Cl. 297—460.
- Hamilton, Francis E., G. V. Hawkins, R. E. Lawhead, Jr., and E. S. Hughes, Jr., to International Business Machines Corp. Digital computer. Re. 25,482, 11-26-63, Cl. 235—159.
- Hamilton, Francis W., to Chrysler Corp. Air filter to carburetor attaching means. 3,115,402, 12-24-63, Cl. 55—505.
- Hamilton, Gene E., A. B. Metzner, and J. E. Ehrreich. Process for the preparation of alkylene glycols. 3,091,647, 5-28-63, Cl. 260—635.
- Hamilton, George A., to The Weatherhead Co. Adjustable valve head. 3,087,705, 4-30-63, Cl. 251—356.
- Hamilton, George A., and R. N. Iversen, to The Weatherhead Co. Hose clamp with screw connected pivotally mounted clamping segments. 3,087,746, 4-30-63, Cl. 285—243.
- Hamilton, Gerald P., to FMC Corp. Snipping cutter mounting assembly. 3,102,567, 9-3-63, Cl. 146—86.
- Hamilton, Herbert D.: *See*—  
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- Hamilton, James, R. L. Lundberg, and P. E. Schoening, to General Electric Co. Coil for electromagnetic apparatus. 3,076,919, 2-5-63, Cl. 317—158.
- Hamilton, James D.: *See*—  
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- Hamilton, James M., M. Szkolnik, and E. Sondheimer. Systemic fungicides. 3,086,913, 4-23-63, Cl. 167—65.



- Hamilton, James P., to American Vitriified Products Co. Bell and spigot tile and seal joint therefor. 3,073,609, 1-15-63, Cl. 277-168.
- Hamilton, Joel A., to Polaroid Corp. Photographic apparatus. 3,080,805, 3-12-63, Cl. 95-13.
- Hamilton, Joseph C.: *See—*  
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- Hamilton, Joseph P., to Crown Zellerbach Corp. Shipper dispenser. 3,095,968, 7-2-63, Cl. 206-52.
- Hamilton, Joseph P., to American Box Corp. Strawberry tray. 3,102,674, 9-3-63, Cl. 229-15.
- Hamilton, Joseph P., and G. C. Burkhardt, to Zellerbach Paper Co. Strapping and shearing tool. 3,114,399, 12-17-63, Cl. 140-93.2.
- Hamilton, Kenneth, to Mohasco Industries, Inc. Paper yarn apparatus. 3,091,075, 5-28-63, Cl. 57-32.
- Hamilton Kent Mfg. Co.: *See—*  
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Kanzelberger, Claude G. 3,101,062.  
Kanzelberger, Claude G., and Kanitz. 3,101,064.
- Hamilton, Matthew E., to J. I. Case Co. Agricultural implement. 3,077,231, 2-12-63, Cl. 172-421.
- Hamilton, Noble E., to Cleviste Corp. Apparatus for fabricating semiconductor devices. 3,070,859, 1-1-63, Cl. 22-116.
- Hamilton, Noble E., to Cleviste Corp. Pull and rotation mechanism for crystal growing apparatus. 3,094,006, 6-18-63, Cl. 74-22.
- Hamilton, Paul M., to Monsanto Chemical Co. Production of single crystals of ferrites. 3,115,469, 12-24-63, Cl. 252-62.5.
- Hamilton, Paul M., and G. B. Kistiakowsky, to Monsanto Chemical Co. Composition of metal oxides and carbon black. 3,094,428, 6-18-63, Cl. 106-307.
- Hamilton, R. E. Harris, and C. A. Bryant, to Cabin Crafts, Inc. Tufting machine. 3,112,717, 12-3-63, Cl. 112-79.
- Hamilton Research Associates, Inc.: *See—*  
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- Hamilton, Robert M., to General Mills, Inc. Wheat starch treatment. 3,087,839, 4-30-63, Cl. 127-38.
- Hamilton, Robert S., and R. J. Curle, to The Corrugated Container Co. Disposable-type dispensing container package. 3,090,526, 5-21-62, Cl. 222-105.
- Hamilton, Russell, to The Celastic Corp. Stiffening shoe counters. 3,113,906, 12-10-63, Cl. 161-165.
- Hamilton, Russell W., to St. Regis Paper Co. Extensible paper product and process. Re. 25,335, 2-19-63, Cl. 162-113.
- Hamilton, Thomas E. Decorative attachment for spoke wheels. 3,082,041, 3-19-63, Cl. 301-37.
- Hamilton, Thomas E., 47%, to J. T. Davis, and 6%, to W. Akin. Splint. 3,110,307, 11-12-63, Cl. 128-89.
- Hamilton, Thomas W. Weighing machines. 3,108,649, 10-29-63, Cl. 177-208.
- Hamilton Tool Co., The: *See—*  
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- Hamilton, Wallace, to Pneumo Dynamics Corp. Hatch cover system. 3,113,613, 12-10-63, Cl. 160-188.
- Hamilton Watch Co., The: *See—*  
Bly, Donald A. 3,113,417.  
Detwiler, Harry S., Reese, and Serlemitsos. Re. 25,328.  
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Le Blanc, Robert E. 3,114,238.  
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Reese, James H., and Serlemitsos. 3,091,914.  
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- Hamilton, William F., to Lockheed Aircraft Corp. Re-circulating toilet sump foaming compositions and method for producing the foam under toilet operation conditions. 3,107,216, 10-15-63, Cl. 210-60.
- Hamilton, William F., M. Levine, and E. Simon, to Lockheed Aircraft Corp. Chemical smog control. 3,084,024, 4-2-63, Cl. 23-4.
- Hamilton, William L., to Allis-Chalmers Mfg. Co. Fuel control for engines. 3,107,483, 10-22-63, Cl. 60-13.
- Hamilton, William L.: *See—*  
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- Hamilton, William L., to Thompson Ramo Wooldridge, Inc. Injector chamber construction. 3,077,078, 2-12-63, Cl. 60-39.48.
- Hamilton, William L., to Thompson Ramo Wooldridge Inc. Injector chamber construction. 3,105,356, 10-1-63, Cl. 60-39.48.
- Hamilton, William P.: *See—*  
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- Hamiter, William L., and J. M. Collins, to United Merchants and Manufacturers, Inc. Process for coloring glass fabrics. 3,108,897, 10-29-63, Cl. 117-37.
- Hamlin, Charles E., and T. J. Dorsey, to North American Aviation, Inc. Pipe coupling having a static seal. 3,106,413, 10-8-63, Cl. 285-212.
- Hamlin, Chauncey J., Jr., to North American Aviation, Inc. Rocket engine starting method. 3,085,393, 4-16-63, Cl. 60-35.3.
- Hamlin, Frank S.: *See—*  
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- Hamlin, George H., Jr., S. K. Hart, A. J. Kreisman, J. L. Marsh, Jr., and C. H. Snyder, to Aero Service Corp. Information dissemination apparatus. 3,086,298, 4-23-63, Cl. 35-41.
- Hamlin, Humphrey A. S.: *See—*  
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- Hamlin, James S., to E. I. du Pont de Nemours and Co. Heat dissipating photographic apparatus. 3,087,402, 4-30-63, Cl. 95-73.
- Hamlin, Jerry F.: *See—*  
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- Hamlin, William E.: *See—*  
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- Hamlyn, Peter M., J. E. Snelling, and B. G. Horstmann. Marine propulsion units. 3,085,544, 4-16-63, Cl. 115-41.
- Hamm, Acey B.: *See—*  
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- Hamm, Alton B., 1/2, to Acey B. Hamm. Marking buoy. 3,089,156, 5-14-63, Cl. 9-9.
- Hamm, Frank A., and R. L. Weiher, to Minnesota Mining and Mfg. Co. Electrosensitive recording process and sheets. 3,087,869, 4-30-63, Cl. 204-2.
- Hamm, Franklin A., and R. L. Weiher, to Minnesota Mining and Mfg. Co. Novel developer and process for the use thereof in electrolytic image reproduction. 3,085,051, 4-9-63, Cl. 204-18.
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- Hamm, Phillip J.: *See—*  
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- Hamm, Thomas H. Heat dissipating tube shield. 3,106,601, 10-8-63, Cl. 174-35.
- Hammack, Jerome B.: *See—*  
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- Hamman, Denver C., to Illinois Tool Works, Inc. Sheet metal nut having regular polygonal opening with helically deflected edges. 3,086,421, 4-23-63, Cl. 85-32.
- Hamman, Lyle J., to Eaton Stamping Co. Spring starter. 3,081,760, 3-19-63, Cl. 123-179.
- Hamman, Lyle J., to Eaton Stamping Co. Spring starter. 3,099,255, 7-30-63, Cl. 123-179.
- Hammann, John W. Motor control. 3,090,897, 5-21-63, Cl. 318-138.
- Hammann, Paul E., K. J. Nelson, and R. L. Wagner, to The Trane Co. Centrifugal fan. 3,093,299, 6-11-63, Cl. 230-127.
- Hammann, William C.: *See—*  
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- Hammar, Martin, to North American Philips Co., Inc. Photoelectric device for indicating spots on a surface. 3,091,699, 5-28-63, Cl. 250-219.
- Hammel, David R.: *See—*  
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- Hammel, David R., and C. J. Jankowski, to Esso Research and Engineering Co. Method of vulcanizing butyl rubber, halosulfonated polyethylene, and N-methyl-N-nitro-P-nitrosoaniline composition and resulting vulcanizate. 3,081,279, 3-12-63, Cl. 260-45.5.
- Hammel, Siegfried, and K. Herzig, to Brown, Boveri & Cie., Aktiengesellschaft, and Beteiligungsl. und Patentverwaltungsgesellschaft mit beschränkter Haftung. Field spacer for electric bunch conductors. 3,113,994, 12-10-63, Cl. 174-40.
- Hammel, Wallace W., Jr., to Singer-Cobble, Inc. Photocell controlled pattern attachment for tufting machines. 3,103,187, 9-10-63, Cl. 112-79.
- Hammell, Kemper M., to Aircraft Marine Products, Inc. Electrical connections. 3,112,150, 11-26-63, Cl. 339-276.
- Hammell, Kemper M., and H. E. Stine, Jr., to AMP Inc. Tool for applying electrical connectors. 3,107,560, 10-22-63, Cl. 81-15.
- Hammer, Alexander: *See—*  
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- Hammer, Elmer G., Jr., and G. A. Rynders, to McGraw-Edison Co. Electrical capacitor. 3,098,956, 7-23-63, Cl. 317-243.
- Hammer, Ervin J. and O. H. Transfer mechanism for beet harvester. 3,103,979, 9-17-63, Cl. 171-58.
- Hammer, Frank E.: *See—*  
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- Hammer, Jacobus A., to Internationale Navigatie Apparaten N.V. Logarithmic amplifier using common cathode positive compensating feedback. 3,090,011, 5-14-63, Cl. 328-145.
- Hammer, Oliver S., to United Electronics Laboratories, Inc. Film gate and associated front end assembly of camera. 3,102,448, 9-3-63, Cl. 88-17.



- Hammer, Orrin H.: *See*—  
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- Hammer, Otto, to Dresser Industries, Inc. Drill bit with improved core destroying means. 3,091,300, 5-28-63, Cl. 175-333.
- Hammer, Steffen. Method for production of reinforced bags, tobacco, pouches, etc., of synthetic foil. 3,105,417, 10-1-63, Cl. 93-35.
- Hammer, Waldemar. Face-frame press. 3,112,925, 12-3-63, Cl. 269-25.
- Hammerand, Donald J., to Admiral Corp. Knob assembly for guided link. 3,082,642, 3-26-63, Cl. 74-543.
- Hammerand, Donald J. Spindle adapter. 3,092,391, 6-4-63, Cl. 274-10.
- Hammerberg, Edgar S., to Armour and Co. Preparation of aluminum alcoholates from non-anhydrous lower alcohols. 3,083,218, 3-26-63, Cl. 260-448.
- Hammerberg, Edgar S., and R. Chesrown, to Armour and Co. Catalytic decarboxylation of fatty acids to produce ketones. 3,075,016, 1-22-63, Cl. 260-595.
- Hammerly, Herman J., and R. A. Salomone, to General Electric Co. Circuit breaker panel assembly. 3,111,354, 11-19-63, Cl. 339-75.
- Hammermueller, Ernst: *See*—  
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- Hammes, Josef J., to Lowell Mfg. Co. Integral loud speaker baffle. 3,108,654, 10-29-63, Cl. 181-31.
- Hammett, Robert S.: *See*—  
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- Hammitt, Andrew B., and H. L. Birum, Jr.; said Birum assor. to said Hammitt. Partition assembly. 3,075,253, 1-29-63, Cl. 20-4.
- Hammond, Charles F.: *See*—  
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- Hammond, Cleon, and E. Davidson, to Ethicon, Inc. Suture and holder. 3,112,825, 12-3-63, Cl. 206-63.3.
- Hammond, Gerald T. Article grouping and stacking apparatus. 3,112,136, 11-26-63, Cl. 294-107.
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- Hammond, James W.: *See*—  
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- Gearhart, Walter S., and Hammond. 3,101,102.
- Hammond, John E., to National Distillers and Chemical Corp. Packaging films and package produced therefrom. 3,099,350, 7-30-63, Cl. 206-46.
- Hammond, John H., Jr.: *See*—  
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- Hammond, John S. Pilot operated valve. 3,076,630, 2-5-63, Cl. 251-30.
- Hammond, Laurens, to Hammond Organ Co. Capacity tuned oscillator. 3,077,136, 2-12-63, Cl. 84-1.1.
- Hammond Lead Products, Inc.: *See*—  
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- Hammond, Lee C., to Hammond Machinery Builders, Inc. Table support structure. 3,114,223, 12-17-63, Cl. 51-55.
- Hammond Machinery Builders, Inc.: *See*—  
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- Bell, Ramsay M., and Jepson. 3,099,849.
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- Hanert, John M. 3,109,878.
- Hanert, John M. 3,116,358.
- Haviland, Lyman J. 3,099,930.
- Young, Alan C. 3,093,702.
- Young, Alan C. 3,106,610.
- Hammond, Richard F., and H. C. Spicer, to General Electric Co. Electrode and method of preparing the same for electron discharge devices. 3,080,498, 3-5-63, Cl. 313-178.
- Hammond, Wardlaw M., Jr., to Martin-Marietta Corp. Guided missile training and simulation device. 3,091,869, 6-4-63, Cl. 35-25.
- Hammond, Wayne S., D. H. Defries, and R. E. Kenyon. Wire solder dispensing device. 3,101,689, 8-27-63, Cl. 113-94.
- Hammond, William F., III: *See*—  
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- Guttner, George, Mason, and Hamner. 3,090,748.
- Hamontre, Hugh C., to United States of America, Navy. Self damping shock and vibration mount. 3,102,722, 9-3-63, Cl. 267-1.
- Hampden Specialty Products Corp.: *See*—  
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- Coady-Farley, James T., Hampshire, and Walker. 3,084,315.
- Williamson, David T. N., Walker, Shepherd, and Hampshire. 3,098,186.
- Hampshire, William J., to Goodyear Aircraft Corp. Nozzle for spraying a mixture of fibers and resin. 3,073,534, 1-15-63, Cl. 239-422.
- Hampton, C. & J., Ltd.: *See*—  
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- Hampton, Edward L., to Middletown Mfg. Co. Swiveled rocking chair. 3,101,971, 8-27-63, Cl. 297-259.
- Hampton, Lucian W. Load-carrying attachments for bicycles and similar vehicles. 3,094,257, 6-18-63, Cl. 224-42.
- Hampton, William C., to American Instrument Co., Inc. Penetrometer and filing device therefor for porosimeters. 3,073,357, 1-15-63, Cl. 141-31.
- Hampton, William C., to American Instrument Co., Inc. Thermal conductivity bridge circuit. 3,091,957, 6-4-63, Cl. 73-27.
- Hampton, William J.: *See*—  
Brugge, Walter J., Hueber, and Hampton. 3,077,828.
- Hamreus, Robert G.: *See*—  
Frey, Max, Hamreus, and Smith. 3,071,296.
- Hamrick, James C.: *See*—  
Weitzel, Edward W., and Hamrick. 3,102,715.
- Hamrick, Joseph T.: *See*—  
Robertson, Anthony E., and Hamrick. 3,101,592.
- Hamrick, Joseph T., to Thompson Ramo Wooldridge Inc. Liquid fluorine seal. 3,081,095, 3-12-63, Cl. 277-1.
- Hamrick, Joseph T., and L. C. Rose, to Thompson Ramo Wooldridge Inc. Method of igniting rocket fuels. 3,101,589, 8-27-63, Cl. 60-35.4.
- Hamsag, Ernest: *See*—  
Hamsag-Garshanian, Xenia, and Hamsag. 3,107,511.
- Hamsag-Garshanian, Xenia, and E. Hamsag. Colored flame candle. 3,107,511, 10-22-63, Cl. 67-22.
- Hamson, Frank C. Pipe coating machine. 3,102,319, 9-3-63, Cl. 23-38.
- Hanak, Richard J. Electrical systems. 3,082,405, 3-19-63, Cl. 340-171.
- Hanau Engineering Co., Inc.: *See*—  
Beu, Richard A. 3,089,941.
- Hanawai Mfg. Co., Ltd.: *See*—  
Lent, Ralph C. 3,099,393.
- Lent, Ralph C. 3,099,462.
- Hanbury, John C. Automatic lumber sorter. 3,080,052, 3-5-63, Cl. 209-75.
- Hanbury, John C. Automatic lumber sorter. 3,085,686, 4-16-63, Cl. 209-82.
- Hance, Charles R.: *See*—  
Rauch, Emil B., and Hance. 3,079,259.
- Hance, Richard J., to Leeds and Northrup Co. Rotary kiln shell temperature scanning system. 3,101,618, 8-27-63, Cl. 73-351.
- Hancock, Charles L., 1/2 to G. Miller. Fishing line float. 3,106,797, 10-15-63, Cl. 43-43.11.
- Hancock, James E. Two-wheeled scraper. 3,090,139, 5-21-63, Cl. 37-8.
- Hancock, James L., and L. J. Lakes, to General Motors Corp. Method of cold welding aluminum members. 3,100,933, 8-20-63, Cl. 29-470.1.
- Hancock, John H.: *See*—  
Stubblefield, Thomas A. 3,090,431.
- Hancock, Kenneth G., to Electro-Hydraulics Ltd. Hydraulic systems. 3,073,340, 1-15-63, Cl. 137-565.
- Hancock, Robert D., to Pacific Semiconductors, Inc. Process of etching semiconductors and etchant solutions used therefor. 3,107,188, 10-15-63, Cl. 156-17.
- Hancock, Roger H. Y.: *See*—  
Firth, Donald, and Hancock. 3,089,427.
- Handcraft Co., Inc.: *See*—  
Hiestand, Preston E., and Mills. 3,093,916.
- Handel, George J., Jr., to AMP Inc. Terminal applicator construction. Re. 25,423, 7-23-63, Cl. 1-177.
- Handel, Neil E., to Industrial Nucleonics Corp. Density measuring apparatus providing a substantially pure beam of radiation from composite sources. 3,094,622, 6-18-63, Cl. 250-83.3.
- Handelman, Eileen T., to Bell Telephone Laboratories, Inc. Fabrication of semiconductor devices. 3,085,033, 4-9-63, Cl. 148-1.5.
- Handler, Milton E., to S. A. Hirsh Mfg. Co. Floor protector. 3,099,891, 8-6-63, Cl. 45-137.
- Handler, Milton E., and R. J. Belton, to S. A. Hirsh Mfg. Co. Tray shelving. 3,097,746, 7-16-63, Cl. 211-126.
- Händler, Wolfgang: *See*—  
Voigt, Heinz E., and Händler. 3,098,219.
- Handley Brown Heater Co.: *See*—  
Handley, Harold E. 3,085,323.
- Handley, Harold E., to Handley Brown Heater Co. Method of making an enclosure. 3,085,323, 4-16-63, Cl. 29-416.
- Handley, Harold E., to McGraw-Edison Co. Box beam. 3,103,262, 9-10-63, Cl. 189-37.
- Handley, Harold E., R. L. Whitman, and L. J. Sparkia, to McGraw-Edison Co. Method of making structural members. 3,104,454, 9-24-63, Cl. 29-155.
- Handley Industries, Inc.: *See*—  
Whitman, Robert L. 3,111,030.
- Whitman, Robert L. 3,115,267.
- Handley, John R., to Calpat Products, Inc. Street hose for pneumatically actuated parking meter. 3,090,401, 5-21-63, Cl. 137-778.
- Handley, Lawrence M., to United Aircraft Corp. Rocket propellant injector. 3,085,394, 4-16-63, Cl. 60-35.6.
- Handley, Melvin F., and K. G. Seymour, to The Dow Chemical Co. Method for improving plant growth using synthetic ion exchange resins and the product thereof. 3,082,074, 3-19-63, Cl. 71-1.



- Handling Devices Co., Inc.: *See*—  
Sherman, John F., Jr. 3,089,178.
- Handwerk, Erwin C., G. J. Gunzburger, and J. S. Lapides, to Wyandotte Chemicals Corp. Process for densifying soda ash. 3,104,942, 9-24-63, Cl. 23-63.
- Handwerk, Glenn E., to Stearns-Roger Mfg. Co. Gas purification system. 3,079,238, 2-26-63, Cl. 23-226.
- Handwerk, Otto T.: *See*—  
Kushmuk, Walter P., and Handwerk. 3,075,412.
- Handwerk, William B.: *See*—  
Goekler, Robert G., and Handwerke. 3,095,501.
- Handwerk, William B., and E. L. Pangborn, to Crose-Perault Equipment Corp. Pipe supporting and turning assembly. 3,090,513, 5-21-63, Cl. 214-340.
- Handy & Harman: *See*—  
Sistare, George H., and Cox. 3,114,631.
- Handy-Clean Co., Inc.: *See*—  
Belt, Glenn K. 3,076,468.
- Handy-Hannah Products Corp.: *See*—  
Fay, Robert B. 3,073,037.
- Hanebuth, Paul N., to Stewart-Warner Corp. Flexible shaft assembly. 3,085,406, 4-16-63, Cl. 64-2.
- Haneda, Seisaku, and M. Ariga, to O-M Ltd. Slivers magnitude uniforming apparatus in drawing machines. 3,074,120, 1-22-63, Cl. 19-241.
- Haneda, Seisaku, and M. Ariga, to O-M Co., Ltd. and Nitto Boseki Co., Ltd., jointly. Silver let off device of a carding machine. 3,102,305, 9-3-63, Cl. 19-157.
- Hanegraaf, Johannes A.: *See*—  
Szpilogel, Stefan A., Hanegraaf, and van Dijk. 3,112,328.
- Haner, Lambert, and D. J. Dolan, to Avtron Mfg., Inc. Count rate and trend monitoring system. 3,108,207, 10-22-63, Cl. 317-149.
- Hanert, John M., to Hammond Organ Co. Percussion tone monophonic electrical musical instrument. 3,109,878, 11-5-63, Cl. 84-112.
- Hanert, John M., to Hammond Organ Co. Expression pedal control system providing reverberation and having latch means. 3,116,358, 12-31-63, Cl. 84-125.
- Hanes Hosiery Mills Co.: *See*—  
Sizemore, Walter R. 3,100,010.
- Hanes, Lewis F., to Phillips Petroleum Co. Conveyor package lifter assembly. 3,102,626, 9-3-63, Cl. 198-25.
- Hanes, P. H., Knitting Co., The: *See*—  
Cantrell, William W. 3,092,839.
- Hanes, Robert H., and R. J. Youngquist, to Minnesota Mining and Mfg. Co. Transducing apparatus and cartridge therefor having duplicate coaxial reels. 3,107,279, 10-15-63, Cl. 179-100.2.
- Hanes, Vaughan D., to Aerojet-General Corp. Downhole actuator for well tools. 3,113,188, 12-3-63, Cl. 200-61.53.
- Hanesworth, Stanley D., Jr.: *See*—  
Hearne, Richard A., and Hanesworth. 3,081,880.
- Hanewinkel, Lorenz, to Zuse KG. Information storage device. 3,083,354, 3-26-63, Cl. 340-174.
- Haney, Stanley C., and J. A. Verdol, to Sinclair Research Inc. Fuel oil. 3,088,815, 5-7-63, Cl. 44-71.
- Hanganuti, Marius, and D. Tanasescu, to Ministerul Industrial Petrolului Si Chimiei. Static reactor and plant for electric-arc cracking of hydrocarbons. 3,113,919, 12-10-63, Cl. 204-328.
- Hangi, George J., D. W. McCulloch, and F. H. Meyer. Method and apparatus for low temperature analysis. 3,071,686, 1-1-63, Cl. 250-51.
- Hangi, George J., and C. C. Smith, to Continental Oil Co. Method and apparatus for fatigue testing tubular products and the like. 3,102,415, 9-3-63, Cl. 73-37.
- Hanhart, Walter, to Ciba Ltd. Polyazo-dyestuffs. 3,078,266, 2-19-63, Cl. 260-146.
- Hanington, Charles A., to The Scholl Mfg. Co., Inc. Mechanism for and method of producing surgical pads. 3,088,353, 5-7-63, Cl. 83-24.
- Hanink, Dean K., and E. L. Bolin, to General Motors Corp. Vapor blasting nickel plated steel. 3,080,643, 3-12-63, Cl. 29-156.8.
- Hanisian, John, and E. H. Lightcap, to The M. W. Kellogg Co. Recovery of hydrocarbons. 3,096,273, 7-2-63, Cl. 208-101.
- Hank, Emil J., and J. D. Gayer, to Good Roads Machinery Corp. Automated leaf collector. 3,087,187, 4-30-63, Cl. 15-340.
- Hanke, Clarence F. Exercising apparatus with crankshaft operable selectively by foot pedals or hand levers. 3,112,108, 11-26-63, Cl. 272-58.
- Hanke, Merlin S. Mechanical interlock union. 3,105,709, 10-1-63, Cl. 287-20.
- Hanken, Albert F. G.: *See*—  
Chope, Henry R., and Hanken. 3,082,323.
- Hanken, George H., to Eastman Kodak Co. Self-threading motion picture projector. 3,081,925, 3-19-63, Cl. 226-91.
- Hankes, Elmer J.: *See*—  
Procter, Samuel A. 3,089,966.
- Hankes, Elmer J. Load gauging apparatus. 3,076,333, 2-5-63, Cl. 73-141.
- Hankes, Elmer J., J. D. Firehammer, and R. F. Lambert, said Firehammer and said Lambert assors. to said Hankes. Data processing system. 3,076,957, 2-5-63, Cl. 340-173.
- Hankey, Ernest H.: *See*—  
Baer, Massimo, and Hankey. 3,085,082.
- Hankison, Paul M.: *See*—  
Sexton, John L. 3,086,591.
- Hanko, Emma M. and W. B. Women's boot heel insert. 3,077,679, 2-19-63, Cl. 36-7.3.
- Hanko, William B.: *See*—  
Hanko, Emma M. and W. B. 3,077,679.
- Hanks, Charles W., to Stauffer Chemical Co. Electron-beam furnace with magnetic guidance and flux concentrator. 3,080,626, 3-12-63, Cl. 22-57.2.
- Hanks, Charles W., to Stauffer Chemical Co. Electron beam furnace with magnetically guided axial and transverse beams. 3,101,515, 8-27-63, Cl. 22-57.2.
- Hanks, Charles W., to Stauffer Chemical Co. Electron-beam furnace with double-coil magnetic beam guidance. 3,105,275, 10-1-63, Cl. 22-57.2.
- Hanks, Charles W., to Temescal Metallurgical Corp. Wide angle viewing apparatus for high vacuum systems. 3,114,790, 12-17-63, Cl. 88-1.
- Hanks, Charles W., C. D. A. Hunt, and D. A. Vance, to Stauffer Chemical Co. Method and apparatus for controlling electrical discharges. 3,078,388, 2-19-63, Cl. 315-107.
- Hanks, Gale S., and R. W. Keil, to United States of America, Atomic Energy Commission. Method of brazing beryllium. 3,090,117, 5-21-63, Cl. 29-494.
- Hanks, Homer C., to United States Steel Corp. Thickness gage for conical articles. 3,105,304, 10-1-63, Cl. 33-143.
- Hanks, Hugh C., Jr., to Martin-Marietta Corp. Electronic waveguide switch. 3,092,788, 6-4-63, Cl. 333-1.1.
- Hanks, Raymond J. Timing apparatus. 3,103,099, 9-10-63, Cl. 58-144.
- Hankcraft Co.: *See*—  
Myklebust, Paal. 3,110,748.
- Hänle, Eugen. Annular spring. 3,073,585, 1-15-63, Cl. 267-9.
- Hänlein, Walter, to Siemens-Schuckertwerke Aktiengesellschaft. Method of manufacturing a peltier thermopile. 3,071,495, 1-1-63, Cl. 117-212.
- Hänlein, Wilfried F., to Forstner, Inc. Two layer expansion bracelet having resilient connectors. 3,073,133, 1-15-63, Cl. 63-5.
- Hanlet, Jacques M. N., to Electro Radiation, Inc. Solid state camera apparatus and system. 3,083,262, 3-26-63, Cl. 178-7.1.
- Hanley, Bernard C.: *See*—  
Adkins, Archibald W., and Hanley. 3,102,655.
- Hanley, George P., to General Motors Corp. Engine timing and balancing mechanism. 3,106,195, 10-8-63, Cl. 123-90.
- Hanley, George P., to General Motors Corp. Countershaft driving system for internal combustion engine and the like. 3,110,195, 11-12-63, Cl. 74-604.
- Hanley, George P., and C. E. Sloan, to General Motors Corp. Variable speed governor. 3,106,097, 10-8-63, Cl. 73-454.1.
- Hanley, William G., to Rockwell-Standard Corp. Brake camshaft mounting. 3,076,683, 2-5-63, Cl. 308-36.1.
- Hanley, William G., and F. H. Fisher, to Rockwell-Standard Corp. Brake actuating mechanism. 3,076,531, 2-5-63, Cl. 188-205.
- Hanley, William M., to FMC Corp. Strainer. 3,074,557, 1-22-63, Cl. 210-299.
- Hanlon, Joseph F., to American Cyanamid Co. Applicator. 3,081,479, 3-19-63, Cl. 15-506.
- Hanlon, Patrick G. Cleaning device and method of making same. 3,094,735, 6-25-63, Cl. 15-506.
- Hann, Douglas G.: *See*—  
Gell, Philip A. M., and Hann. 3,080,737.
- Hann, Douglas G., and R. F. Ramsay, to Element Ltd. Furnace for melting or refining glass electrically. 3,098,111, 7-16-63, Cl. 13-6.
- Hann, Paul D.: *See*—  
Van Pool, Joe, and Hann. 3,078,321.
- Hann, Paul D., to Phillips Petroleum Co. Fluidized bed coating process, article, and composition. 3,078,177, 2-19-63, Cl. 117-21.
- Hann, Paul D., to Phillips Petroleum Co. Automatic process for prevention of gas hydrate formation. 3,096,383, 7-2-63, Cl. 260-676.
- Hanna, Arthur W. Method of manufacturing female electrical sockets. 3,081,528, 3-19-63, Cl. 29-155.55.
- Hanna, Clinton R., to Westinghouse Electric Corp. Fluid power apparatus. 3,085,818, 4-16-63, Cl. 280-124.
- Hanna, Clinton R., and L. B. Lynn, to Westinghouse Electric Corp. Fluid power apparatus. 3,095,214, 6-25-63, Cl. 280-124.
- Hanna, Delbert L., and A. J. Rudnitzki, to Velsicol Chemical Corp. Halogenation process. 3,073,869, 1-15-63, Cl. 260-648.
- Hanna, Edward C., to Landis Machine Co. Apparatus for handling elongated workpieces. 3,095,983, 7-2-63, Cl. 214-1.
- Hanna, Edward C., to Landis Machine Co. Rolling machine. 3,112,662, 12-3-63, Cl. 80-56.
- Hanna, Fares K.: *See*—  
Crawford, William B., W. C. Crawford, Sr., W. C. Crawford, Jr., Timmerman, Pekor, and Hanna. 3,113,699.
- Pekor, Charles B., and Hanna. 3,098,246.
- Hanna, Fred M.: *See*—  
Hobrough, Gilbert L., and Hanna. 3,097,355.
- Hanna, John W., 75% to R. C. Ray. Portable pump with interchangeable drive unit. 3,074,350, 1-22-63, Cl. 103-117.
- Hanna, Ralph T., to United States Steel Corp. Apparatus for handling and wetting dust. 3,081,784, 3-19-63, Cl. 134-199.
- Hannah, Robert W.: *See*—  
Remer, Robert K. 3,081,206.



- Hannen, Llewellyn O. L. Web beam structures. 3,106,752, 10-15-63, Cl. 20-5.
- Hanner, Arthur B., Sr. Low pressure packer mandrel. 3,082,825, 3-26-63, Cl. 166-185.
- Hanner, James L.: *See—*  
Davis, Richmond L., Williams, and Hanner. 3,073,431.
- Hanner, Thomas E., and D. M. Turnbull to Pullman Inc. Electrical wiring connector. 3,115,541, 12-24-63, Cl. 174-92.
- Hanni, Frederick E.: *See—*  
Twaddell, Russell W., Davies, and Hanni. 3,086,070.
- Hannibal, Billy B., to Tecumseh Products Co. Structure for supporting a motor-compressor unit in a housing. 3,089,639, 5-14-63, Cl. 230-235.
- Hannigan, William D.: *See—*  
Fundinger, Paul F., and Hannigan. 3,109,264.
- Hannon, Bruce M.: *See—*  
Palmer, William H., and Hannon. 3,114,169.
- Hannon, Gilbert H., to H. G. Weber and Co., Inc. Rotary forming head for converting machinery. 3,108,034, 10-22-63, Cl. 156-582.
- Hannon, William F., to The Fafnir Bearing Co. Honing stone retainer. 3,094,820, 6-25-63, Cl. 51-184.1.
- Hannoosh, Mitchell M.: *See—*  
Farnsworth, Lee P., King, and Hannoosh. 3,088,559.
- Hannum, Charles M., to National Cleveland Corp. Method of sharpening gear cutting tools. 3,098,333, 7-23-63, Cl. 51-288.
- Hanny, Jost, to Sulzer Freres, Societe Anonyme. Expansion turbine having a gear bearing. 3,105,631, 10-1-63, Cl. 230-116.
- Hanotier, Jacques D. V.: *See—*  
De Radzitzky d'Ostrowick, Pierre M. J. G., and Hanotier. 3,076,005.
- Hanover, Kenneth A., to Chemetron Corp. Resolution of D.L. menthol. 3,109,018, 10-29-63, Cl. 260-475.
- Hanrahan, Edward M., Jr. Kite. 3,074,672, 1-22-63, Cl. 244-153.
- Hanrath, Hans: *See—*  
Renoux, Pierre E., Hanrath, and Blättry. 3,081,103.
- Hansard, Virgil L. Rotatable ball runway toy device. 3,080,167, 3-5-63, Cl. 273-109.
- Hansch, Walter. Holder for bladed implements. 3,071,252, 1-1-63, Cl. 211-60.
- Hanscom, Frank E. Camera supports. 3,074,338, 1-22-63, Cl. 95-86.
- Hanscom, Frank E. Brushes with means for neutralizing static charges. 3,083,318, 3-26-63, Cl. 317-2.
- Hanscom, H. F., & Co., Inc.: *See—*  
Hanscom, Harris F. 3,077,133.
- Hanscom, Harris F., to H. F. Hanscom & Co., Inc. Tape dispensing apparatus wherein oscillation of the cutter assembly causes reciprocation of the cutting blade. 3,077,133, 2-12-63, Cl. 83-308.
- Hanseatische Motoren-Gesellschaft m.b.H.: *See—*  
Werner, Gunther. 3,112,083.
- Hänsel, Otto, Jr., and H. Lesch, to Otto Hansel, Junior, G.m.b.H. Method and apparatus for wrapping candy or the like. 3,112,665, 12-3-63, Cl. 83-36.
- Hänsel, Otto, Junior, G.m.b.H.: *See—*  
Hänsel, Otto, Jr., and Lesch. 3,112,665.
- Hänsel, Paul G., to Servo Corp. of America. Radio direction finder receiver. 3,104,391, 9-17-63, Cl. 343-113.
- Hänsel, Paul G., to Servo Corp. of America. Reference modulation phase stabilizer. 3,110,027, 11-5-63, Cl. 343-106.
- Hänsel, Richard A. Convertible ram-jet pulse-jet engine. 3,078,660, 2-26-63, Cl. 60-35.6.
- Hansen, Andre M., G. C. Norman, and O. H. Brannstrom, to Chrysler Corp. Apparatus for preparing polyurethane foam compositions and the like. 3,111,389, 11-19-63, Cl. 23-252.
- Hansen, Andre M., and J. N. Epel; said Hansen assor, to Chrysler Corp. Molding composition comprising unsaturated monomer modified polyester and filler. 3,112,283, 11-26-63, Cl. 260-17.4.
- Hansen, Chris K. Plant husbandry and apparatus therefor. 3,079,190, 2-26-63, Cl. 294-50.7.
- Hansen, Donald J., W. J. West, and J. G. Farmer, to Union Carbide Corp. Process for producing ductile vanadium. 3,098,021, 7-16-63, Cl. 204-64.
- Hansen, Earl N., to Laboratory For Electronics, Inc. Signal analyzing circuit. 3,093,799, 6-11-63, Cl. 328-115.
- Hansen, Erik H., to Plastica Inc. Insulated container and closure therefor. 3,096,897, 7-9-63, Cl. 215-13.
- Hansen, Erling, and B. W. Hotten, to California Research Corp. Isotactic polymers of 4-methyl-1-pentene as grease thickeners. 3,076,764, 2-5-63, Cl. 252-59.
- Hansen, Erwin G., to Midland-Ross Corp. Heating and cooling system. 3,109,486, 11-5-63, Cl. 165-1.
- Hansen, Fred L., and A. Smith. Rotary gang mower. 3,085,385, 4-16-63, Cl. 56-7.
- Hansen, Friedrich. Continuous drying apparatus including a vibrating helical conveyor. 3,084,450, 4-9-63, Cl. 34-164.
- Hansen, George E.: *See—*  
Bredtschneider, Kurt B., De Craene, Hansen, and Cotterman. 3,094,136.
- Hansen, George E., to Crane Co. Ball valve with removable cartridge unit. 3,081,792, 3-19-63, Cl. 137-454.2.
- Hansen, George E., and C. R. Stone, to Crane Co. Removable head and seat ball valve construction. 3,100,501, 8-13-63, Cl. 137-454.6.
- Hansen, George R., to The Carborundum Co. Method and apparatus for handling molten, non-ferrous metals. 3,093,087, 6-11-63, Cl. 103-153.
- Hansen, Hans C. Mechanisms for supporting and releasing records having oversize center holes. 3,073,603, 1-15-63, Cl. 274-10.
- Hansen, Hans C. Center spindles for magazine phonographs. 3,083,022, 3-26-63, Cl. 274-10.
- Hansen, Hans C. Magazine phonographs. 3,090,624, 5-21-63, Cl. 274-10.
- Hansen, Hans C. Phonographic apparatuses. 3,090,625, 5-21-63, Cl. 274-15.
- Hansen, Hans C. Shaft structure for electrical motor. 3,102,966, 9-3-63, Cl. 310-261.
- Hansen, Hans C. Phonographs. 3,110,500, 11-12-63, Cl. 274-10.
- Hansen, Hans R. A.: *See—*  
Wilkerson, Alan W., and Hansen. 3,084,268.
- Hansen, Hans R. A., to The Louis Allis Co. Speed regulating system. 3,092,766, 6-4-63, Cl. 318-341.
- Hansen, Hans R. A., to The Louis Allis Co. Electric clutch reel drive arrangement. 3,114,850, 12-17-63, Cl. 310-94.
- Hansen, Hans R. A., and J. H. Karlson, to The Louis Allis Co. D.C. adjustable speed hoist drive with motor field control. 3,093,779, 6-11-63, Cl. 318-143.
- Hansen, Harold H., Jr.: *See—*  
Pistole, Harry, and Hansen. 3,095,053.
- Hansen, Harold M., to American Can Co. Attachment for cutting a collapsible tube and dispensing material therefrom. 3,104,032, 9-17-63, Cl. 222-91.
- Hansen, Harold V.: *See—*  
Oehler, William P., and Hansen. 3,079,174.
- Hansen, Harold V., and C. W. Odendahl, to Deere & Co. Hitch facilitating means for a planter or the like. 3,075,790, 1-29-63, Cl. 280-475.
- Hansen, Harry G., to The Warner Brothers Co. Display package. 3,104,759, 9-24-63, Cl. 206-78.
- Hansen, Kai H., to General Motors Corp. Selector control. 3,106,198, 10-8-63, Cl. 123-179.
- Hansen, Leon C., and M. F. Browne, to Gustin-Bacon Mfg. Co. Method of making embossed face acoustical insulation panel. 3,083,133, 3-26-63, Cl. 156-246.
- Hansen, Lewis C., to W. A. Sheaffer Pen Co. Writing implement. 3,077,185, 2-12-63, Cl. 120-42.3.
- Hansen, Maurice H., to Atlantic Electronics Corp. Transistor test socket. 3,107,963, 10-22-63, Cl. 339-191.
- Hansen, Odd A.: *See—*  
Reynolds, Martin M., Gottzmann, Hansen, Proctor, and Riede. 3,082,690.
- Hansen, Oscar C., to Ferro Stamping Co. Elevator for out-board motor. 3,091,211, 5-8-63, Cl. 115-41.
- Hansen, Quinten A., to R. H. and R. N. Stearns. Actuator self-adjusting as to range. 3,095,068, 6-25-63, Cl. 188-171.
- Hansen, Quinten A. Controlled torque, self-energizing wrap spring clutch or brake. 3,111,822, 11-26-63, Cl. 64-28.
- Hansen, Ralph C., and G. A. Thwaites, to Libbey-Owens-Ford Glass Co. Equipment for transporting sheet materials. 3,079,874, 3-5-63, Cl. 105-367.
- Hansen, Richard O.: *See—*  
Tretheway, Donald G., and Hansen. 3,089,409.
- Hansen, Robert B., to Radio Corp. of America. Remote control receiver. 3,075,171, 1-22-63, Cl. 340-15.
- Hansen, Rolf K.: *See—*  
Pike, Sele S., and Hansen. 3,114,214.
- Hansen, Waldemar H., to Socony Mobil Oil Co., Inc. Catalytic hydration of olefins. 3,076,036, 1-29-63, Cl. 260-641.
- Hansen, William L.: *See—*  
Goulding, Frederick S., and Hansen. 3,113,220.
- Hansford, David L., and E. W. Raabe, to United States of America, Atomic Energy Commission. Recovery and separation of lithium values from salvage solutions. 3,101,246, 8-20-63, Cl. 23-25.
- Hansford, Rowland C., to Union Oil Co. of California. Hydrocracking process and catalysts. 3,088,908, 5-7-63, Cl. 208-109.
- Hanshaw, Ellsworth S.: *See—*  
Griffin, George O., and Hanshaw. 3,092,094.
- Hansjosten, Nikolaus. Shoe with vulcanized on sole structure. 3,074,185, 1-22-63, Cl. 36-14.
- Hansjosten, Nikolaus. Shoe having an outsole of rubber and the like and a stylish heel. 3,082,551, 3-26-63, Cl. 36-14.
- Hansley, Virgil L.: *See—*  
Schott, Stuart, and Hansley. 3,086,847.
- Hanslip, Richard E.: *See—*  
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- Hansom-Van Winkle-Munning Co.: *See—*  
Harper, Willard J., and Hauck. 3,108,605.
- Hanson, Alden W., to The Dow Chemical Co. Communication between wells. 3,103,975, 9-17-63, Cl. 166-42.
- Hanson, Arthur. Display device. 3,077,687, 2-19-63, Cl. 40-140.
- Hanson, Berger G., 50% to T. C. Sulkoske. Spade drill. 3,106,112, 10-8-63, Cl. 77-67.
- Hanson, Donald. Jack rod support. 3,100,033, 8-6-63, Cl. 189-36.
- Hanson, Elco E., deceased (L. C. Davis, administrator), to The Firestone Tire & Rubber Co. Method of forming an endless tire tread and sidewall portion on a carcass band and product thereof. Re. 25,349, 3-12-63, Cl. 156-130.
- Hanson, Gordon B.: *See—*  
Smith, Edward H. 3,099,993.



- Hanson, Herbert G., and R. E. Poethig, to The Bastian-Blessing Co. Pressure filler control. 3,094,849, 6-25-63, Cl. 62-51.
- Hanson, J. T. Brush. 3,099,029, 7-30-63, Cl. 15-160.
- Hanson, John H.: *See*—  
Bridwell, Robert A., and Hanson. 3,073,172.
- Hanson, Leroy C., to Ferro Corp. Electric heater. 3,073-942, 1-15-63, Cl. 219-37.
- Hanson, Leroy C., to Ferro Corp. Heating unit. 3,087,042, 4-23-63, Cl. 219-37.
- Hanson, Mary M.: *See*—  
Sullivan, Edward J. 3,104,720.
- Hanson, Robert S., to General Motors Corp. Refrigerator with meat storage receptacle. 3,108,455, 10-29-63, Cl. 62-382.
- Hanson Scale Co.: *See*—  
Hanssen, Stan B. 3,077,941.
- Hanson, Theodore L., and S. L. Black, to The Vendo Co. Fluid pumping mechanism. 3,092,029, 6-4-63, Cl. 103-11.
- Hanson, Thomas P. Apparatus and method of debarking pulp wood utilizing liquified gasses. 3,101,757, 8-27-63, Cl. 144-311.
- Hanson-Van Winkle-Munning Co.: *See*—  
Foulke, Donald G., Stoddard, Kardos, and Kleiner. 3,111,466.
- Hanson, Victor G., to International Cigar Machinery Co. Cigar machine paster. 3,099,581, 7-30-63, Cl. 118-243.
- Hanson, Walter J., to Pitney-Bowes, Inc. Document misregistration-correcting means. 3,084,931, 4-9-63, Cl. 271-52.
- Hanson, Warren A., W. G. Winkler, and D. F. Swanson, to Whirlpool Corp. Two temperature forced air refrigerator systems. 3,084,519, 4-9-63, Cl. 62-155.
- Hanson, William H. Water ski device. 3,090,978, 5-28-63, Cl. 9-310.
- Hanssen, Albert J., to Black, Sivalis & Bryson, Inc. Liquid level control apparatus. 3,088,485, 5-7-63, Cl. 137-413.
- Hanssen, Stan B., to Hanson Scale Co. Weighing scale. 3,077,941, 2-19-63, Cl. 177-230.
- Hansson, Elof, Inc.: *See*—  
Kodaras, Michael J. 3,103,868.
- Hanstein, Walter, Jr., and W. W. Deighton, to Burroughs Corp. Accumulator for accounting machines. 3,074,629, 1-22-63, Cl. 235-61.
- Hanstock, Raymond F., N. F. Godwin, R. F. Lumb, and M. A. Williams, to United Kingdom Atomic Energy Authority. Ultrasonic inspection apparatus. 3,091,959, 6-4-63, Cl. 73-67.8.
- Hanus, Edward J.: *See*—  
Siegel, Sheldon, Hanus, and Reiner. 3,116,204.
- Hanusch, Hugo, to Cimex Trust. Process and apparatus for the production of parts from synthetic materials of any kind reinforced with fibres. 3,107,057, 10-15-63, Cl. 239-836.
- Hanyasz, Eugene A.: *See*—  
Bockemuehl, Robert R., and Hanyasz. 3,073,522.
- Hanyasz, Eugene A., to General Motors Corp. Unidirectional triggering system for highway communications. 3,105,120, 9-24-63, Cl. 179-82.
- Hanzel, Richard W., to Sunbeam Corp. Method of making a cooking vessel. 3,090,118, 5-21-63, Cl. 29-527.
- Haoya, Einar: *See*—  
Christiansen, Christian, and Haoya. 3,071,163.  
Christiansen, Christian, and Haoya. 3,076,482.
- Hap, Heinz: *See*—  
Ormanns, Gottfried, and Hap. 3,103,883.
- Happ, Leo P. Pick-up device. 3,105,715, 10-1-63, Cl. 294-61.
- Happe, Ralph A.: *See*—  
Mehil, Joseph, Happe, Smithhart, Hall, and Myers. 3,110,961.
- Happe, Reynold, and J. P. Yelpe, to Diehl Mfg. Co. Built-in switch for insulated portable electric tools. 3,072,768, 1-8-63, Cl. 200-157.
- Happe, Reynold, N. H. Sailer, and J. P. Lubas, to The Singer Co. Indicating lamp and lens assembly for portable electric tools. 3,109,164, 10-29-63, Cl. 340-252.
- Happich G.m.b.H., Gebr.: *See*—  
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Herr, Gerhard, and Czipschirsch. 3,106,853.
- Happich, William F.: *See*—  
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- Hara, Kunio, to Yoshida Kogyo K.K. Interlocking device for releasably interconnecting the tapes of a slide fastener. 3,110,946, 11-19-63, Cl. 24-205.11.
- Hara, Shuichiro: *See*—  
Watanabe, Koichi, Asano, and Hara. 3,100,322.
- Haracz, Edward F. Tooth brush. 3,091,789, 6-4-63, Cl. 15-27.
- Haracz, Edward F. Process and apparatus for applying silver films. 3,098,756, 7-23-63, Cl. 117-35.
- Harada, Henry H.: *See*—  
Brenner, John B., Force, McMurray, McDougal, and Harada. 3,088,538.  
McMurray, Eugene C., and Harada. 3,087,340.
- Harada, Henry H., to General Motors Corp. Multiple wheel counting device. 3,097,792, 7-16-63, Cl. 235-117.
- Harada, Kaoru: *See*—  
Fox, Sidney W., and Harada. 3,076,790.
- Harada, Kyoei: *See*—  
Lockheed, Robert, Yamane, Harada, and Nishimatsu. 3,109,837.
- Haraden, William J., to Signode Steel Strapping Co. Crimping tool. 3,089,366, 5-14-63, Cl. 81-9.1.
- Haramija, Emric G. Mechanism for holding and tensioning a printing plate on a printing cylinder. 3,107,609, 10-22-63, Cl. 101-378.
- Harasym, George W.: *See*—  
Roters, Herbert C., Kropp, and Harasym. 3,092,762.
- Harb, Mitchell A. Crash seats for passenger planes. 3,095-170, 6-25-63, Cl. 244-122.
- Harbage, Robert P., L. E. Vaughan, and R. E. Crown, to Avco Corp. Belt driven rake. 3,103,777, 9-17-63, Cl. 56-377.
- Harbaugh, Watson D.: *See*—  
Schwaneke, Fred C., and Sheehan. 3,099,976.
- Harben, Grover S., Jr., and A. W. Whitmire, to Southern Equipment & Supply Co., Inc. Poultry gizzard splitting and washing apparatus. 3,076,998, 2-12-63, Cl. 17-11.
- Harbers, Henry C., and D. R. Merchant, to Challenge-Cook Bros., Inc. Dump truck. Re. 25,315, 1-1-63, Cl. 298-22.
- Harbers, Henry C., and D. R. Merchant, to Challenge-Cook Bros., Inc. Tilting dumping vehicle plural gate latch operating mechanism. 3,111,346, 11-19-63, Cl. 298-3.
- Harberts, Eugene M. Ball projecting toy. 3,091,462, 5-8-63, Cl. 273-96.
- Harbison-Walker Refractories Co.: *See*—  
Davies, Ben, and Renkey. 3,075,848.  
Davies, Ben, and Weaver. 3,106,475.  
Davies, Ben, and Wiken. 3,108,860.  
Dolph, James L. 3,078,173.  
Herron, Henry R. 3,094,759.  
Leatham, Earl, and Pack. 3,091,514.  
Lelak, John W. 3,085,523.  
McGill, Alfred. 3,072,993.  
Myers, William H., and Schob. 3,082,503.  
Platt, Richard O., and Lloyd. 3,085,458.  
Shonkwiler, Francis P. 3,073,067.  
Smoot, Thomas W., and Stock. 3,091,014.  
Wicken, Oscar M. 3,112,921.
- Harbison, Wallace F.: *See*—  
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- Harbit, Keith B., to Smith Kline & French Laboratories. Method of preparing high dosage sustained release tablet and product of this method. 3,108,046, 10-22-63, Cl. 167-82.
- Harbor Boat Building Co.: *See*—  
Steidley, Roy B. 3,083,665.
- Harbor, William H., and A. R. Burge, to The National Cash Register Co. Record material feeding mechanism. 3,115-963, 12-31-63, Cl. 197-127.
- Harcom, William M., to Aircraft Products Co. Automatic pilot. 3,071,337, 1-1-63, Cl. 244-78.
- Hard, Robert A.: *See*—  
Hines, Eugene W., and Hard. 3,081,139.
- Hardesty, Philip P. Check valve. 3,109,450, 11-5-63, Cl. 137-514.
- Hardel Laboratories: *See*—  
De Lancey, Warren H. 3,081,932.  
De Lancey, Warren H. 3,082,335.
- Harder, Fritz A.: *See*—  
Hinrichsen, Ejner C., and Harder. 3,074,156.
- Harder, John E., and G. L. Miller, to Westinghouse Electric Corp. Electrical switches. 3,114,022, 12-10-63, Cl. 200-114.
- Harder, John R.: *See*—  
Mahaffy, Reid A., and Harder. 3,093,206.
- Hardesty, Edwin C., to Western Electric Co., Inc. Strand-guiding and operation-terminating device. 3,076,227, 2-5-63, Cl. 18-19.
- Hardesty, Ethridge E., 1/2 to R. E. Lazarus, as trustee. Method and apparatus for forming a pre-stressed hollow lined pressure vessel. 3,100,171, 8-6-63, Cl. 156-165.
- Hardfalk, Klas H. Shotgun firing mechanism with thumb-operated cocking piece. 3,102,354, 9-3-63, Cl. 42-41.
- Hardgrove, Ralph M., to The Babcock & Wilcox Co. Method of and apparatus for burning low heat content fuel. 3,105,540, 10-1-63, Cl. 158-1.
- Hardie, Harry. Laminated fabric construction. 3,112,494, 12-3-63, Cl. 2-237.
- Hardie, James H., to The Robert Mitchell Co., Ltd. Combination journal stop and seal for railway cars. 3,072,445, 1-8-63, Cl. 308-38.
- Hardie, Le Bron. Snap acting mechanism. 3,094,008, 6-18-63, Cl. 74-97.
- Hardigan, Blanche. Talking dolls. 3,080,679, 3-12-63, Cl. 46-232.
- Hardigan, Robert, to Sperry Rand Corp., Ford Instrument Co. Division. Pre-spinning of aircraft landing wheels. 3,096-052, 7-2-63, Cl. 244-103.
- Harding, Arthur J. I., to Deering Milliken Research Corp. Detergent composition. 3,083,166, 3-26-63, Cl. 252-142.
- Harding, Denys F., R. E. Campbell, and J. Baker, to British Ropes Ltd. Roof bolt with a flexible tension member and cup-shaped expansible securing means. 3,077,809, 2-19-63, Cl. 85-2.4.
- Harding, Douglas C.: *See*—  
Dryer, Peter J., and Harding. 3,076,067.
- Harding, Emmet B. Steplock rocker jaw parallel clamp. 3,071,363, 1-1-63, Cl. 269-215.
- Harding, Jonathan, J. J. Mellon, Jr., and P. J. Rubilotta, to United States of America, Navy. Inflatable assault life preservers. 3,103,022, 9-10-63, Cl. 9-338.
- Harding, Leonard. Printing presses. 3,087,422, 4-30-63, Cl. 101-269.



- Hardinge Brothers, Inc.: *See*—  
 Laux, Daniel R. 3,089,707.  
 MacBlane James, Sr. 3,074,566.  
 Parsons, Hubert J. 3,077,353.
- Hardinge Co., Inc.: *See*—  
 Ferguson, Leroy C., Mathews, and Hardinge. 3,078,076.  
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 Russell, Robert J., and Hardinge. 3,078,048.
- Hardinge, Harlowe: *See*—  
 Ferguson, Leroy C., Mathews, and Hardinge. 3,078,076.  
 Russell, Robert J., and Hardinge. 3,078,048.
- Hardinge, Harlowe, to Hardinge Co., Inc. Mill and process for autogenous grinding of friable material. 3,078,049, 2-19-63, Cl. 241-26.
- Hardinge, Harlowe. Autogenous grinding process and mill systems to perform the same. 3,078,050, 2-19-63, Cl. 241-26.
- Hardinger, Kermit E., and P. W. Boesch. Low altitude F.M. altimeter. 3,109,172, 10-29-63, Cl. 343-14.
- Hardison, Leslie C., to Universal Oil Products Co. Method of heat control in a fluidized catalyst system. 3,114,699, 12-17-63, Cl. 208-159.
- Hardison, Manley K.: *See*—  
 Broman, Cyrus R., and Hardison. 3,110,497.
- Hardison, Wilbur T.: *See*—  
 Ferrell, Robert L., and Hardison. 3,105,217.
- Hardison, Wilbur T. Variable resistor device. 3,099,812, 7-30-63, Cl. 338-183.
- Hardman, Albert F. to The Goodyear Tire & Rubber Co. Manufacture of aminic thiazole disulfides. 3,086,018, 4-16-63, Cl. 260-247.1.
- Hardman, Harley F.: *See*—  
 Doyle, Philip C., Hook, and Hardman. 3,094,427.
- Hardman, James A. Three wheel-axis suspension system. 3,105,700, 10-1-63, Cl. 280-104.5.
- Hardman, Kenneth V., to DPR, Inc. Two part package. 3,088,586, 5-7-63, Cl. 206-47.
- Hardman Tool & Engineering Co.: *See*—  
 Hodgekin, Charles R. 3,074,760.  
 Smittle, Darrell G. 3,089,564.
- Hardt, Paul E., to Klockner-Werke AG. Process for refining of pig iron in other than round vessels. 3,098,740, 7-23-63, Cl. 75-60.
- Hardtmuth, L. & C., Inc.: *See*—  
 Riepe, Helmut. 3,089,246.
- Hardway, Edward V., Jr., and E. E. Crump, to Beckman Instruments, Inc. Method for precise volume determination. 3,113,448, 12-10-63, Cl. 73-1.
- Hardwick Stove Co.: *See*—  
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- Hardwick, William A.: *See*—  
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- Hardy, Albert L., D. S. Cushing, and T. E. Jenkins, to General Electric Co. Pumping mechanism and pump inlet cover for use therein. 3,084,701, 4-9-63, Cl. 134-115.
- Hardy, Alexander, to General Motors Corp. Transmission. 3,106,107, 10-8-63, Cl. 74-688.
- Hardy, Allen W., to Farr Co. Filter. 3,071,915, 1-8-63, Cl. 55-324.
- Hardy, Clint S., Sr. Pneumatic impact tool. 3,071,114, 1-1-63, Cl. 121-21.
- Hardy, Denis G.: *See*—  
 Stern, Edward S., Watt, and Hardy. 3,108,111.
- Hardy, Edgar E.: *See*—  
 Cleveland, Thomas H., Chadwick, and Hardy. 3,089,889.
- Hardy, Edgar E., to Mobay Chemical Co. Preparation of cellular polyurethane plastics. 3,085,983, 4-16-63, Cl. 260-2.5.
- Hardy, Henry, to International Vulcanizing Corp. Injection molding apparatus for making footwear. 3,109,199, 11-5-63, Cl. 18-30.
- Hardy, Henry, to International Vulcanizing Corp. Injection molding apparatus. 3,110,061, 11-12-63, Cl. 18-30.
- Hardy, Herbert L., J. V. Harrington, R. D. Collier, and A. C. Summers, to General Dynamics Corp. Rotating machine dynamic balancing apparatus. 3,102,429, 9-3-63, Cl. 73-462.
- Hardy, Howard C., to Stanray Corp. Acoustical barrier fence. 3,096,847, 7-9-63, Cl. 181-33.
- Hardy, James A.: *See*—  
 Woollenweber, William E., Jr., Hardy, and Paul. 3,096,126.
- Hardy, John F.: *See*—  
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 Hall, Joseph P., Jr., Hardy, and Jordan. 3,075,844.  
 Templer, Charles E., Hardy, and Lainchbury. 3,093,974.
- Hardy, John L., to The Dow Chemical Co. Organo-tin and organo-sulphur parasitocides. 3,105,000, 9-24-63, Cl. 167-22.
- Hardy, Maurice E., to Zenith Radio Corp. Record players. 3,096,093, 7-2-63, Cl. 274-10.
- Hardy, Maurice E., to Zenith Radio Corp. Phonograph. 3,107,098, 10-15-63, Cl. 274-10.
- Hardy, Maurice E., E. J. Polley, and R. L. Rost, to Zenith Radio Corp. Tape recorder. 3,107,835, 10-22-63, Cl. 226-179.
- Hardy, Peter S., to Peerless Aluminum Foundry Co., Inc. Indexing attachment for layout work on lathes. 3,074,298, 1-22-63, Cl. 74-815.
- Hardy, Peter S., to Peerless Aluminum Foundry Co., Inc. Abrasive finishing disk. 3,086,277, 4-23-63, Cl. 29-78.
- Hardy, Peter S., to Peerless Aluminum Foundry Co., Inc. Spatula. 3,092,411, 6-4-63, Cl. 294-7.
- Hardy, Robert A., Jr.: *See*—  
 Semb, Joseph, Bonvicino, and Hardy. 3,072,649.  
 Wright, William B., Jr., and Hardy. 3,072,701.
- Hardy, Vaughn H.: *See*—  
 Contant, Peter R., Hardy, and Reese. 3,097,389.
- Hardy, Walter L.: *See*—  
 Odenwald, William, Appleman, and Hardy. 3,080,285.
- Hardy, William B.: *See*—  
 Furman, Frank M., Hardy, and Thelin. 3,109,027.  
 Milonin, Jerry P., and Hardy. 3,072,585.
- Hardy, Woodrow, to The Fairfield Engineering Co. Waste material converter and method of digesting waste. 3,114,622, 12-17-63, Cl. 71-9.
- Hare, Terence G. Faucet valve with multiple seals. 3,084,902, 4-9-63, Cl. 251-88.
- Hare, Terence G. Car top carrier. 3,109,569, 11-5-63, Cl. 224-42.1.
- Hare, Lloyd E.: *See*—  
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- Harel, Abraham, to Radio Corp. of America. Binary adder employing minority logic. 3,088,668, 5-7-63, Cl. 235-176.
- Harel, Abraham, to Radio Corp. of America. Binary adder. 3,113,206, 12-3-63, Cl. 235-176.
- Harges, Michael T., to Empire Devices Products Corp. Remotely operated microwave attenuator having automatic plug-in connectors for coupling to step attenuators on multiposition turret. 3,107,334, 10-15-63, Cl. 333-81.
- Hargrave, Melvin R.: *See*—  
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 Cobb, Phara L., Jr., and Hargrave. 3,079,978.  
 Cobb, Phara L., Jr., and Hargrave. 3,106,501.
- Hargreaves, James, to Wickman Ltd. Cutting tools for use in lathes or other machines. 3,113,372, 12-10-63, Cl. 29-96.
- Haring Mfg. Corp.: *See*—  
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- Haring, Eugene M.: *See*—  
 Haring, Horace E., and Taylor. 3,093,883.
- Haring, Harry, to Universal Boning Co. Covered boning. 3,115,642, 12-31-63, Cl. 2-256.
- Haring, Horace E., deceased (by E. M. Haring, executor), and R. L. Taylor, to Bell Telephone Laboratories, Inc. Manufacture of solid electrolytic capacitors. 3,093,883, 6-18-63, Cl. 29-25.42.
- Hariu, Oscar H.: *See*—  
 Fowle, Merrill J., Hariu, and Masologites. 3,085,070.
- Hariu, Oscar H., to The Atlantic Refining Co. Control of hydrogen concentration in recycle hydrogen streams in the hydrodealkylation process. 3,101,380, 8-20-63, Cl. 260-672.
- Harkema, Walter F. Condensation vaporizer for heater. 3,083,703, 4-2-63, Cl. 126-85.
- Harkenrider, Robert J., to Miller Lubricator Co. Journal box lubricator. 3,076,685, 2-5-63, Cl. 308-243.
- Harkenrider, Robert J. Apparatus for continuous extrusion of metal. 3,113,676, 12-10-63, Cl. 207-2.
- Harker, John H., R. W. Janetz, and J. Keyes, to Bell & Gossett Co. Method and apparatus for maintaining rotating pump seals. 3,076,412, 2-5-63, Cl. 103-111.
- Harker, Robert J., to Commercial Solvents Corp. Non-corrosive lubricating compositions. 3,108,071, 10-22-63, Cl. 252-47.5.
- Harker, Wesley H.: *See*—  
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- Harkes, Pieter D.: *See*—  
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- Harkey, Paul W. Body supported work holding device. 3,106,037, 10-8-63, Cl. 45-59.
- Harkins, Allen A., to The United States Stoneware Co. Protective cover. 3,100,568, 8-13-63, Cl. 206-2.
- Harkins, Carlyle M. Tire. 3,097,681, 7-16-63, Cl. 152-352.
- Harkins, Carlyle M. Tire filler valve. 3,097,682, 7-16-63, Cl. 152-429.
- Harkins, Jack, to Professional Golf Co. Steel power-center golf ball. Re. 25,427, 7-30-63, Cl. 373-230.
- Harkness, Joseph R., to Briggs & Stratton Corp. Thermo-electrodynamic prime movers. 3,090,875, 5-21-63, Cl. 310-4.
- Harks, Walter M. Self-propelled attachment for golf-bag carts. 3,087,562, 4-30-63, Cl. 180-11.
- Harlan, Don L., to Texaco Inc. Method for closing down an injection well during thermal recovery operations. 3,080,919, 3-12-63, Cl. 166-39.
- Harland, William G.: *See*—  
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- Harlander, Leslie A., and K. F. Dewing, to Matson Navigation Co. Lifting beam. 3,078,115, 2-19-63, Cl. 294-67.
- Harlander, Leslie A., and H. Kozlowski, to Matson Navigation Co. Cargo container securing means and system. 3,083,670, 4-2-63, Cl. 114-75.
- Harle, Harold P., to General Electric Co. Semi-automatic ice maker for household refrigerators. 3,089,312, 5-14-63, Cl. 62-135.
- Harley-Davidson Motor Co.: *See*—  
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- Harley, Earl K., Jr.: *See*—  
 Dolan, Thomas I., and Harley. 3,111,818.
- Harley, Earl K., Jr., to Hupp Corp. Refrigerators. 3,103,797, 9-17-63, Cl. 62-419.



- Harley, Frank B.,  $\frac{1}{2}$  to Harley Patents (International) Ltd. Buckles. 3,091,830, 6-4-63, Cl. 24-170.
- Harley Patents (International) Ltd.: See—  
Harley, Frank B., 3,091,830.
- Harley, Robert S., C. L. Miller, and C. E. North, to Remington Arms Co., Inc. Powder measuring device. 3,091,368, 5-28-63, Cl. 222-36.
- Harling, Donald W., to McGraw-Edison Co. Luminaire. 3,072,783, 1-8-63, Cl. 240-25.
- Harling, Donald W., to McGraw-Edison Co. Fluorescent luminaire. 3,087,981, 4-30-63, Cl. 174-52.
- Harling, Donald W., to McGraw-Edison Co. Mast arm. 3,094,220, 6-18-63, Cl. 211-111.
- Harling, Donald W., to McGraw-Edison Co. Post top mounted lighting unit. 3,094,286, 6-18-63, Cl. 240-23.
- Harling, Donald W., to McGraw-Edison Co. Fluorescent luminaire. 3,096,028, 7-2-63, Cl. 240-25.
- Harling, Donald W., to McGraw-Edison Co. Luminaire for directional lighting. 3,096,030, 7-2-63, Cl. 240-25.
- Harling, Donald W., and P. B. Clark, to McGraw-Edison Co. Fluorescent luminaire. 3,092,336, 6-4-63, Cl. 240-25.
- Harling, Walter J., to M. M. Bartkus. Adjustable clamp. 3,076,646, 2-5-63, Cl. 269-221.
- Harlow, George R.: See—  
Spreadbury, Walter G., Oslund, and Harlow, 3,109,261.
- Harlow, Willis E., and V. C. Rice, to Borg-Warner Corp. Lint filter agitator screen. 3,085,419, 4-16-63, Cl. 68-18.
- Harm, Alton K., and W. D. Wagner, to Westinghouse Electric Corp. Counting mechanism for line sectionalizers. 3,114,021, 12-10-63, Cl. 200-89.
- Harman, Cameron G., and L. Abraham, to The Univis Lens Co. Polishing material. 3,071,455, 1-1-63, Cl. 51-308.
- Harman, Denham: See—  
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- Harman, Hal W.,  $\frac{1}{2}$  each to W. H. F. Schmieding, and P. Fultz. Method of building or repairing a crank shaft. 3,103,066, 9-10-63, Cl. 29-471.1.
- Harman, Marion W., to Monsanto Chemical Co. Sulfur vulcanization of rubbers with a 2-(3,5-dimethyl-4-morpholinylmercapto)-benzothiazole accelerator. 3,078,258, 2-19-63, Cl. 260-79.5.
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- Harms, August F., to Koninklijke Pharmaceutische Fabrieken v/h Brocades-Scheeman & Pharmacia, N.V. 2-trifluoromethylidiphenylcarbinol. 3,106,587, 10-8-63, Cl. 260-618.
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- Harper, Billy G.: See—  
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- Harper, Ernest A., to Phillips Petroleum Co. Low temperature absorption of gasoline constituents from natural gas. 3,099,619, 7-30-63, Cl. 208-341.
- Harper Hosiery Mills, Inc.: See—  
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- Harper, James G., to Texas Instruments Inc. Method of purifying gallium by recrystallization. 3,088,853, 5-7-63, Cl. 148-1.6.
- Harper, James L.: See—  
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- Harper, Richard G. Fragmentation projectile. 3,097,603, 7-16-63, Cl. 102-91.
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- Hushley, Walter J. 3,089,956.
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- Mawney, Robert G., and Harper. 3,112,978.
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- Harper-Wyman Co.: *See*—
- Lamar, Charles C. 3,073,526.
- Harple, Kenneth G.: *See*—
- Jakacki, Wallace B., and Harple. 3,091,726.
- Harpman, Fred. Color film process. 3,115,809, 12-31-63, Cl. 88-24.
- Harpster, Warren T.: *See*—
- Johnson, Anton M., and Harpster. 3,116,486.
- Harr, John A.: *See*—
- Cirone, Frank P., Harr, Lowry, and Ridinger. 3,114,007.
- Harr, John A., and T. N. Lowry, Bell Telephone Laboratories, Inc. Line concentrator system. 3,097,717, 7-30-63, Cl. 179-18.
- Harr, John A., T. N. Lowry, I. D. Nehama, and P. G. Ridinger, to Bell Telephone Laboratories, Inc. Two-stage line concentrator system. 3,116,375, 12-31-63, Cl. 179-18.
- Harrawood, Leo: *See*—
- Trotter, Gerald F. 3,113,599.
- Harrel, Chastain G.: *See*—
- Rozsa, Tibor A., Harrel, and Manning. 3,077,407.
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- Harrell, Bob R., deceased, by S. S. Harrell, to The Dow Chemical Co. Removal of impurities from caustic soda solutions. 3,104,948, 9-24-63, Cl. 23-184.
- Harrell, Shirley S.: *See*—
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- Harrer, Paul H., to Allis-Chalmers Mfg. Co. Tractor mower. 3,091,072, 5-28-63, Cl. 56-25.
- Harrer, Paul H., and W. H. Shannon, to Allis-Chalmers Mfg. Co. Hay conditioner. 3,115,737, 12-31-63, Cl. 56-1.
- Harrett, Ernest F. Method and apparatus for removing fruit from trees. 3,084,967, 4-9-63, Cl. 294-86.
- Harrick, Nicolas J., to North American Philips Co., Inc. Semiconductor stepping switch. Re. 25,389, 5-28-63, Cl. 307-88.5.
- Harries Electronics Corp. Ltd.: *See*—
- Harries, John H. O. 3,086,076.
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- Harries, John H. O. Evacuation of vacuum and gas-filled envelopes. 3,108,621, 10-29-63, Cl. 141-8.
- Harries, Robert M.: *See*—
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- Harries, Wynford L., to International Telephone and Telegraph Corp. Semiconductor multiplanar rectifying junction diode. 3,094,633, 6-18-63, Cl. 307-88.5.
- Harriman, Cy. Control units for fire protective signaling systems. 3,099,825, 7-30-63, Cl. 340-213.
- Harriman, Emanuel. Split sprocket. 3,106,101, 10-8-63, Cl. 74-243.
- Harriman, Louis A.: *See*—
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- Harriman, Raymond E., to Ryan Aeronautical Co. Alternating current silicon controlled rectifier switch. 3,097,314, 7-9-63, Cl. 307-88.5.
- Harrington, Alan L., to Pacific Semiconductors, Inc. Manufacture of semiconductor devices. 3,084,079, 4-2-63, Cl. 148-1.5.
- Harrington, Dean B., and P. A. Becker, to General Electric Co. Cooling arrangement for the stator teeth of a dynamo-electric machine. 3,116,429, 12-31-63, Cl. 310-64.
- Harrington, James V.: *See*—
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- Sheets, Herman E., and Harrington. 3,100,006.
- Harrington, George F., to Hygrade Food Products Corp. Sequentially operated timing mechanism. 3,110,775, 11-12-63, Cl. 200-24.
- Harrington, Joseph J., J. D. Mitchell, and B. L. Jordan. Peanut vine feed control device. 3,098,340, 7-23-63, Cl. 56-345.
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- Harrington, Louis-Philippe A.: *See*—
- Edwards, James D., Harrington, and Shapter. 3,114,252.
- Harrington, Richard H.: *See*—
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- Harrington, Robert C., Jr., and J. L. Smith, to Eastman Kodak Co. Stabilized yarn. 3,082,110, 3-19-63, Cl. 106-194.
- Harrington, Robert C., Jr., J. L. Smith, and J. H. Bond, to Eastman Kodak Co. Method of producing a fibrous product from extruded organic thermoplastic filaments. 3,110,642, 11-12-63, Cl. 156-28.
- Harriott, Billie L., to Deere & Co. Discharge elevator. 3,098,555, 7-23-63, Cl. 198-122.
- Harris, Abraham. Briefcase closure. 3,105,534, 10-1-63, Cl. 150-4.
- Harris, Alan J., to Span Tendons Ltd. Cables for prestressing concrete. 3,114,987, 12-24-63, Cl. 50-135.
- Harris, Arch W., to United States Steel Corp. Method of and apparatus for hot-dip coating strands. 3,082,119, 3-19-63, Cl. 117-114.
- Harris, Arvel R., to Ranco Inc. Control apparatus. 3,091,674, 5-28-63, Cl. 200-61.06.
- Harris, Ben A.: *See*—
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- Harris, Ben A., to General Dynamics Corp. Toll ticketing adapter circuit. 3,087,020, 4-23-63, Cl. 179-18.
- Harris, Bernard L.: *See*—
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- Harris, Bradford F., and F. A. MacConnell, to Worthington Corp. Air conditioning control. 3,105,365, 10-1-63, Cl. 62-159.
- Harris, Carl B.: *See*—
- Tape, Robert L. 3,106,020.
- Harris, Charles R., to Pneumafil Corp. Method of waste collection from textile frames. 3,084,077, 4-2-63, Cl. 134-37.
- Harris, Charles W.: *See*—
- Kinsell, Earl, and Harris. 3,112,028.
- Harris, Clevite, Products, Inc.: *See*—
- Drake, Robert T. 3,107,946.
- Harris, Clinton H., to Argus Inc. Automatic slide centering. 3,114,285, 12-17-63, Cl. 88-28.
- Harris, Darrel M.: *See*—
- Henderson, Courtland M., and Harris. 3,081,361.
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- Harris, David A., to Imperial Chemical Industries Ltd. Spray attachment. 3,109,592, 11-5-63, Cl. 239-165.
- Harris, David E.: *See*—
- Nearhoff, Harold J., Woodbridge, and Harris. 3,089,383.
- Harris, David E., to HRB-Singer, Inc. Bandwidth compression system. 3,105,950, 10-1-63, Cl. 340-1.
- Harris, Donald A.: *See*—
- Olson, John E., and Harris. 3,110,517.
- Harris, Donald A., to Hyster Co. Minimum close carton clamp. 3,092,274, 6-4-63, Cl. 214-620.
- Harris, Donald B. Automatically controlled torpedo. 3,105,452, 10-1-63, Cl. 114-23.
- Harris, Donald E., to General Motors Corp. Friction facing and process of manufacture. 3,104,174, 9-17-63, Cl. 117-4.
- Harris, Earl L. Tire and tube repair fixture. 3,088,348, 5-7-63, Cl. 81-15.2.
- Harris, Edward E., to Olin Mathieson Chemical Corp. Condensation polymers of chloromethyl aromatics. 3,105,054, 9-24-63, Cl. 260-2.
- Harris, Edward H., to Acrometal Products, Inc. Filament accumulator. 3,078,055, 2-19-63, Cl. 242-47.12.
- Harris, Edward H., to Acrometal Products, Inc. Curing oven for enameled wire. 3,106,386, 10-8-63, Cl. 263-3.
- Harris, Edward J.: *See*—
- Frohlich, Adolf, and Harris. 3,113,344.
- Frohlich, Adolf H., and Harris. 3,093,531.
- Harris, Edward P.: *See*—
- Beck, George W., Harris, Millhouse, and Moorman. 3,110,938.
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- Harris, Everett E., Jr., to United-Carr Fastener Corp. Bulb holder carried by plug button. 3,110,539, 11-12-63, Cl. 339-188.
- Harris, Francis S., to Microwave Associates, Inc. Reactance or parametric amplifier. 3,111,629, 11-19-63, Cl. 330-4.9.
- Harris, Frederick J., and G. E. Boughiey, to Scottish Agricultural Industries Ltd. Rotary reaction kiln. 3,097,833, 7-16-63, Cl. 263-32.
- Harris, Geoffrey T., and H. C. Child, to The Birmingham Small Arms Co. Ltd. Composite metal products. 3,109,235, 11-5-63, Cl. 29-528.
- Harris, George C., to Hercules Powder Co. Cereal starches and process. 3,102,054, 8-27-63, Cl. 127-69.
- Harris, George N., to AMP Inc. Method and apparatus for producing an electrical connection with insulated wires. 3,111,554, 11-19-63, Cl. 174-84.
- Harris, Guy H., and E. C. Fischback, to The Dow Chemical Co. Production and crystallization of 3,5-dinitro-O-toluic acid from nitric and sulfuric acid. 3,100,797, 8-13-63, Cl. 260-515.
- Harris, Harlan N. Compass. 3,098,304, 7-23-63, Cl. 33-154.
- Harris, Harold D., to Harris and Thrush Mfg. Co., Inc. Vehicle suspension. 3,076,665, 2-5-63, Cl. 280-112.
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- Harris, Howard G., and C. F. Phillips, to Elliott Brothers (London) Ltd. Bearings for relatively rotating members. 3,075,816, 1-29-63, Cl. 308-135.
- Harris, Ida M. and J. J. Art needlework frame. 3,098,280, 7-23-63, Cl. 28-15.
- Harris-Intertype Corp.: *See*—  
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 Doty, Joseph C., and Buchwalder. 3,081,079.  
 Haywood, Russell I., and Cochran. 3,078,750.  
 O'Brien, Richard C. 3,099,945.  
 Roberts, Webster C. 3,094,065.  
 Seel, Howard J. 3,112,695.  
 Taylor, Norman W. 3,076,648.  
 Watts, Sherman S., and Kastelic. 3,104,100.  
 Weidman, William H. 3,086,799.  
 Wojciechowski, Walter J., and Brandt. 3,096,710.
- Harris, Israel T. Balancing stick. 3,081,999, 3-19-63, Cl. 273-1.
- Harris, Jack: *See*—  
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- Harris, Jack J.: *See*—  
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- Harris, James J.: *See*—  
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- Harris, James O., to Monsanto Chemical Co. Aminoaryl tetrahydroquinolines. 3,083,181, 3-26-63, Cl. 260-45.8.
- Harris, Jay: *See*—  
 McGow, Thomas C., MacRae, and Harris. 3,077,959.
- Harris, Jerome R., to Art Color Printing. Etching machine. 3,092,123, 6-4-63, Cl. 134-61.
- Harris, Jesse. Dental articulator for bridgework and crowns. 3,097,431, 7-16-63, Cl. 32-32.
- Harris, John E.: *See*—  
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- Harris, John E., and C. N. Matthews, to Monsanto Research Corp. Synthesis of methylenebis (phosphonium bromides). 3,098,878, 7-23-63, Cl. 260-606.5.
- Harris, John F., Jr., to E. I. du Pont de Nemours and Co. Ethylenically-unsaturated fluorinated thiols. 3,086,058, 4-16-63, Cl. 260-609.
- Harris, John F., Jr., to E. I. du Pont de Nemours and Co. Preparation of highly fluorinated alkyl chlorides by irradiation with ultraviolet light of fluoroacyl chlorides alone or admixed with fluoroolefins. 3,089,833, 5-14-63, Cl. 204-158.
- Harris, John P., to International Business Machines Corp. Driving means for magnetic tape. 3,091,880, 5-28-63, Cl. 226-50.
- Harris, John W. Information correlating and indicating device. 3,071,322, 1-1-63, Cl. 235-88.
- Harris, John W., to Timsons Ltd. Rotary printing machines. 3,095,810, 7-2-63, Cl. 101-351.
- Harris, Kate T.: *See*—  
 Harris, Marlin J., Jr. 3,099,898.
- Harris, Kenneth D.: *See*—  
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- Harris, Lee T. Variable displacement hydraulic assembly. 3,095,708, 7-2-63, Cl. 60-53.
- Harris, Lewis P., to The Sherwin-Williams Co. Method of making granular calcium arsenate. 3,090,668, 5-21-63, Cl. 23-53.
- Harris, Lucile B., and J. A. Mease, Jr. Hypodermic projectile. 3,093,077, 6-11-63, Cl. 102-92.
- Harris, Marlin J., Jr., deceased; K. T. Harris, administratrix. Agricultural process and apparatus for carrying out the same. 3,099,898, 8-6-63, Cl. 47-58.
- Harris, Philip H., to American Cement Corp. Cement product. 3,097,955, 7-16-63, Cl. 106-95.
- Harris, Ralph A., to Texas Instruments Inc. Balanced drive for semiconductor diode attenuator in automatic gain controlled amplifier. 3,115,601, 12-24-63, Cl. 323-66.
- Harris, Raymond C.: *See*—  
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- Harris, Raymond N., and J. C. Walker, to Armour and Co. Pickle injecting apparatus. 3,080,809, 3-12-63, Cl. 99-257.
- Harris, Richard A., and C. D. Spainhour, to Western Electric Co., Inc. One-piece oil pump. 3,100,027, 8-6-63, Cl. 184-6.
- Harris, Richard C., to Corn Products Co. Animal feeding block and process for preparing the same. 3,087,819, 4-30-63, Cl. 99-2.
- Harris, Richard V.: *See*—  
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- Harris, Richard W., and D. H. Youngman, to Molins Machine Co. Ltd. Packing machines. 3,113,903, 12-10-63, Cl. 156-484.
- Harris, Robert E., to H. H. Robertson Co. Longitudinally reciprocating measuring means and strip treating apparatus. 3,081,657, 3-19-63, Cl. 83-294.
- Harris, Robert W., to William Melish Harris, Associates. Collapsible floor display stand. 3,099,357, 7-30-63, Cl. 211-133.
- Harris, Ronald C.: *See*—  
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- Harris, Royal C.: *See*—  
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- Harris, Thomas, to Structural Fibers, Inc. Tool handle. 3,115,912, 12-31-63, Cl. 145-61.
- Harris, Thomas J., and L. A. Brown. Portable router. 3,114,292, 12-17-63, Cl. 90-13.
- Harris and Thrush Mfg. Co., Inc.: *See*—  
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- Harris Transducer Corp., The: *See*—  
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- Harris, Velma C. Method of re-refining. 3,098,031, 7-16-63, Cl. 208-183.
- Harris, Walter: *See*—  
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- Harris, Walter. Cigarette filter. 3,103,221, 9-10-63, Cl. 131-10.
- Harris, Walter D., to United States Rubber Co. Plant growth regulants. 3,072,473, 1-8-63, Cl. 71-2.6.
- Harris, Warren B. Dobby chain bar and linkage. 3,110,328, 11-12-63, Cl. 139-334.
- Harris, Wilbur T., to The Harris Transducer Corp. Circuit element transducer. 3,091,708, 5-28-63, Cl. 310-8.2.
- Harris, Wilbur T. Hollow conical electromechanical transducer for use in air. 3,104,336, 9-17-63, Cl. 310-8.8.
- Harris, Wilbur T. Hollow conical electromechanical transducer in sealed housing. 3,105,161, 9-24-63, Cl. 310-8.4.
- Harris, Wilbur T., to The Harris Transducer Corp. Depth-compensated transducer. 3,108,247, 10-22-63, Cl. 340-8.
- Harris, Wilbur T., to The Harris Transducer Corp. Differential magnetostrictive actuator. 3,109,973, 11-5-63, Cl. 318-118.
- Harris, William, to W. T. Voit Rubber Corp. Control system for ball winding machine. 3,101,179, 8-20-63, Cl. 242-3.
- Harris, William B., Jr., and E. B. Champion. Glare shield for windshield wiper. 3,105,990, 10-8-63, Cl. 15-250.35.
- Harris, William C., and L. T. Childers, to National Biscuit Co. Depositor. 3,106,173, 10-8-63, Cl. 107-29.
- Harris, William E., and R. M. Soden. Rotating fluid spray apparatus for washing paper machine head boxes. 3,101,730, 8-27-63, Cl. 134-167.
- Harris, William Melish, Associates: *See*—  
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- Harrison, Albert K.: *See*—  
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- Harrison, Anthony W., to Girling Ltd. Shoe drum brakes having automatic adjusting means. 3,111,199, 11-19-63, Cl. 188-78.
- Harrison, Benjamin C., and E. H. Tompkins, to International Business Machines Corp. Method of preparing indium antimonide films. 3,101,280, 8-20-63, Cl. 117-201.
- Harrison, Charles E. Air-distribution system. 3,099,200, 7-30-63, Cl. 98-40.
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- Harrison, Charles W., to Hewlett Packard Co. All transistor regulated power supply having a protection circuit. 3,105,188, 9-24-63, Cl. 323-22.
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- Harrison, Dewey L., to Versatile Press. Cylinder change means for printing machine. 3,108,536, 10-29-63, Cl. 101-218.
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- Harrison, Henry. Bolt stress indicator. 3,104,645, 9-24-63, Cl. 116-114.
- Harrison, Henry C. Cleaning device. 3,098,253, 7-23-63, Cl. 15-118.
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- Harrison, John W., to W. R. Grace & Co. Nestable container wrapping. 3,085,375, 4-16-63, Cl. 53-30.
- Harrison, John W., to W. R. Grace & Co. Multiple can carrier and sanitary seal. 3,085,683, 4-16-63, Cl. 206-65.



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- Harrison, John W., to W. R. Grace & Co. Closure for containers. 3,095,103, 6-25-63, Cl. 215-38.
- Harrison, John W., to W. R. Grace & Co. Shrink cover machine for raised products. 3,115,735, 12-31-63, Cl. 53-184.
- Harrison, John W., and R. D. Lowry, to W. R. Grace & Co. Package. 3,092,246, 6-4-63, Cl. 206-45.33.
- Harrison, John W., R. D. Lowry, W. G. Baird, Jr., and R. G. Shaver, to W. R. Grace & Co. Method of making preforms or blanks from polyethylene. 3,106,441, 10-8-63, Cl. 18-47.5.
- Harrison, Kenneth W. Locking T-square or like article. 3,086,291, 4-23-63, Cl. 3-80.
- Harrison, Lester E. Constant speed keeper for automobiles. 3,092,202, 6-4-63, Cl. 180-82.1.
- Harrison, McGregor & Guest Ltd.: See—  
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- Harrison, Norman A., to Johnson & Johnson. Sanitary napkin. 3,076,459, 2-5-63, Cl. 128-290.
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- Harrison, Roy C., to Phillips Petroleum Co. Method and apparatus for coating the interior of a pipe. 3,074,808, 1-22-63, Cl. 117-18.
- Harrison, Stuart A., K. E. McCaleb, and W. J. Ward, to General Mills Inc. Dimeric fatty quaternary ammonium salts. 3,073,864, 1-15-63, Cl. 260-567.6.
- Harrison, Wayne T., and R. J. Carrigan, to Bigelow-Sanford, Inc. Axminster type carpet and method for making the same. 3,077,906, 2-19-63, Cl. 139-399.
- Harrison, William H. Golf teaching device. 3,097,437, 7-16-63, Cl. 35-29.
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- Harry, Gordon W., to General Motors Corp. Altitude compensated pressure supply mechanism. 3,106,104, 10-8-63, Cl. 74-472.
- Harry, Gordon W., to General Motors Corp. Pressure testing apparatus. 3,115,031, 12-24-63, Cl. 73-40.
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- Hart, Albert J., and A. M. Henke, to Gulf Research & Development Co. Lubricating composition having a reduced cooking tendency. 3,095,377, 6-25-63, Cl. 252-45.
- Hart, Albert S. Disk cutter. 3,091,855, 6-4-63, Cl. 30-359.
- Hart, Benjamin F., to General Electric Co. Method and apparatus for severing a moving helical strip. 3,095,774, 7-2-63, Cl. 83-37.
- Hart, Charles R., Jr. Method and apparatus for testing gearing. 3,094,867, 6-25-63, Cl. 73-162.
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- Hart, James L., to Phillips Petroleum Co. Removal of silica from uranium-containing solution. 3,105,734, 10-1-63, Cl. 23-14.5.
- Hart, James L., and R. E. Reusser, to Phillips Petroleum Co. Method for prevention of plugging of aeration tubes in the leaching of uranium ores. 3,086,841, 4-23-63, Cl. 23-14.5.
- Hart, James L., and R. A. Koble, to Phillips Petroleum Co. Process for precipitation of uranium from solution. 3,104,941, 9-24-63, Cl. 23-14.5.
- Hart, John C.: See—  
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- Hartel, Erwin H., to Cleveland Pneumatic Industries, Inc. Aircraft landing gear. 3,073,586, 1-15-63, Cl. 267-64.
- Hartel, Erwin H., to The Cleveland Pneumatic Tool Co. Retractable landing gear. 3,086,733, 4-23-63, Cl. 244-102.
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- Hartig, Rufus G., to Hooker Chemical Corp. Process for recovering elemental phosphorus. 3,104,952, 9-24-63, Cl. 23-293.
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- Hartlapp, Gerhard, and W. Bielenberg, and H. Kribbe, to Knapsack-Griesheim Aktiengesellschaft. Process for the manufacture of alkali metal phosphates. 3,087,783, 4-30-63, Cl. 23-106.
- Hartle, Glenn A., to Farrington Sanford Corp. Food processing tray. 3,085,352, 4-16-63, Cl. 34-238.
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- Hartley, Maurice S., to National Mfg. Corp. Web-fed printing and sealing apparatus. 3,112,055, 11-26-63, Cl. 226-117.
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- Hartley, Robert R., to Westinghouse Air Brake Co. Compressor load control system. 3,088,656, 5-7-63, Cl. 230-21.
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- Hartman, Lyle M. String damper assembly for musical instruments. 3,101,640, 8-27-63, Cl. 84-255.



- Hartman, Paul F., to United States Rubber Co. Trinitroalkyl ethers and process. 3,084,201, 4-2-63, Cl. 260-611.
- Hartman, William F., to The Bunting Co., Inc. Separator means for webbing. 3,094,358, 6-18-63, Cl. 297-454.
- Hartman, William W. Multiple-action loaf slicing machine. 3,077,910, 2-19-63, Cl. 146-88.
- Hartman, William W. Labeling machine. 3,112,236, 11-26-63, Cl. 156-357.
- Hartmanis, Juris, to General Electric Co. Adaptive neuron having improved output. 3,103,648, 9-10-63, Cl. 340-172.5.
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- Hartnagel, Robert, to Klein, Schanzlin & Becker Aktiengesellschaft. Fluid assemblies and sealing inserts therefor. 3,101,199, 8-20-63, Cl. 277-9.
- Hartog, Ernest, to The Bendix Corp. Phase discriminator having a pair of discriminators each having three inputs and a combined output. 3,103,633, 9-10-63, Cl. 328-133.
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- Hartop, Robert W., to Cutler-Hammer, Inc. Operating mechanism for electric switches. 3,103,127, 9-10-63, Cl. 74-471.
- Hartop, William L., Jr., to Abbott Laboratories. Method for the preparation of non-hygroscopic crystalline thiobarbiturate salts. 3,109,001, 10-29-63, Cl. 260-260.
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- Hartswick, Richard W., to The Kaman Aircraft Corp. Rotor control system for a helicopter. 3,077,934, 2-19-63, Cl. 170-160.25.
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- Hartviksen, Rudolph R. Truck tarpaulin and dragline mechanism. 3,086,811, 4-23-63, Cl. 296-98.
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- Hartwig, Jürgen, to Union Carbide Corp. Process for coating carbonaceous articles with silicon dioxide. 3,095,316, 6-25-63, Cl. 117-16.
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- Harvey, Earle M., to United States of America, Army. Gas assist system for recoil actuated firearms. 3,110,222, 11-12-63, Cl. 89-159.
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- Harvey, Wallace A., Jr. Protective device for a bow on gift-wrapped packages. 3,095,967, 7-2-63, Cl. 206-45.33.
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- Harwell, Thurston W.: *See*—
- Smith, Paul L., Cornwell, and Harwell. 3,113,876.



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- Harwood Electronics Co., Inc.: *See*—  
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- Harwood, Frank D., to The Mills Co. Partition structure. 3,072,226, 1-8-63, Cl. 189-34.
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- Harwood, Kenneth J., to Kimberly-Clark Corp. Laminated sheet material. 3,072,511, 1-8-63, Cl. 154-46.
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- Hasbrouck, Augustus, and W. A. Ledwith, to United Aircraft Corp. Missile interstage separating device. 3,112,702, 12-3-63, Cl. 102-49.
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- Hashman, Joseph S., to Callery Chemical Co. Production of ozonides. 3,115,392, 12-24-63, Cl. 23-184.
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- Hass, Zygmunt K., to Marsland Engineering Ltd. Electronic circuits for comparing an A.C. voltage to a D.C. voltage. 3,093,783, 6-11-63, Cl. 318-327.
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- Haupt, Wilhelm, to Kienzle Apparate G.m.b.H. Setting arrangement for taximeters. 3,109,312, 11-5-63, Cl. 74-1.
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- Haus, Joseph B., I. C. Brooks, and R. W. Price, to S. B. Penick & Co. Thermocline penetrating emulsifiable fish toxicant compositions. 3,098,004, 7-16-63, Cl. 167-46.
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- Hause, Gilbert K., to General Motors Corp. Multiple speed split torque transmission. 3,084,569, 4-9-63, Cl. 74-688.
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- Hausen, Dietrich K.,  $\frac{1}{2}$  to B. E. Horn. Apparatus for measuring amplitude and frequency of modulated signals. 3,107,330, 10-15-63, Cl. 324-78.
- Hauser, Theodor. Packing for ampoules or the like. 3,115,247, 12-24-63, Cl. 206-65.
- Hauser, Richard, to Westinghouse Electric Corp. Circuit breaker with spring closing mechanism. 3,073,929, 1-15-63, Cl. 200-106.
- Hauser, Richard, and J. H. Taylor, to Westinghouse Electric Corp. Circuit breaker. 3,072,765, 1-8-63, Cl. 200-109.
- Hauserman, E. F., Co., The: *See*—
- Bohnsack, John A. 3,081,504.
- Pollock, Gordon J., and Fowles. 3,099,863.
- Hausermann, Henry O., to Blitz-Weinhard Co. Barrell loading. 3,105,599, 10-1-63, Cl. 214-10.5.
- Haushalter, Fred L. Method of making a composite assembly for use between concentric sections of a torsional shaft. 3,071,850, 1-8-63, Cl. 29-450.
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- Haushalter, Roger W.: *See*—
- Amann, Charles A., Collman, Haushalter, Ricketts, Turunen, and Vickers. 3,095,700.
- Hausmann, George F., to United Aircraft Corp. Two-stage rocket. 3,093,964, 6-18-63, Cl. 60-35.6.
- Hausmann, Günter, and K. Hintze, to VEB Kamera- und Kinowerke Dresden. Indicator means for cameras. 3,107,593, 10-22-63, Cl. 95-11.
- Hausmann Laboratories Ltd.: *See*—
- Mueller, Arthur, Schwarz, and Bersin. 3,076,798.
- Hausmann, Werner, to Schlopperwerk Nordhausen, VEB. Power takeoff for automotive vehicles. 3,074,285, 1-22-63, Cl. 74-15.2.
- Hausmann, Werner. Hydraulic installation for soil-working implements. 3,090,446, 5-21-63, Cl. 172-4.
- Hausmann, Werner, and M. Klose, to VEB Schlepperwerk Nordhausen. Hydraulic installation for tractors. 3,094,173, 6-18-63, Cl. 172-491.
- Hausner, Henry H.: *See*—
- Kingston, Walter E., Kopelman, and Hausner. 3,096,263.
- Hausner, Henry H., and A. R. Poster, to Sylvania Electric Products Inc. Method of producing sintered metal bodies. 3,071,463, 1-1-63, Cl. 75-214.
- Hausner, Johann K., to Neotronic Corporation. Packing assembly. 3,098,660, 7-23-63, Cl. 277-187.
- Haussermann, Erich. Dial arrangement for telephone sets and like devices. 3,072,749, 1-8-63, Cl. 179-90.
- Häussler, Friedrich, H. Günther, and A. Thomas, to Kraftanlagen AG. Centering device for welding ends of pipe. 3,115,859, 12-31-63, Cl. 113-102.
- Hausweiler, Arnold, B. Homeyer, K. Legrand, and K. Schwarzer, to Farbenfabriken Bayer Aktiengesellschaft. Method of combating nematodes. 3,085,928, 4-16-63, Cl. 167-22.
- Hausweiler, Arnold, K. Schwarzer, G. Unterstenhofer, and W. Behrenz, to Farbenfabriken Bayer Aktiengesellschaft. Carbamic acid esters of phenols. 3,084,184, 4-2-63, Cl. 260-479.
- Hautly, Rudolph F. Inertia switch. 3,097,272, 7-9-63, Cl. 200-61.49.
- Havard, Peter D.: *See*—
- Hurst, Derek, and Havard. 3,090,535.
- Havasi, Ferenc: *See*—
- Szöts, Géza, Szetey, Kocsis, Kondor, Havasi, Ritter, Demeter, Guliyas, and Bitter. 3,089,226.
- Havel, Donald B. Fishing sinker. 3,104,487, 9-24-63, Cl. 43-43.11.
- Havely, John E.: *See*—
- Branscum, Tony E., and Havely. 3,097,058.
- Nave, Thomas J., and Havely. 3,103,036.
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- Zubaty, Joseph G., and Haven. 3,077,921.
- Havenaar, Izaak, to Shell Oil Co. Apparatus for drilling holes in underground formations. 3,105,563, 10-1-63, Cl. 175-337.
- Havens, Byron L., P. L. Fleming, and K. E. Schreiner, to International Business Machines Corp. Multiple bit phase-modulated storage loop. 3,076,180, 1-29-63, Cl. 340-173.
- Havens, Carl B.: *See*—
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- Havens, Carl B., and R. G. Brookens, to The Dow Chemical Co. Esters of unsaturated fatty acids and 2,4-dihydroxy benzophenone. 3,080,340, 3-5-63, Cl. 260-45.85.
- Havens, Mabel R. Compact equipment carrier. 3,112,041, 11-26-63, Cl. 214-450.
- Havens, Richard, to United States of America, Interior. Flotation process for concentration of phenacite and bertrandite. 3,078,997, 2-26-63, Cl. 209-166.
- Havens, Richard D., and W. E. Villines, said R. D. Havens, assor to W. E. Villines. Water-craft. 3,083,382, 4-2-63, Cl. 9-2.
- Haverkamp, Reinhard H. Self-propelled raking machine. 3,073,102, 1-15-63, Cl. 56-377.
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- Melvin, Fred J., and Haverstick. 3,082,852.
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- Seddon, John, and Haverty. 3,072,368.
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- Seddon, John, and Haverty. 3,072,368.
- Havey, John G., to Wilson Athletic Goods Mfg. Co., Inc. Athletic protective pad and retaining harness therefor. 3,083,370, 4-2-63, Cl. 2-2.
- Haviland, Douglas L., to Pako Corp. Negative holders. 3,073,214, 1-15-63, Cl. 88-24.
- Haviland, Lyman J., to Hammond Organ Co. Keyboard construction for electric musical instrument. 3,099,930, 8-6-63, Cl. 84-433.
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- Hawbaker, Charles A. Transportable livestock weighing apparatus. 3,074,497, 1-22-63, Cl. 177-246.
- Hawes, David H., and T. H. Spencer, to Caterpillar Tractor Co. Method for forming a composite welded article. 3,089,021, 5-7-63, Cl. 219-104.
- Hawk, Gary D., to Hallmark Cards, Inc. Paper dispensing carton. 3,108,726, 10-29-63, Cl. 225-41.
- Hawke, Basil C., to United States of America, Atomic Energy Commission. Control rod drive coupling mechanism. 3,079,323, 2-26-63, Cl. 204-193.2.
- Hawke, Basil C., F. J. Liederbach, and W. Lones, to United States of America, Atomic Energy Commission. Control rod drive mechanism for a nuclear reactor. 3,089,839, 5-14-63, Cl. 204-193.2.
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- Chaplin, Roland H. 3,098,628.
- Marsh, Robert B. 3,073,548.
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- Hawkes, Howard T., to Southworth Machine Co. Cantilevered pile transfer apparatus. 3,103,284, 9-10-63, Cl. 214-6.
- Hawkes, Joseph S., to The Goodyear Tire & Rubber Co. Tire and wheel assembly. 3,088,775, 5-7-63, Cl. 301-55.
- Hawkes, Richard H., to Sheller Mfg. Corp. Pre-heat process for molding cork blocks. 3,101,243, 8-20-63, Cl. 18-48.



- Hawkes, Sidney, to Fred Hawkes (N.V. Engineers) Ltd. Last removing machine. 3,091,787, 6-4-63, Cl. 12-15.1.
- Hawkins, Daryl W., to General Electric Co. Resilient getter supporting arrangement. 3,082,346, 3-19-63, Cl. 313-180.
- Hawkins, Eugene S., to International Telephone and Telegraph Corp. System for large-area display of pictorial and alpha-numeric information. 3,074,056, 1-15-63, Cl. 340-324.
- Hawkins, Floyd L. Rail connector. 3,085,788, 4-16-63, Cl. 256-65.
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- Hawkins, Wallace G., to C.I.C. Engineering Ltd. Fluid control valves. 3,082,478, 3-26-63, Cl. 18-17.
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- Hawkins, Wallace H., to Red Arrow Tow Bar Mfg., Inc. Apparatus for removing bearings from axles and the like. 3,103,064, 9-10-63, Cl. 29-252.
- Hawkins, William R., to Newcomb Electronics Corp. Electric phonograph structure. 3,090,661, 5-21-63, Cl. 312-8.
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- Hawksford, George F. Pouring device. 3,074,444, 1-22-63, Cl. 141-353.
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- Hawley, Edwin L., to E.P.S. Research & Development Ltd. Slide fasteners and protective containers. 3,103,049, 9-10-63, Cl. 24-201.
- Hawley, Edwin L., and D. Gonda, to E.P.S. (Research & Development) Ltd. Protective containers. 3,101,109, 8-20-63, Cl. 150-52.
- Hawley, Harold K., and T. B. Laycock, Jr., to The Procter & Gamble Co. Deodorant compositions and the methods of use. 3,102,101, 8-27-63, Cl. 252-305.
- Hawley, Harry R., to Solo Cup Co. Combination lid and stand for paper cups. 3,095,132, 6-25-63, Cl. 229-1.5.
- Hawley, John B., to Akron Spool and Mfg. Co. Slubber bobbin. 3,074,666, 1-22-63, Cl. 242-118.6.
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- Hawn, Walter M., D. Chann, R. J. Besal, and D. V. Vesely, to The Pyle-National Co. Junction box for recessed wall installation. 3,098,114, 7-16-63, Cl. 174-58.
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- Haws, Claude C., Jr., to United States of America, Atomic Energy Commission. Preparation of refractory oxide microspheres. 3,105,052, 9-24-63, Cl. 252-301.1.
- Hawthorne, John O., and E. L. Mihelic, Sr., to United States Steel Corp. 5-hydroxy-5H-dibenzo[C,E]azepine, derivatives thereof and method for their manufacture. 3,075,966, 1-29-63, Cl. 260-239.
- Hawthorne, John O., and E. L. Mihelic, Sr., to United States Steel Corp. Method of making 2,2'-biphenyl lactone. 3,106,567, 10-8-63, Cl. 260-343.2.
- Hawthorne Knitting Mills, Inc.: *See—*  
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- Haxo, Henry E., Jr., to United States Rubber Co. Latex masterbatching of silica with vinyl pyridine rubbers. 3,098,837, 7-23-63, Cl. 260-41.5.
- Hay, Alexander L., to MacMillan Bloedel and Powell River Ltd. Removable core tip. 3,113,743, 12-10-63, Cl. 242-68.6.
- Hay, Allan S., to General Electric Co. Process for preparing tetraalkyl substituted benzoquinones. 3,078,283, 2-19-63, Cl. 260-396.
- Hay, Allan S., to General Electric Co. Process of oxidizing hydrogen sulfide to elemental sulfur. 3,087,793, 4-30-63, Cl. 23-225.
- Hay, Allan S., to General Electric Co. Process for oxidizing hydrogen substituted organosilicon compounds. 3,099,640, 7-30-63, Cl. 260-46.5.
- Hay, Arthur D., to McLean Engineering Laboratories. Ventilating apparatus. 3,080,695, 3-12-63, Cl. 55-470.
- Hay, Charles N., to General Motors Corp. Antifriction bearing and lubrication therefor. 3,096,129, 7-2-63, Cl. 308-187.
- Hay, Claude H., to Baldwin Instrument Co. Ltd. Fluid pressure operated apparatus. 3,083,730, 4-2-63, Cl. 137-620.
- Hay, Jessie E., to T. & H. Smith, Ltd. Quaternary salts as denaturants for organic substances. 3,080,327, 3-5-63, Cl. 252-366.
- Hay, Raymond E., to Rehco Corp. Door hinge construction. 3,109,194, 11-5-63, Cl. 16-75.
- Hay, Russell G., and S. M. Hazen, to Gulf Research & Development Co. Process for alkylating aromatics in the presence of a heavy metal halide, an organic halide and an organic aluminum halide. 3,094,568, 6-18-63, Cl. 260-671.
- Hay, Wayne W., to Air Reduction Co., Inc. Carbon dioxide absorber. 3,088,810, 5-7-63, Cl. 23-252.
- Hay, Wayne W., and H. L. May, to Air Reduction Co., Inc. Aviation quick release valve. 3,073,301, 1-15-63, Cl. 128-142.
- Hay, William J., and D. L. Larson, to Joy Mfg. Co. Nozzle. 3,085,755, 4-16-63, Cl. 239-565.
- Hay, William J., Jr., to Pittsburgh Plate Glass Co. Supporting glass sheets. 3,089,727, 5-14-63, Cl. 294-118.
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- Hayashi, Chikara, and H. Kumagai, to Nihon Shinku Gijutsu Kabushiki Kaisha (Japan Vacuum Engineering Co., Ltd.). Vacuum pump. 3,071,310, 1-1-63, Cl. 230-69.
- Hayashi, Izumi, R. Iwanaga, and J. Kato, to Ajinomoto Co., Inc. Process for producing stable aqueous solutions of ammonium cyanide. 3,112,993, 12-3-63, Cl. 23-79.
- Hayashi, Kumataro, to Daito Boshoku Kabushiki Kaisha (known as Daito Woolen Spinning & Weaving Co. Ltd.). Process for the chiorination of wool. 3,076,690, 2-5-63, Cl. 8-128.
- Hayashi, Shiro, to Dai-Ichi Yakuhin Sangyo Kabushiki Kaisha. Process for preparation of iodized lecithin. 3,072,689, 1-8-63, Cl. 260-403.
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- Hayashi, Yutaka, to Shin-Mitsubishi Jukogyo Kabushiki Kaisha. Method for increasing tonnage of ship by utilizing dock. 3,111,925, 11-26-63, Cl. 114-77.
- Hayashida, Tatsutaka. Washing apparatus for filtering fibers. 3,074,262, 1-22-63, Cl. 68-18.
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- Hayden, Arthur H., to Aurora Corp. of Illinois. Solenoid armature rod means and striker means for pianos. 3,088,360, 5-7-63, Cl. 84-246.
- Hayden, Ernest A. Chain saw attachment for sawing round logs. 3,092,156, 6-4-63, Cl. 143-32.
- Hayden-Nilos Ltd.: *See—*  
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- Hayden, Ronald E. Step-down transmission mechanisms. 3,105,397, 10-1-63, Cl. 77-34.4.
- Hayden, Stanley P., and C. B. Sheets, to Allis-Chalmers Mfg. Co. Rod-type material screening device. 3,105,816, 10-1-63, Cl. 209-351.
- Haydn, Hildegard, G. Scham, and E. Weyde, to Agfa Aktiengesellschaft. Process for the production of printing forms. 3,079,858, 3-5-63, Cl. 101-129.
- Haydn, Hildegard, A. von Konig, and E. Weyde, to Agfa Aktiengesellschaft. Photographic stratum transfer process and element therefor. 3,080,230, 3-5-63, Cl. 96-27.
- Haydon, Arthur W., to Consolidated Electronics Industries Corp. Fastening device. 3,073,107, 1-15-63, Cl. 58-53.
- Haydon, Arthur W., to Consolidated Electronics Industries Corp. Motor for electric clocks. 3,096,452, 7-2-63, Cl. 310-46.
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- Hayes, Frank A., G. J. Abel, and J. A. Herr, to The Singer Mfg. Co. Automatic sewing machines. 3,084,640, 4-9-63, Cl. 112—2.
- Hayes, Frank C., to E. F. Hayes. Bristle teasing device. 3,102,320, 9-3-63, Cl. 26—31.
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- Hayes, John C., to Universal Oil Products Co. Method for producing alumina free from alkaline earth metal impurities. 3,104,944, 9-24-63, Cl. 23—143.
- Hayes, John C., to Universal Oil Products Co. Method for producing alumina free from alkaline earth metal impurities. 3,105,739, 10-1-63, Cl. 23—143.
- Hayes, John C., to Universal Oil Products Co. Alumina from impure aluminum salts. 3,111,382, 11-19-63, Cl. 23—143.
- Hayes, John D., to Bausch & Lomb Inc. Focus indicating mechanism for focusable photographic objectives. 3,101,658, 8-27-63, Cl. 95—44.
- Hayes, Louie W., Sr., to Monsanto Chemical Co. Bobbin stripper. 3,092,889, 6-11-63, Cl. 28—19.
- Hayes, Louie W., Sr., to Monsanto Chemical Co. Bobbin stripper. 3,108,354, 10-29-63, Cl. 28—19.
- Hayes, Peter R., to Aluminum Co. of America. Closure device for sealed packages. 3,073,471, 1-15-63, Cl. 215—46.
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- Hayes, Stanley A., to Hayes Spray Gun Co. Mixing apparatus. 3,104,823, 9-24-63, Cl. 239—304.
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- Hayes, Stanley W., to Hayes Track Appliance Co. Wheel stop. 3,094,945, 6-25-63, Cl. 104—259.
- Hayes, Stanley W., to Hayes Track Appliance Co. Wheel stop. 3,097,611, 7-16-63, Cl. 104—258.
- Hayes Track Appliance Co.: See—  
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- Hayes, William J., to Shell Oil Co. Ship control system. 3,105,453, 10-1-63, Cl. 114—144.
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- Hayes, William R. Model structure. 3,079,706, 3-5-63, Cl. 35—16.
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- Haynes, Aurbon H., and A. L. Hicks, deceased, by M. M. Hicks, administratrix. Dumping machine. 3,084,818, 4-9-63, Cl. 214—308.
- Haynes, Carl J., to Eastman Kodak Co. Method and apparatus for making rug yarn. 3,099,064, 7-30-63, Cl. 28—1.
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- Haynes, John A., to Jet Research Center, Inc. Submarine vessel. 3,107,641, 10-22-63, Cl. 114—16.7.
- Haynes, John R. and J. W.; said James assor. to said John. Valved opener for sealed containers. 3,100,586, 8-13-63, Cl. 222—90.
- Haynes, Munro K., to International Business Machines Corp. Magnetic core matrix. Re. 25,340, 2-26-63, Cl. 235—160.
- Haynes, Munro K., and N. F. Lockhart, to International Business Machines Corp. Magnetic shift register. 3,106,702, 10-8-63, Cl. 340—174.
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- Haynes, William F., Jr., and F. E. Pittman, String for marking internal bleeding and method of making same. 3,097,636, 7-16-63, Cl. 128—2.
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- Hearst, Peter J., to United States of America, Navy. Formamide mixtures as de-icing materials. 3,108,075, 10-22-63, Cl. 252—70.
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- Hebeler, Henry K., to Boeing Airplane Co. Hypersonic cooling system. 3,089,318, 5-14-63, Cl. 62—467.
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- Hedeman, Robert M. Beverage dispenser nozzle. 3,093,316, 6-11-63, Cl. 239—445.
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- Hedger, Earl G., to United States of America, Navy. FM signal-to-noise monitoring system. 3,104,356, 9-17-63, Cl. 325—31.
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- Hedlund, Walter T., to W. T. Hedlund Co. Food waste disposer. 3,105,644, 10-1-63, Cl. 241—275.
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- Heerlein, William J., to General Electric Co. Alignment compensating coupling. 3,115,352, 12-24-63, Cl. 285—9.
- Heesen, Leonardus B., Jr.: *See*—  
Heesen, Leonardus B., Sr., T. J. Heesen and L. B. Heesen, Jr. 3,087,709.
- Heesen, Leonardus B., Sr., T. J. Heesen and L. B. Heesen, Jr. Mixing apparatus for powdered or granular substances. 3,087,709, 4-30-63, Cl. 259—107.
- Heesen, Theodorus J.: *See*—  
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- Heffel, Paul S., 1/2 to L. Steinle. Oil well flow control valve. 3,072,059, 1-8-63, Cl. 103—22.
- Heffelfinger, Carl J., to E. I. du Pont de Nemours and Co. Extrusion apparatus. 3,084,385, 4-9-63, Cl. 18—12.
- Heffernan, William J.: *See*—  
Brisbin, Philip H., and Heffernan. 3,094,385.
- Heffner, George R., V. A. Williams, S. S. Beicos, and D. L. Sutter, to Chrysler Corp. Elastomeric foam producing apparatus. 3,081,487, 3-19-63, Cl. 18—4.
- Hefler, John R.: *See*—  
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- Hefler, Thomas J.: *See*—  
Pollak, Henry M., and Hefler. 3,115,839.
- Hefley, Gifford, R. F. Linfield, T. L. Davis, and R. H. Doherty, to United States of America, Air Force. Atmospheric direction finding system. 3,106,709, 10-8-63, Cl. 343—113.
- Hefner, William E. Clamping strap and adjustable clamping block combination. 3,083,005, 3-26-63, Cl. 269—91.
- Hefti, Willy. Tobacco pipes. 3,106,922, 10-15-63, Cl. 131—176.



- Hegedic, Elliott S., and N. Shorr. Topping dispenser. 3,110,423, 11-12-63, Cl. 222-135.
- Hegedus, Balthasar, to Hoffmann-La Roche Inc. Polyene aldehyde derivatives of rhodanines. 3,071,583, 1-1-63, Cl. 260-240.
- Hegedus, Balthasar, O. Isler, R. Ruegg, and G. Ryser, to Hoffmann-La Roche Inc. Vitamin A aminobenzoates. 3,072,708, 1-8-63, Cl. 260-471.
- Hegedus, Balthasar, O. Isler, R. Ruegg, and G. Ryser, to Hoffmann-La Roche Inc. Vitamin A halo benzoates. 3,090,805, 5-21-63, Cl. 260-476.
- Hegedus, Thomas: *See*—
- Jellinek, Karl, Hegedus, Ulmer, and Bartl. 3,097,908.
- Hegedusich, Edward A. Collapsible rain gutter bracket. 3,091,055, 5-28-63, Cl. 50-9.
- Hegener, Joseph, to Massa Division of Cohu Electronics, Inc. Direct recording pen. 3,083,689, 4-2-63, Cl. 120-42.6.
- Hegerfeld, Richard C. Construction methods for swimming pools. 3,072,921, 1-15-63, Cl. 4-172.
- Hegg, Billy S., and R. W. McGinnis, to The Bendix Corp. Coordinating control unit. 3,106,872, 10-15-63, Cl. 91-171.
- Hegman, Robert L., to Safeguard Corp. Coffin mattress. 3,114,190, 12-17-63, Cl. 27-12.
- Hegman, Robert L., R. W. Hess, and C. L. Weber, to The Safeguard Corp. Biased delivery gate for filling machine. 3,094,153, 6-18-63, Cl. 141-67.
- Hego, Gervais: *See*—
- Moulin, Jean, Hego, and Mauteemps. 3,113,631.
- Hehl, Karl, to Arburg Feingeraetefabrik oHG Hehl & Sohne. Injection molding machine. 3,086,244, 4-23-63, Cl. 18-30.
- Hehl, Karl, to Arburg-Feingeraetefabrik o.H.G., Hehl & Sohne. Flash unit and magazine therefor. 3,094,284, 6-18-63, Cl. 240-1.3.
- Hehl, Manfred: *See*—
- Balli, Heinz, Leuchs, Hehl, Grunwald, and Schmidt. 3,082,114.
- Stilz, Walter, Pommer, Gehm, Schmidt, Mertens, Hehl, and Grunwald. 3,076,020.
- Hehn, Edgar: *See*—
- Steinlein, Gustav, and Hehn. 3,107,659.
- Hehn, Lester C. Dichroic filter color balance systems. 3,085,468, 4-16-63, Cl. 88-24.
- Heiart, Robert B., to E. I. du Pont de Nemours and Co. Image reproduction apparatus. 3,085,488, 4-16-63, Cl. 95-75.
- Heibel, Jerome D., and L. E. Shoot, to Erie Resistor Corp. Thermoelectric ceramic. 3,073,881, 1-15-63, Cl. 136-5.
- Heiberg, Orulf E. Method for winding packages of roving and the like. 3,096,611, 7-9-63, Cl. 57-156.
- Heiberg, Orulf E., to Institute of Textile Technology. Apparatus for winding packages of roving and the like. 3,108,429, 10-29-63, Cl. 57-99.
- Heiberger, Charles A.: *See*—
- Nowlin, Gene, Heiberger, and Reich. 3,084,137.
- Reich, Murray H., Nowlin, and Heiberger. 3,092,608.
- Taylor, Bert S., Thomas, and Heiberger. 3,093,619.
- Heiberger, Charles A., to FMC Corp. Polymerization process for polyallylic esters. 3,096,310, 7-2-63, Cl. 260-77.5.
- Heiberger, Charles A., and J. L. Thomas, to FMC Corp. Polymers of diallyl esters. 3,087,915, 4-30-63, Cl. 260-78.5.
- Heiberger, Charles A., and J. L. Thomas, to FMC Corp. Allylic resins. 3,113,123, 12-3-63, Cl. 260-45.5.
- Heidbrink, Raymond P. Coupling pin device with resilient pivotal retaining ring. 3,077,810, 2-19-63, Cl. 85-5.
- Heide, Henry A.: *See*—
- Petersen, Conrad W., and Heide. 3,099,360.
- Heide, Henry A., to Union Steel Products Co. Cover removing apparatus. 3,071,911, 1-8-63, Cl. 53-381.
- Heide, Henry A., and W. W. Wittenberger, to Baker Perkins, Inc. Pan stacking and unstacking system. 3,101,851, 8-27-63, Cl. 214-6.
- Heide, Henry, Inc.: *See*—
- Greninger, Joseph E., and Lewis. 3,097,951.
- Heidecke, Reinhold, H. Bretthaus, and J. Madge, to Franke & Heidecke, Fabrik Photographischer Prazisions-Apparate. Focusing hood for photographic cameras. 3,073,230, 1-15-63, Cl. 95-47.
- Heideman, Irvin L., to Pettibone Mulliken Corp. Vent valve with pilot and injection control. 3,075,544, 1-29-63, Cl. 137-484.2.
- Heideman, Leslie R.: *See*—
- MacQuaid, Craig, and Heideman. 3,079,530.
- Heidenbain, Dr. Johannes, Feinmechanik und Optik, Prazisionsteilungen: *See*—
- Koller, August. 3,106,127.
- Heidenreich, Albert: *See*—
- Geschka, Hugo W., Gillesen, and Heidenreich. 3,099,022.
- Geschka, Hugo W., and Heidenreich. 3,071,432.
- Heider, James E., to Owens-Illinois Glass Co. Plastic bottle forming method and apparatus. 3,098,593, 7-23-63, Cl. 225-4.
- Heider, Paul E. Mixing wagon. 3,085,789, 4-16-63, Cl. 259-97.
- Heidler, Albert J., to Chicago Pneumatic Tool Co. Percussion tool for tightening and loosening bolts and nuts. 3,093,114, 6-11-63, Cl. 121-33.
- Heidorn, John H., to General Motors Corp. Compressor. 3,092,307, 6-4-63, Cl. 230-206.
- Heifred Corp., The: *See*—
- De Marco, Robert F. 3,080,175.
- De Marco, Robert F. 3,098,574.
- De Marco, Robert F., and Hein. 3,099,332.
- Heighton, Harold H., to E. I. du Pont de Nemours and Co. Process of drawing filamentary structures. 3,101,990, 8-27-63, Cl. 18-48.
- Heigl, John J., G. E. Conklin, and J. A. Wilson, to Esso Research and Engineering Co. Automatic viscometer and process of using same. 3,071,961, 1-8-63, Cl. 73-55.
- Heigl, Joseph M.: *See*—
- Saidel, William R., and Heigl. 3,100,597.
- Saidel, William R., and Heigl. 3,100,598.
- Heijmans, Wilhelmus A. A., and C. G. Venis, to North American Philips Co., Inc. Method of cleaning vulcanizing moulds for the manufacture of rubber objects. 3,091,557, 5-28-63, Cl. 134-1.
- Heijn, Herman J., to North American Philips Co., Inc. Parallel adding device with carry storage. 3,098,153, 7-16-63, Cl. 235-175.
- Heijn, Herman J., to North American Philips Co., Inc. Binary parallel adder utilizing sequential and simultaneous carry generation. 3,105,897, 10-1-63, Cl. 235-175.
- Heijne, Leopold, A. J. De Rooy, and S. T. Stap, to North American Philips Co., Inc. Color pick-up tube with circuit for minimizing cross-talk. 3,087,985, 4-30-63, Cl. 178-5.4.
- Heijnsdijk, Gijsbrecht P.: *See*—
- Groendijk, Hendrik, and Heijnsdijk. 3,088,047.
- Heikinheimo, Olli L., to Oy, Kaaukas Ab. Arrangement for spacing pieces of sawn timber at regular intervals on a conveyor. 3,111,214, 11-19-63, Cl. 198-34.
- Heikinen, Norman J., to United States of America, Navy. Packing gland for soft-cored underwater electrical cable. 3,113,999, 12-10-63, Cl. 174-151.
- Heil, Edward K., to North & Judd Mfg. Co. Magnetic fastener. 3,111,737, 11-26-63, Cl. 24-201.
- Heil, Fred G., Jr.: *See*—
- Young, Ronald D., Heil, and Phillips. 3,074,792.
- Heil, Friedrich, to Telefonbau und Normalzeit G.m.b.H. Selector for postage meters. 3,078,791, 2-26-63, Cl. 101-110.
- Heil, Oskar, to Eitel McCullough, Inc. Art of sealing quartz to metal. 3,115,957, 12-31-63, Cl. 189-36.5.
- Heil, Oskar, to Eitel-McCullough, Inc. Velocity modulation tube. 3,116,435, 12-31-63, Cl. 315-5.51.
- Heilig, Harland E., and E. S. Brown, to Olin Mathieson Chemical Corp. Veneer coated tablets. 3,116,205, 12-31-63, Cl. 167-82.
- Heilig, Theodore, to General Aerosol Corp. Self-propelling medicinal ointment composition containing polyethylene and method of application. 3,079,299, 2-26-63, Cl. 167-58.
- Heilgmann, Randall G., to W. R. Grace & Co. Process of preparing a polyethylene catalyst. 3,115,473, 12-24-63, Cl. 252-441.
- Heilman, George P., and V. A. Zike, to International Staple and Machine Co. Pneumatic driver. 3,099,837, 8-6-63, Cl. 1-44.4.
- Heilman, Raymond B.: *See*—
- Schwartz, Norman J., Lisnay, and Heilman. 3,079,479.
- Heilman, William O.: *See*—
- Skarstrom, Charles W., Crowley, and Heilman. 3,102,853.
- Skarstrom, Charles W., and Heilman. 3,086,339.
- Heilmann, Max, W. Jessien, and W. Stracke, to Agfa Aktiengesellschaft. Process for maintaining the clarity of photographic silver halide emulsions at relatively high developer temperatures. 3,032,088, 3-19-63, Cl. 96-109.
- Heim, Lewis R., to SKF Industries, Inc. Method for making antifriction bearings. 3,088,190, 5-7-63, Cl. 29-148.4.
- Heim, Lewis R., to Universal Bearing Corp. Apparatus for furnishing telescoped bearings. 3,093,884, 6-18-63, Cl. 29-90.
- Heim, Richard. Thread tensioning means for textile machines. 3,087,689, 4-30-63, Cl. 242-154.
- Heiman, Jordan L. Balanced draft space heater. 3,082,758, 3-26-63, Cl. 126-110.
- Heimaster, John W., F. W. Jenkins, and L. J. Rogers, to Union Carbide Corp. Automatic mining apparatus. 3,108,789, 10-29-63, Cl. 262-26.
- Heimerl, Anthony F., to Statham Instruments, Inc. Tapping or drilling machine power transmission. 3,101,630, 8-27-63, Cl. 77-34.4.
- Heimers, Friedrich O.: *See*—
- Heimers, Rudolph H., F. O., and S. I. 3,090,621.
- Heimers, Rudolph H., F. O., and S. I. Carrier means for attaching apparatus to the human body. 3,090,621, 5-21-63, Cl. 273-95.
- Heimers, Siegfried I.: *See*—
- Heimers, Rudolph H., F. O., and S. I. 3,090,621.
- Heimos, Milton J.: *See*—
- Williams, Russell J., and Heimos. 3,094,044.
- Heimsch, Robert A., and W. E. Weesner, to Monsanto Chemical Co. Oxo process for the production of higher molecular weight oxo products using a combination catalyst. 3,035,114, 4-9-63, Cl. 260-638.
- Heimsch, Robert A., W. E. Weesner, and J. W. Andersen, to Monsanto Chemical Co. Oxo process with continuously increasing temperature in a continuous reactor. 3,113,974, 12-10-63, Cl. 260-632.



- Hein, Allyn J., and J. A. Junck, to Caterpillar Tractor Co. Hydraulic circuit for tractor drawn scrapers and the like. 3,115,716, 12-31-63, Cl. 37-129.
- Hein, Ewald: *See—*  
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- Hein, George N., to Becton, Dickinson and Co. Container for blood and machine for separating precipitates from liquid blood constituents. 3,096,253, 7-2-63, Cl. 233-20.
- Hein, Hans: *See—*  
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- Hein, Helmut: *See—*  
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- Hein, Henry W.: *See—*  
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- Hein, Matthew E., to American Can Co. Dispensing container for viscous products. 3,099,370, 7-30-63, Cl. 222-386.5.
- Hein, Matthew E., to American Can Co. Aerosol can package. 3,112,846, 12-8-63, Cl. 222-394.
- Hein, Matthew E., and W. A. Fourier, to American Can Co. Package. 3,087,823, 4-30-63, Cl. 99-174.
- Hein, Rolf. Devices for producing bubbles. 3,109,255, 11-5-63, Cl. 46-7.
- Hein, Rowland F.: *See—*  
Gradishar, Frederick J., and Hein. 3,098,716.
- Hein, William J., and I. Wolfson. Device for producing windowed packages. 3,112,680, 12-3-63, Cl. 93-36.
- Heine, Antony E., and C. M. Wagner. Scraper attachment for electric drill. 3,082,452, 3-26-63, Cl. 15-93.
- Heine-Geldern, Robert, to Engelhard Hanovia, Inc. Fan. 3,086,696, 4-23-63, Cl. 230-42.
- Heine, Richard F., to Minnesota Mining and Mfg. Co. Fluorocarbon vinyl ethers and polymers and aqueous dispersions containing same. 3,078,245, 2-19-63, Cl. 260-29.6.
- Heine, Richard F., to Minnesota Mining and Mfg. Co. Fluorocarbon vinyl benzenes and their polymers. 3,081,274, 3-12-63, Cl. 260-29.6.
- Heine, Richard F., to Minnesota Mining and Mfg. Co. Perfluoroalkylsulfonamidoalkyl esters of phosphorus acids. 3,094,547, 6-18-63, Cl. 260-461.
- Heinecke, Klaus, W. Holle, and W. Wiese, to Ernst Leitz, G.m.b.H. Apparatus for indicating the numerical measured values of unnumbered scales. 3,103,651, 9-10-63, Cl. 340-203.
- Heineken's Brouwerijen Nederland N.V.: *See—*  
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- Heineman, Harold H.: *See—*  
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Rogers, Thomas H., Jr., Heineman, and Howard. 3,107,224.
- Heinemann, Burdet, to Producers Creamery Co. Process and composition for growing mushroom mycelium by submerged fermentation. 3,086,320, 4-23-63, Cl. 47-1.1.
- Heinemann, Burdet, to Producers Creamery Co. Preparation of an improved blue cheese dressing. 3,108,879, 10-29-63, Cl. 99-116.
- Heinemann Electric Co.: *See—*  
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Schwartz, Norman J. 3,098,910.  
Schwartz, Norman J., and Goldblatt. 3,098,911.  
Schwartz, Norman J., Lisnay, and Heilman. 3,079,479.  
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- Heinemann, George E., to Heinemann Saw Corp. Saw blade. 3,107,706, 10-22-63, Cl. 143-137.
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- Heinemann Saw Corp.: *See—*  
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- Heines, Francis A. Hobby horse. 3,103,356, 9-10-63, Cl. 272-52.
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- Heinicke Instruments Co., Inc.: *See—*  
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- Heinicke, Kurt J., to Heinicke Instruments Co. Washing machine. 3,083,718, 4-2-63, Cl. 134-111.
- Heinig, Johnnie M. Fountain-type power lawn mower scraper. 3,070,823, 1-1-63, Cl. 15-507.
- Heinink, Cornelis J.: *See—*  
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- Heinke, Lowell L.: *See—*  
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- Heinl, Ernst: *See—*  
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- Heinle, Albert W., 25% to W. B. Jaspert and 25% to F. P. Cyr. Cruciform structural steel columns. 3,092,222, 6-4-63, Cl. 189-41.
- Heinle, Rudolf: *See—*  
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- Heinmiller, Percival M., and S. Barker, to Utility Trailer Mfg. Co. Transferable containers and handling systems therefor. 3,081,120, 3-12-63, Cl. 294-67.
- Heinoo, Lauri. Bearing wear sensor. 3,108,264, 10-22-63, Cl. 340-269.
- Heinrich, Chester J., to United States of America, Navy. Flexible wheel-type gravity conveyors. 3,078,977, 2-26-63, Cl. 193-35.
- Heinrich, Erwin, F. Derichs, and F. Broich, to Chemische Werke Huls Aktiengesellschaft. Process for the production of copolymers containing hydroxyl groups. 3,076,793, 2-5-63, Cl. 260-80.5.
- Heinrich, Helmut G., to Regents of the University of Minnesota. Speed retardation device. 3,114,523, 12-17-63, Cl. 244-113.
- Heinrich, Karl: *See—*  
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- Heinrich, Walter. Rod weeder. 3,115,940, 12-31-63, Cl. 172-44.
- Heins, Willis F.: *See—*  
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- Heintz, Charles E.: *See—*  
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- Heintz, Karl O., and R. S. Stanley, to Jersey Production Research Co. Seismic recording. 3,088,094, 4-30-63, Cl. 346-74.
- Heintz, Milton L., to General Electric Co. Electric circuit breaker having arc-erosion distributing means. 3,114,817, 12-17-63, Cl. 200-164.
- Heintz, Ralph M. Stratified charge two-cycle engine. 3,113,561, 12-10-63, Cl. 123-65.
- Heintz, Robert E.: *See—*  
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- Heintzelman, Leo A. Attachment for boat propellers. 3,077,229, 2-12-63, Cl. 170-160.11.
- Heintzelman, Leo A. Sliding attachment for boat propeller. 3,095,043, 6-25-63, Cl. 170-160.11.
- Heintzmann, Hans F., and R. Seiz, to Bochumer Eisenhütte Heintzmann & Co. Clamp suitable for mine gallery means. 3,076,672, 2-5-63, Cl. 287-103.
- Heinz, Adolf, and F. Klasse. Processing waste paper or the like. 3,089,655, 5-14-63, Cl. 241-260.
- Heinz, Anton R.: *See—*  
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- Heinz, H. J., Co.: *See—*  
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- Heinz, H. J., Co. Ltd.: *See—*  
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- Heinz, Jack R., to Kaiser Aluminum & Chemical Corp. Combined merchandising and dispensing carton. 3,079,054, 2-26-63, Cl. 225-49.
- Heinz, Walter E., and A. F. MacLean, to Celanese Corp. of America. Aldol condensation reactions. 3,077,500, 2-12-63, Cl. 260-594.
- Heinze, Don M.: *See—*  
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- Heinze, Don M., R. E. Kosin, F. B. Sarsar, and Y. L. Yee, to Northrop Corp. Jet propelled aircraft with jet deflecting means. 3,087,303, 4-30-63, Cl. 60-35.55.
- Heinze, Marvin C., to FMC Corp. Feed device with fluid activated rippling sheets. 3,099,494, 7-30-63, Cl. 302-31.
- Heinze, Robert V., to Submerged Combustion, Inc. Burner-reactor. 3,104,630, 9-24-63, Cl. 110-45.
- Heinze, Robert V., and L. H. Reyerson. Process for removing vanadium and other harmful materials from petroleum products. 3,075,916, 1-29-63, Cl. 208-253.
- Heinze, Werner, to Precisa A.G. Rechenmaschinenfabrik. Ten key computing machine. 3,099,391, 7-30-63, Cl. 235-60.
- Heinze, Werner, and W. Julich, to Precisa A.G. Rechenmaschinenfabrik. Mechanism for printing the decimal mark in a four species computing machine. 3,079,073, 2-26-63, Cl. 235-60.15.
- Heinzel, Albert: *See—*  
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- Heinzelman, Richard V.: *See—*  
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- Heinzelman, Richard V., and B. D. Aspergren, to The Upjohn Co.  $\alpha$ -[2-(1-alkyleneimino)ethylamino]-alkanophenones and the corresponding alcohols. 3,092,636, 6-4-63, Cl. 260-326.5.
- Heinzmann, Fritz: *See—*  
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- Heinzmann, John D., to Raymond Engineering Laboratory, Inc. Force balance accelerometer. 3,097,533, 7-16-63, Cl. 73-490.
- Heirich, William C. Marquee. 3,107,401, 10-22-63, Cl. 20-57.5.
- Heischman, Frederick E., to Ford Motor Co. Resistor compositions and spark plugs having integral resistors. 3,088,921, 5-7-63, Cl. 252-516.
- Heise, Carl H. Mobile mixing machine. 3,072,387, 1-8-63, Cl. 259-150.
- Heise, Carl H., to Alfelder Eisenwerke Carl Heise Kommandit-Gesellschaft, vormals Otto Wesselmann & Cie. Sieving and mixing machine for processing and loading building materials. 3,112,099, 11-26-63, Cl. 259-145.
- Heise, Howard L., and G. McAllister, to St. Regis Paper Co. Reinforced multi-ply stay tape. 3,089,634, 5-14-63, Cl. 229-49.
- Heise, Rudolf, to Dehydag, Deutsche Hydrierwerke G.m.b.H. Process for the production of ether amines. 3,076,819, 2-5-63, Cl. 260-347.7.
- Heise, Rudolf, to Dehydag Deutsche Hydrierwerke G.m.b.H. Process for the production of crystalline 1,2,3,4-tetrahydronaphthalene-1-hydroperoxide. 3,102,918, 9-3-63, Cl. 260-610.



- Heiser, Albert L., Jr., W. Lowenthal, and R. E. Singiser, to Abbott Laboratories. Method and apparatus for coating particles. 3,112,220, 11-26-63, Cl. 117-100.
- Heiser, Joachim: *See*—
- Knapp, Heinrich Krauss, and Heiser. 3,091,405.
- Heiser, Joachim, to Robert Bosch, G.m.b.H. Injection pump. 3,101,057, 8-20-63, Cl. 103-37.
- Heisig, Henry P., to Bill Jack Scientific Instrument Co. Ear pad and ear phone support for helmets. 3,088,002, 4-30-63, Cl. 179-150.
- Heisler Co., The: *See*—
- Heisler, Robert C. 3,080,574.
- Heisler, Raymond A. Holding means for high intensity lamps. 3,103,314, 9-10-63, Cl. 240-13.
- Heisler, Robert C., to The Heisler Co. Convertible type furniture. 3,080,574, 3-12-63, Cl. 5-21.
- Heisler, Robert Y.: *See*—
- Ruidisch, Louis E., and Heisler. 3,072,714.
- Heisler, Robert Y., and H. V. Hess, to Texaco Inc. Method for preparing triisobutylene. 3,087,979, 4-30-63, Cl. 260-683.15.
- Heisler, Robert Y., H. V. Hess, G. W. Eckert, and M. C. Throckmorton, to Texaco Inc. Preparation of esters from olefins. 3,096,365, 7-2-63, Cl. 260-497.
- Heiss, Hans, and D. Osswald, to Azoplate Corp. Process for simultaneously developing and fixing printing plates. 3,110,596, 11-12-63, Cl. 96-48.
- Heiss, Herbert L., to Mobay Chemical Co. Polyurethane resin obtained from coal tar pitch reaction products and process for preparing same. 3,092,594, 6-4-63, Cl. 260-25.
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- Ulrichs, Fritz, Heitkamp, and Kohne. 3,070,872.
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- Heizer, Kenneth W., to Sperry Rand Corp. Character reading system. 3,111,647, 11-19-63, Cl. 340-146.3.
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- Helbig, Walter A., and G. W. Booth, to Radio Corp. of America. Synchronous transistor amplifier employing regeneration. 3,075,085, 1-22-63, Cl. 307-88.5.
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- Helinrich, Helmut G. Parachute. 3,110,459, 11-12-63, Cl. 244-149.
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- Zeyen, Fritz-Otto. 3,109,884.
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- Judd, Edwin B., and Hellar. 3,075,394.
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- Rosemond, Leland E., Greenbaum, and Hellekjaer. 3,104,290.
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- Heller, Richard V. Bulk feeding apparatus. 3,071,295, 1-1-63, Cl. 222-342.
- Heller, Walter E., & Co. (Inc.): *See*—
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- Tomaro, Patrick M., Jr. 3,115,563.
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- Schaefer, Johann A., and Streu. 3,090,663.
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- Hellmann, Carl S. Motor winding control and means therefor. 3,109,948, 11-5-63, Cl. 310-68.
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- Hellner, Karl G., to Transportpatent, AB. Track systems. 3,094,941, 6-25-63, Cl. 104-130.
- Hellrich, Tobias. Artificial tree. 3,084,465, 4-9-63, Cl. 41-15.
- Hellstern, Vernon: *See*—
- Sciuto, Carl C., and Hellstern. 3,106,379.
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- Hellstrom, Axel G., to Gotoverken, Aktiebolaget. Exhaust valves for internal combustion engines. 3,106,199, 10-8-63, Cl. 123-188.
- Hellstrom, Borje T., to LKB-Produkter Fabriksaktiebolag. Ultramicrotome with return stroke motion separating means. 3,077,806, 2-19-63, Cl. 83-411.
- Hellstrom, Melbourne J., to Westinghouse Electric Corp. Multiplex communication transmitters. 3,087,995, 4-30-63, Cl. 179-15.
- Hellstrom, Melbourne J., and C. H. Wood, Jr., to Westinghouse Electric Corp. Deflection circuits. 3,111,602, 11-19-63, Cl. 315-27.
- Hellweg, Kurt: *See*—
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- Hellweg, Kurt, to Societe Civile pour l'Etude d'Engins a Pistons Libres EPL. Combustion gas generator of the free-floating piston type. 3,106,913, 10-15-63, Cl. 123-46.
- Hellyer, John T.,  $\frac{1}{2}$  to R. S. Strom. Hammer rotor construction for material crushers. 3,098,613, 7-23-63, Cl. 241-190.
- Helm Accessories, Inc.: *See*—
- Smith, Lawrence H. 3,080,673.
- Helm, Albert E.: *See*—
- Thorson, Arne E., and Helm. 3,107,676.
- Helm, Jack D., and F. L. Hopkins, to Bemis Bro. Bag Co. Bag former and shaker. 3,096,081, 7-2-63, Cl. 259-72.
- Helm Machine Products, Inc.: *See*—
- Nevin, Robert L. 3,096,583.
- Helm, Mark W., to The Hoover Co. Carpet shampoo brush. 3,078,488, 2-26-63, Cl. 15-180.
- Helm, Mark W., to The Hoover Co. Shampoo attachment for floor polisher. 3,092,293, 6-4-63, Cl. 222-481.
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- Mathias, Gerald E., Helmick, and Egglestone. 3,078,402.
- Helmick Foundry-Machines Co.: *See*—
- Stanley, Henderson M. 3,090,319.
- Helminen, Jerry L.: *See*—
- Stewart, Trigg, and Helminen. 3,090,151.
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- Helming, Bernd H. Apparatus for pre-heating cement powder or similar materials. 3,083,472, 4-2-63, Cl. 34-57.
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- Bachelor, Albert T., Helmraath, and Cochran. 3,073,996.
- Helms, Clifford J., to Sperry Rand Corp. Series magnetic amplifier. 3,095,507, 6-25-63, Cl. 307-88.
- Helms, Eugene W., to Texas Instruments Inc. Telemetering keyer circuit. 3,110,819, 11-12-63, Cl. 307-88.5.
- Helms, Millard O.: *See*—
- Miller, John H., and Helms. 3,094,174.
- Helpern, Otto: *See*—
- Zderic, John A., Bowers, Halpern, and Berkoz. 3,080,383.
- Helsdon, Peter B., to Marconi's Wireless Telegraph Co. Ltd. Television signal converting apparatus. 3,109,892, 11-5-63, Cl. 178-6.8.
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- Eriksen, Monrad E. 3,094,739.
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- Edmonds, Byron P., Dahms, and Helvenston. 3,096,969.
- Helvern, James O.: *See*—
- Brooks, Frank W., and Helvern. 3,081,744.
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- Helversen, Frederick D., to Crown Zellerbach Corp. Drying of pulp. 3,111,453, 11-19-63, Cl. 162-201.
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- Hembree, Calvin D. Mobile mixing and pumping apparatus. 3,091,438, 5-28-63, Cl. 259-151.
- Hemfort, Heinrich: *See*—
- Steinacker, Peter and Hemfort. 3,085,743.
- Hemker, Herman W., to American Viscose Corp. Method of separating a mixture of tetrahydrofuran, toluene and water. 3,074,968, 1-22-63, Cl. 260-346.1.
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- Hemmeter, George T. Wheel balancer. 3,094,003, 6-18-63, Cl. 73-458.
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- Greenaway, John F., Halton, Marwing, and Hemmings. 3,113,182.
- Hempel, William C.: *See*—
- Solum, James R., and Hempel. 3,100,016.
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- Hemphill, Wesley, Jr. Magnetic dust pan. 3,085,278, 4-16-63, Cl. 15-257.1.
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- Hemstreet, Harold S., to General Precision, Inc. Interference goniometer. 3,085,466, 4-16-63, Cl. 88-14.
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- Hemstreet, Harold S., to General Precision, Inc. Navigation training system. 3,114,788, 12-17-63, Cl. 35-10.2.
- Hemstreet, Harold S., and R. A. Woodson, to General Precision, Inc. Interferometer optical system. 3,072,011, 1-8-63, Cl. 88-14.
- Hemwall, John B., to The Dow Chemical Co. Method for improving physical properties of clays and clay-containing soils and compositions resulting therefrom, including quaternary ammonium compounds. 3,073,064, 1-15-63, Cl. 47-58.
- Hemwall, John B., to The Dow Chemical Co. Stabilization of clay soils and aggregates. 3,075,851, 1-29-63, Cl. 106-287.
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- Hencke, William R.: *See*—  
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- Hendal, Willem P., and P. Visser, to Shell Oil Co. Process and apparatus for carrying out chemical reactions. 3,081,256, 3-12-63, Cl. 208-125.
- Hendee, Charles F., and S. Fine, to North American Philips Co., Inc. X-ray fluorescence analysis of multi-component systems. 3,102,952, 9-3-63, Cl. 250-51.5.
- Hendel, Siegfried: *See*—  
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- Hendershot, Thane G.: *See*—  
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- Hendershot, William F.: *See*—  
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- Henderson, Albert, to Cemenstone Corp. Precast reinforced concrete construction. 3,074,209, 1-22-63, Cl. 50-181.
- Henderson, Audrey T.: *See*—  
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- Henderson, Charles B., and J. M. Burton, to Atlantic Research Corp. Igniter means for extruded plastic monopropellant. 3,073,120, 1-15-63, Cl. 60-39.47.
- Henderson, Charles B., and J. M. Burton, to Atlantic Research Corp. Extrusion device. 3,087,306, 4-30-63, Cl. 60-39.47.
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- Henderson, Doyle: *See*—  
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- Henderson, Eulas W., to Phillips Petroleum Co. Recovery of olefin polymers from solution. 3,073,812, 1-15-63, Cl. 260-94.9.
- Henderson, Francis C.: *See*—  
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- Henderson, Harvey W. Digging device. 3,103,982, 9-17-63, Cl. 175-403.
- Henderson, Homer I., to Strato Drill, Inc. Core drilling apparatus. 3,086,602, 4-23-63, Cl. 175-404.
- Henderson, James D.: *See*—  
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- Henderson, James D., to Jersey Production Research Co. Automatic sampler. 3,087,339, 4-30-63, Cl. 73-422.
- Henderson, James N., and G. A. Rau, to Flambeau Plastics Corp. Plastic picture frame. 3,070,914, 1-1-63, Cl. 40-156.
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- Henderson, Ob. Implement for mechanically gleaning cotton from the ground. 3,108,418, 10-29-63, Cl. 56-28.
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- Henderson, Robert L.: *See*—  
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- Henderson, Samuel R.: *See*—  
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- Henderson, Scott W. Lawn trimming and cutting tool. 3,102,376, 9-3-63, Cl. 56-294.
- Henderson, Stanford A., to Gomco Surgical Mfg. Corp. Check valve tester. 3,106,835, 10-15-63, Cl. 73-46.
- Henderson, Stanley T., to Thorn Electrical Industries Ltd. Fluorescent lamp particularly suited to illumination of objects containing red. 3,114,067, 12-10-63, Cl. 313-109.
- Henderson, Thomas, to Powers Chemco, Inc. Control mechanism for etching machine. 3,106,217, 10-8-63, Cl. 134-58.
- Henderson, William B., to Phillips Petroleum Co. Control of polymerization reactions. 3,074,920, 1-22-63, Cl. 260-94.9.
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- Hendley, Lloyd A. Ball check valve seat assembly. 3,113,587, 12-10-63, Cl. 137-519.5.
- Hendon, Anthony L., to Telomex Ltd. Weighing apparatus. 3,084,753, 4-9-63, Cl. 177-210.
- Hendon, Lofton M. Fishing rod holder. Re. 25,387, 5-14-63, Cl. 248-41.
- Hendrick, Clinton E. Adjustable clam fork. 3,115,359, 12-24-63, Cl. 294-53.5.
- Hendrick, Melvin L. Display holder. 3,088,236, 5-7-63, Cl. 40-308.
- Hendrick, Roy W., Jr., to Cornell Aeronautical Laboratory, Inc. Photoelectric apparatus for measuring the size of particles. 3,094,625, 6-18-63, Cl. 250-218.
- Hendrick, Russell C.: *See*—  
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- Hendrick, Russell C., to Minneapolis-Honeywell Regulator Co. Control apparatus for dirigible craft. 3,082,979, 3-26-63, Cl. 244-77.
- Hendricker, George W., to Chicago, Burlington & Quincy Railroad Co. Diagonal brace for bulkhead flat cars. 3,089,437, 5-14-63, Cl. 105-411.
- Hendricks, George D., and G. E. Fieser, to The Gamewell Co. Traffic controllers employing static, logic control elements. 3,072,883, 1-8-63, Cl. 340-40.
- Hendricks, John G.: *See*—  
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- Hendricks, Robert W., to E. I. du Pont de Nemours and Co. Process for grafting polymers to cellulose substrates. 3,101,276, 8-20-63, Cl. 117-56.
- Hendrickson, Harold S., and N. R. Richmond, to Kaman Aircraft Corp. Helicopter control mechanism. 3,096,045, 7-2-63, Cl. 244-17.11.
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- Hendrickson, John J. Drive mechanism for rotary impact drill. 3,080,008, 3-5-63, Cl. 175-133.
- Hendrickson, Melvin C., to Zenith Radio Corp. Secrecy communication receiver. 3,081,378, 3-12-63, Cl. 178-5.1.
- Hendricks, Otto, 38 $\frac{1}{2}$  to A. Lohbeck. Pneumatic filing machine. 3,108,409, 10-29-63, Cl. 51-170.
- Hendrickson, Severin B., to Heywood-Wakefield Co. Chair. 3,095,239, 6-25-63, Cl. 297-396.
- Hendrickson, Thomas C., and L. Hagan, to Olin Mathieson Chemical Corp. Wrapping article and method of making same. 3,085,030, 4-9-63, Cl. 117-145.
- Hendrickson, Vergil P.: *See*—  
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- Hendriks, Everardus H., to North American Philips Co., Inc. Manufacture of thermionic bodies. 3,110,081, 11-12-63, Cl. 29-25.17.
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- Hendry, Eric D., to English Electric Valve Co. Ltd. Television and like camera tubes. 3,086,138, 4-16-63, Cl. 315-11.
- Hendry, James W., to Borg-Warner Corp. Fluted ram and fluted extruder. 3,115,681, 12-31-63, Cl. 18-30.
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- Heney, John F., to International Telephone and Telegraph Corp. Radio frequency attenuator. 3,073,990, 1-15-63, Cl. 315-39.
- Hengst, Walter D. Fisherman's belt. 3,115,997, 12-31-63, Cl. 224-5.
- Hengstebeck, Robert J., to Standard Oil Co. Drying process. 3,080,433, 3-5-63, Cl. 260-669.
- Hengstebeck, Robert J., to Standard Oil Co. Hydrocarbon separation process. 3,094,483, 6-18-63, Cl. 208-310.
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- Henkels, Herbert W., to Westinghouse Electric Corp. Integrated semiconductor representing three cascaded transistors. 3,103,599, 9-10-63, Cl. 307—88.5.
- Henker, Heinz, to Siemens & Halske Aktiengesellschaft. Purifying crystallizable semiconductor materials by zone melting. 3,099,550, 7-30-63, Cl. 75—10.
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- Henne, Hans, K. Ratsch, and G. Budan, to Wintershall Aktiengesellschaft. Process for the production of potassium sulfate. 3,110,561, 11-12-63, Cl. 23—121.
- Henne, Norman R., to United States Steel Corp. Self-dumping box. 3,100,666, 8-13-63, Cl. 294—73.
- Henneberger, Leo. Ventilators. 3,112,687, 12-3-63, Cl. 98—37.
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- Hennel, Anthony, to Container Corp. of America. Paper-board pole stand. 3,075,734, 1-29-63, Cl. 248—158.
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- Henneman, John W., and J. A. Mientus, to The Bendix Corp. Pressure control systems. 3,103,927, 9-17-63, Cl. 128—144.
- Henneman, Richard C., to Pacific Car and Foundry Co. Tractor winch. 3,107,899, 10-22-63, Cl. 254—187.
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- Hennessey, Russell J., to Waldorf Paper Products Co. Pouring spout cartons. 3,095,135, 6-25-63, Cl. 229—17.
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- Hennig, Karl, G. Lietz, and G. Meinhard, to Dehydag, Deutsche Hydrierwerke G.m.b.H. Mixed esters and process for their preparation. 3,102,128, 8-27-63, Cl. 260—410.6.
- Hennig, Walter: *See*—  
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- Henning, Frederick E.: *See*—  
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- Henning, James C., and C. A. L. Ruhl, to The New York Air Brake Co. Variable displacement engine. 3,103,893, 9-17-63, Cl. 103—120.
- Henning, John, and C. W. Hobgood, to Bendix-Westinghouse Automotive Air Brake Co. Anti-slugging device for motor-compressor units. 3,104,051, 9-17-63, Cl. 230—206.
- Henning, Joseph A., to Skinner Engine Co. Locking ring. 3,071,398, 1-1-63, Cl. 287—52.06.
- Henning, Robert W., to Olin Mathieson Chemical Corp. Explosive actuated axial impact fastener setting tool. 3,111,673, 11-26-63, Cl. 1—44.5.
- Henning, Wolfgang. Method of shelling long-tailed crayfish and the like. 3,084,379, 4-9-63, Cl. 17—45.
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- Henrichsen, Knut, to North American Aviation, Inc. Hydraulic pump or motor. 3,082,696, 3-26-63, Cl. 103—161.
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- Henricks, John A., to Devex Corp. Method of coating wires for drawing. 3,082,129, 3-19-63, Cl. 148—624.
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- Henrickson, Russell M., to Philco Corp. Method of molding a foam plastic having skins on selected surface portions. 3,099,516, 7-30-63, Cl. 18—48.
- Hennicot, Paul E. E. A. A. Automatic railway couplers. 3,097,751, 7-16-63, Cl. 213—152.
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- Henry, Elliott A., to Branson Instruments, Inc. Method and apparatus for ultrasonic shearwave inspection. 3,115,771, 12-31-63, Cl. 73-67.9.
- Henry, George L., and G. E. Martin, to United States of America, Air Force. Three-pulse canceller for coherent MTI systems. 3,109,171, 10-29-63, Cl. 343-77.
- Henry, Gilbert A. Automatic inflation unit for flotation devices. 3,077,288, 2-12-63, Cl. 222-5.
- Henry, Harold H., and R. McLaughlin. Collapsible anchor. 3,111,107, 11-19-63, Cl. 114-208.
- Henry, Howarth P. Brakes for trailer vehicles. 3,073,419, 1-15-63, Cl. 188-112.
- Henry, Howarth P. Couplers for connecting trailers to towing vehicles. 3,104,894, 9-24-63, Cl. 280-513.
- Henry, Jack L., to Kaiser Aluminum & Chemical Corp. Method of joining. 3,100,338, 8-13-63, Cl. 29-473.1.
- Henry, James J., to Conch International Methane Ltd. Cold cargo ship and construction. 3,072,087, 1-8-63, Cl. 114.
- Henry, James J., to Conch International Methane Ltd. Ship. 3,072,282, 1-8-63, Cl. 220-15.
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- Henry-Baudot, Jacques, to Printed Motors Inc. Printed circuit motor. 3,091,711, 5-28-63, Cl. 310-68.
- Henry-Baudot, Jacques, to Printed Motors Inc. Axial airgap rotary machines. 3,091,715, 5-28-63, Cl. 310-288.
- Henry-Baudot, Jacques, to Printed Motors Inc. Step motor using printed circuit components. 3,093,762, 6-11-63, Cl. 310-49.
- Henry-Baudot, Jacques, to Printed Motors Inc. Printed circuit stator for electrical rotating machines. 3,097,319, 7-9-63, Cl. 310-179.
- Henry-Baudot, Jacques, to Printed Motors, Inc. Electromechanical energy converter using a flexible loop armature. 3,109,113, 10-29-63, Cl. 310-13.
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- Henry-Biabaud, Edmond, to Andre Citroen Societe Anonyme. Seat-adjusting device, notably for automotive vehicles. 3,076,629, 2-5-63, Cl. 248-424.
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- Hense, Theo, to Olympia Werke AG. High speed printing apparatus with input control network. 3,099,206, 7-30-63, Cl. 101-93.
- Hensel, Hans R., H. Baumann, A. Tariter, and H. Weissauer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. 4,5-dihalogenpyridazones-(6). 3,108,103, 10-22-63, Cl. 260-250.
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- Henss, Heinrich, to VDO Tachometer Werke Adolf Schindling G.m.b.H. Windshield washer for automotive vehicles. 3,115,661, 12-31-63, Cl. 15-250.02.
- Henyang, Clare A., to Sears, Roebuck and Co. Thermometer support for rotisserie. 3,075,454, 1-29-63, Cl. 99-421.
- Henyon, Lewis E., to Clark Equipment Co. Single vane pump. 3,071,079, 1-1-63, Cl. 103-136.
- Henzirohs, Leo, to Jura Elektroapparate-Fabriken L. Henzirohs A.G. Steam-pressing electric iron. 3,105,314, 10-1-63, Cl. 38-77.
- Henzirohs, Leo, to Jura Elektroapparate-Fabriken L. Henzirohs A.G. Steam-pressing electric iron. 3,115,718, 12-31-63, Cl. 38-77.
- Hepher, Martin, to Eastman Kodak Co. Process for electrodevelopment of photographic images. 3,113,910, 12-10-63, Cl. 204-2.
- Hepner, Charles, to Motorola, Inc. Automatic soldering machine and method. 3,082,520, 3-26-63, Cl. 29-471.1.
- Hepner, Neal, to Burroughs Corp. Eccentric collar locking device. 3,075,403, 1-29-63, Cl. 74-571.
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- Heppenstall Co.: See—
- Anderson, John R. 3,076,674.
- Janoff, Daniel L. 3,092,414.
- Heppenstall, Samuel B., Jr. Integral pipe and fittings. 3,083,454, 4-2-63, Cl. 29-556.
- Hepperle, Erwin, to Machine Tool Works Oerlikon Administration Co. Loading device for automatic firearms having a revolver drum. 3,106,865, 10-15-63, Cl. 89-33.
- Hepworth Iron Co. Ltd., The: See—
- Newman, Walter. 3,078,331.
- Heraeus, W. C. G.m.b.H.: See—
- Breuing, Wilhelm, Franke, and Spolders. 3,099,699.
- Grafried, Emil. 3,075,242.
- Lorenz, Albert. 3,071,382.
- Lorenz, Albert. 3,100,997.
- Lorenz, Albert, and Blaske. 3,074,621.
- Schweitzer, Otto, and Querfurth. 3,076,031.
- Herb, Eugen: See—
- Leibinger, Berthold, and Herb. 3,076,367.
- Herbeck, Rudolf: See—
- Wisseroth, Karl, Herbeck, Lautenschlager, Moeller, Schmidthomee, Staiger, Trietschmann, and Weber. 3,110,708.
- Herbenar, Edward J., to Thompson Ramo Wooldridge, Inc. Sealed loaded joint assembly. 3,086,801, 4-23-63, Cl. 287-90.
- Herbenar, Edward J., to Thompson Ramo Wooldridge Inc. Hydrodynamic retarder safety system. 3,101,132, 8-20-63, Cl. 188-90.
- Herber, John F., to Monsanto Chemical Co. Nitrate compounds. 3,106,575, 10-8-63, Cl. 260-466.
- Herber, Joseph S., to Crawford Door Co. Counterweighted upward acting door. 3,094,163, 6-18-63, Cl. 160-190.
- Herbert, Adolf. Vulcanization press for vehicle tyres. 3,071,811, 1-8-63, Cl. 18-17.
- Herbert, Danuta. Improvements in reservoirs for internal combustion engines. 3,075,576, 1-29-63, Cl. 158-50.1.
- Herbert, Gerald A., to Goodman Mfg. Co. Load cell. 3,095,551, 6-25-63, Cl. 338-5.
- Herbert, Gerald A., to Goodman Mfg. Co. Load cell. 3,101,464, 8-20-63, Cl. 338-5.
- Herbert, Leonh., Maschinenfabrik, Firma: See—
- Balle, Walter. 3,082,480.
- Herbert, Roland E., to Newspaper Enterprise Association Inc. Multiple lens facsimile scanner. 3,100,242, 8-6-63, Cl. 178-7.1.
- Herbert, Stephen A., Jr.: See—
- Richards, Harry F., and Herbert. 3,100,748.
- Herbert, Stephen A., Jr., and D. W. Frew, to Shell Oil Co. Extreme pressure lubricating compositions. 3,089,852, 5-14-63, Cl. 252-32.7.
- Herbert, Stephen A., Jr., and H. F. Richards, to Shell Oil Co. Lubricating compositions. 3,102,863, 9-3-63, Cl. 252-46.7.



- Herbert, Thomas A., Jr., to Rohr Corp. Apparatus and method for making sandwich panels. 3,106,015, 10-8-63, Cl. 29—471.1.
- Herbert, Thomas M., to The Budd Co. Railway disk brakes. 3,092,211, 6-4-63, Cl. 188—59.
- Herbig, Henry F., and L. Medler, to International Telephone and Telegraph Corp. Party line subscriber identifier. 3,073,905, 1-15-63, Cl. 179—17.
- Herbig, James A., and I. O. Salyer, to Monsanto Chemical Co. Ternary blends of polystyrene-polyethylene-chlorosulfonated polyethylene and processes for making the same. 3,092,607, 6-4-63, Cl. 260—45.5.
- Herbig, James A., and I. O. Salyer, to Monsanto Chemical Co. Binary blends of polyvinyl formal and ethylene vinylene carbonate copolymer and processes for making the same. 3,114,728, 12-17-63, Cl. 260—45.5.
- Herbkersman, Earle C., to The Pipe Machinery Co. Roll-over chuck. 3,083,024, 3-26-63, Cl. 279—5.
- Herbkersman, Earle C., to The Pipe Machinery Co. Chuck with detachable gripping jaw. 3,083,025, 3-26-63, Cl. 279—1.22.
- Herbold, Robert J., to J. R. Bevington. Soldering iron accessory. 3,103,906, 9-17-63, Cl. 113—98.
- Herbon, Leroy J., to American Motors Corp. Air conditioning apparatus for automotive vehicle. 3,090,291, 5-21-63, Cl. 98—2.
- Herbst, Clarence A., to Resinoid Engineering Corp. Spacer. 3,114,669, 12-17-63, Cl. 161—165.
- Herbst, John A., to Bogue Electric Mfg. Co. Leveling device. 3,083,469, 4-2-63, Cl. 33—215.
- Herbst, William: *See—*  
Wurzburg, Otto B., and Herbst. 3,071,485.  
Wurzburg, Otto B., Herbst, and Cole. 3,091,567.
- Herchenroeder, Louis W., to Westinghouse Electric Corp. Digital control for machine positioning. 3,099,781, 7-30-63, Cl. 318—162.
- Hercik, Lad L. Eccentric drive means for stock shear. 3,073,200, 1-15-63, Cl. 83—602.
- Hercules, Christopher D. Variable-pitch blade propeller. 3,095,932, 7-2-63, Cl. 170—160.43.
- Hercules Galion Products, Inc.: *See—*  
Bisantz, Fred. 3,083,059.  
Bisantz, Fred, and Ruth. 3,094,359.  
Totaro, Thomas C., and King. 3,071,264.
- Hercules Powder Co.: *See—*  
Bechtel, Robert J. Re. 25,393.  
Boylan, Francis J. 3,076,768.  
Boynon, Donald E. 3,099,531.  
Breslow, David S. 3,072,601.  
Breslow, David S., and Matlack. 3,113,986.  
Carosino, Lawrence E. 3,109,772.  
Chapman, Charles H. 3,096,232.  
Christman, Donald L. 3,108,993.  
Claus, Karl, and Bestian. 3,104,249.  
Dadoly, Georgia, and Finzel. 3,104,150.  
De Butts, Edward H., Hays, and Young. 3,107,265.  
Dickson, David M., Jr. 3,074,910.  
Feild, George B. 3,110,623.  
Floyd, John D. 3,085,077.  
Geurden, Robert M. 3,077,468.  
Grable, Michael A. 3,106,498.  
Harris, George C. 3,102,054.  
Haubein, Albert H. 3,105,002.  
Hays, John T., and Young. 3,107,264.  
Heck, Richard F. 3,098,061.  
Heck, Richard F. 3,116,306.  
Henry, John E., and Reasor. 3,085,087.  
Hooper, Gilman S., Finzel, and McFarren. 3,101,522.  
Larson, Victor J. 3,071,484.  
Levering, Dewey R., and Maury. 3,090,786.  
Lincoln, Dwight C., and Shyluk. 3,095,404.  
Matlack, Albert S. 3,074,909.  
Matlack, Albert S. 3,107,232.  
Naudain, Howard A. 3,079,278.  
Ott, John W. 3,110,845.  
Soeder, Mary L. 3,102,107.  
Stow, Frederic S., Jr. 3,111,538.  
Vandenberg, Edwin J. 3,106,549.  
Vandenberg, Edwin J. 3,108,973.  
Weber, Edward R. 3,110,258.  
Wedwick, Don A. 3,110,846.  
Young, Richard E. 3,083,864.  
Young, Richard E. 3,106,940.  
Zebree, David T. 3,094,933.
- Hercules Powder Co., Inc.: *See—*  
Rust, Karl G. K., Mullner, and Gumboldt. 3,111,505.
- Herczog, Andrew: *See—*  
Allen, Richard E., and Herczog. 3,114,066.
- Herczog, Andrew, and R. R. Haberecht, to United States of America, Air Force. Zone melting apparatus. 3,100,250, 8-6-63, Cl. 219—10.49.
- Herd, James R.: *See—*  
Silver, Robert S., and Herd. 3,105,020.
- Herdering, John D., to North American Aviation, Inc. Modular container and retaining means. 3,101,154, 8-20-63, Cl. 220—4.
- Herding, Alfred. Air-cushioned upholstery, particularly for the seat member of motor vehicles or the like. 3,110,520, 11-12-63, Cl. 297—452.
- Herdman, Charles W. Baby crib bottle holder. 3,082,985, 3-26-63, Cl. 248—103.
- Herdman, Charles W. Shoe lace knot protector. 3,106,003, 10-8-63, Cl. 24—119.
- Hereaus, W. C., G.m.b.H.: *See—*  
Lorenz, Albert. 3,107,047.
- Hereth, Ralph F.: *See—*  
Chamberlin, Richard S., and Hereth. 3,086,423.
- Herfurth, Charles, to The Cincinnati Milling Machine Co. Machine tool drive system control mechanism. 3,089,572, 5-14-63, Cl. 192—3.5.
- Hergenhan, Albert R., to Lowe Paper Co. Variable angle feed means for paper cutters. 3,099,181, 7-30-63, Cl. 83—349.
- Hergenrother, Rudolf C., to Raytheon Co. Wave retardation lines having periodic tapering pitch. 3,083,443, 4-2-63, Cl. 29—155.5.
- Hergenrother, Rudolf C., to Raytheon Co. Low dispersion interdigital delay lines. 3,089,974, 5-14-63, Cl. 315—3.6.
- Hergeth K.G. Maschinenfabrik u. Apparatebau: *See—*  
Schwab, Bruno. 3,070,847.
- Herider, Elmer A.: *See—*  
James, Jimmie, and Herider. 3,104,911.
- Herider, Elmer A., and P. C. Tabor, to Rockwell-Standard Corp. Automotive seats. 3,114,576, 12-17-63, Cl. 297—354.
- Heriford, Russell W. Standing support for paraplegics. 3,107,105, 10-15-63, Cl. 280—211.
- Herinckx, Claude, G. R. Offergeld, and J. L. Van Cakenberghe, to Union Carbide Corp. Thermoelectric materials. 3,076,859, 2-5-63, Cl. 136—5.
- Hering, Hans, L. Menz, and E. Caffier, to Societe Nationale d'Etudes et de Construction de Moteurs d'Aviation. Combustion chamber with primary and secondary air flows. 3,082,603, 3-26-63, Cl. 60—39.65.
- Hering, Harold E., and E. V. Painter, to Johnson & Johnson. Filter assembly. 3,085,689, 4-16-63, Cl. 210—232.
- Herion, Erich. Magnetic preliminary control valve. 3,110,468, 11-12-63, Cl. 251—29.
- Herion, Erich, and E. Ruchser; said Ruchser assor. to said Herion. Safety control apparatus for operating pressure-actuated devices. 3,084,676, 4-9-63, Cl. 121—38.
- Herkes, Daniel J.: *See—*  
Bush, Thomas L., Hooper, and Herkes. 3,113,340.
- Herlet, Adolf, to Siemens-Schuckertwerke Aktiengesellschaft. Encapsulated electronic semiconductor device of the four-layer junction type, and method of its production. 3,105,926, 10-1-63, Cl. 317—234.
- Herman, Albert D.: *See—*  
Leighton, Francis, and Herman. 3,115,069.
- Herman, Bernard, to Stardust, Inc. Ladies' slips. 3,093,138, 6-11-63, Cl. 128—454.
- Herman, Daniel F., and R. C. Kollman, to National Lead Co. Polymerization of olefins. 3,078,262, 2-19-63, Cl. 260—93.5.
- Herman, Daniel F., D. Simone, and R. M. Weil, to National Lead Co. Aqueous polymerization process incorporating co-catalyst of organometallic compound and halogenated acetic acid. 3,114,737, 12-17-63, Cl. 260—88.7.
- Herman, Hartley R., and B. R. Alsobrook, to Rohr Corp. Method for making honeycomb panel. 3,091,845, 6-4-63, Cl. 29—471.1.
- Herman, Julius. One-turn loop antenna. 3,078,462, 2-19-63, Cl. 343—744.
- Herman, Leslie E. Knockdown box or pallet bin. 3,079,025, 2-26-63, Cl. 217—12.
- Herman, Martin A. Simultaneous multi-check point gage. 3,102,344, 9-3-63, Cl. 33—174.
- Herman, Maynard, to General Electric Co. Self-lubricating sleeve bearing. 3,110,530, 11-12-63, Cl. 308—238.
- Herman, Melvin L.: *See—*  
Telander, Carl G., and Herman. 3,080,206.
- Herman Pneumatic Machine Co.: *See—*  
Johnston, Loyal L. 3,094,750.  
Johnston, Loyal L. 3,110,940.
- Herman, Ralph B.: *See—*  
Cattermole, Kenneth W., Herman, Bezdel, and Darton. 3,073,903.
- Herman, Raymond, to Richmond Research Corp. Motion picture projector drive mechanism. 3,074,662, 1-22-63, Cl. 242—55.12.
- Herman, Robert F., and R. H. Moehlmann, to General Dynamics Corp. Radio telephone system. 3,094,661, 6-18-63, Cl. 325—55.
- Herman, Stedman C., to Shawinigan Resins Corp. Vinyl ester polymer emulsions containing polyvinyl alcohol. 3,094,500, 6-18-63, Cl. 260—29.6.
- Herman, William P., to North American Philips Co., Inc. Contact plug assembly apparatus. 3,090,111, 5-21-63, Cl. 29—206.
- Hermanet, Marvin J., to Eastman Kodak Co. Automatic trimming and scraping device. 3,089,369, 5-14-63, Cl. 83—3.
- Hermann, Adolf L. Flat cables and corresponding connector. 3,114,587, 12-17-63, Cl. 339—75.
- Hermann, Hans: *See—*  
Zimmermann, Heinrich, and Hermann. 3,111,323.
- Hermann, Joseph R.: *See—*  
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- Hermann, Lawrence, and B. I. Reisman. Fountain attachment for faucets. 3,079,088, 2-26-63, Cl. 239—25.
- Hermann, Ludwig: *See—*  
Pasche, Heinz, and Hermann. 3,072,229.



- Herrmann, Otto, to The R. K. LeBlond Machine Tool Co. Zero speed switch. 3,094,595, 6-18-63, Cl. 200-80.
- Herrmann, Otto, to The R. K. LeBlond Machine Tool Co. Zero speed switch. 3,098,906, 7-23-63, Cl. 200-80.
- Herrmann, Willy, and H. Sager, to Hoffmann-La Roche Inc. Stabilization of heparin preparations. 3,112,246, 11-26-63, Cl. 167-74.
- Herrmann, Eugen, to Ernst Leitz G.m.b.H., Optische Werke. Four member objective lens. 3,108,152, 10-22-63, Cl. 88-57.
- Herrmanns, Otto E., to The B. F. Goodrich Co. Tire piercing apparatus. 3,107,565, 10-22-63, Cl. 83-2.
- Hermanny, Heinrich, to Radio Corp. of America. Tube cage orienting and positioning apparatus. 3,098,553, 7-23-63, Cl. 198-33.
- Hermans, Fernand V. F. Tunnel kiln for firing ceramic and like products. 3,108,351, 10-29-63, Cl. 25-142.
- Hermans, Marie E. A., and T. van der Plas, to Stichting Reactor Centrum Nederland. Process for the preparation of granular uraniferous material of uniform particle size. 3,097,062, 7-9-63, Cl. 23-14.5.
- Hermanson, Harry M., to Minneapolis-Honeywell Regulator Co. Fluid level sensing apparatus. 3,079,797, 3-5-63, Cl. 73-304.
- Hermelin, Victor M. Timed release pharmaceutical preparations and method of making the same. 3,115,441, 12-24-63, Cl. 167-82.
- Hermes, Wilhelm: *See*—  
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- Hermes, Willem, to North American Philips Co., Inc. Automatic gain control amplifier system. 3,105,942, 10-1-63, Cl. 330-28.
- Hermeyer, Robert. Liquid contact switch. 3,102,179, 8-27-63, Cl. 200-122.
- Hermiz, Ramiz Y.: *See*—  
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- Hermorion Ltd.: *See*—  
Berglund, Erik E. 3,090,175.  
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Rausing, Gad A., and Tuma. 3,086,336.
- Hernsdorf Fixture Mfg. Co., Inc.: *See*—  
Schirmer, Maximilian. 3,070,830.  
Schirmer, Maximilian. 3,074,083.
- Hernandez, Miguel A. Beer and malt beverage concentrates and process for producing same. 3,113,029, 12-3-63, Cl. 99-78.
- Herndon, John F., Sr.: *See*—  
Greenberg, Samuel M., and Herndon. 3,073,740.
- Herndon, Luther J., Jr., G. W. Evans, and J. R. Land, to Halliburton Co. Plug for use in conduits. 3,100,534, 8-13-63, Cl. 166-153.
- Herndon, Richard A.: *See*—  
Carter, Robert C., and Herndon. 3,079,601.
- Herndon, William E., Jr., and H. L. Tillman, to Whirlpool Corp. Air circuit means for combined freezer and refrigerator apparatus. 3,107,502, 10-22-63, Cl. 62-180.
- Herne, William L. Balancing game. 3,092,384, 6-4-63, Cl. 273-1.
- Hernley, Kenneth P., to Philbrick-Strickland Laminates, Inc. Machine tool. 3,075,320, 1-29-63, Cl. 51-35.
- Herold, Alfred F., to Hewitt-Robins Inc. Method of making a chain side bar having finished pivot holes. 3,084,502, 4-9-63, Cl. 59-8.
- Herold, Paul G., and R. A. Nolan, to Radio Corp. of America. Electroluminescent device. 3,089,973, 5-14-63, Cl. 313-108.
- Herold, Rodolphe A., to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme). Process for making electrodes or electrode elements for alkaline storage batteries and articles thus obtained. 3,108,910, 10-29-63, Cl. 136-29.
- Heron, Claude. Calf and lamb feeder. 3,081,738, 3-19-63, Cl. 119-71.
- Heron, David H., to Shell Oil Co. Shut-off valve for dual completion upper packer. 3,098,526, 7-23-63, Cl. 166-128.
- Herpich, William A.: *See*—  
Dempster, George R., and Herpich. 3,078,121.  
Dempster, George R., and Herpich. 3,085,703.  
Dempster, George R., and Herpich. 3,090,512.  
Dempster, George R., and Herpich. 3,094,227.  
Dempster, George R., and Herpich. 3,094,231.  
Dempster, George R., and Herpich. 3,107,021.  
Dempster, George R., Herpich, and Harvey. 3,107,020.  
Dempster, George R., Herpich, and Wender. 3,078,000.
- Herr, Charles H., Jr., to Allis-Chalmers Mfg. Co. Positive lock and interlock for shift rods. 3,104,558, 9-24-63, Cl. 74-477.
- Herr Equipment Corp., The: *See*—  
Herr, Richard F. 3,072,001.  
Herr, Richard W. 3,083,926.  
Herr, Richard W. 3,113,741.
- Herr, Gerhard, and K. Czipschirsch, to Happich G.m.b.H., Gebr. Non-injurious resilient actuating knobs for use in automotive vehicles and the like. 3,071,023, 1-1-63, Cl. 74-545.
- Herr, Gerhard, and K. Czipschirsch, to Happich G.m.b.H., Gebr. Crank handles for window actuating mechanisms in automotive vehicles and the like. 3,106,853, 10-15-63, Cl. 74-545.
- Herr, John A.: *See*—  
Hayes, Frank A., Abel, and Herr. 3,084,640.  
Reid, Orland B., Herr, Turner, and Abel. 3,097,617.
- Herr, John A., and O. B. Reid, to The Singer Mfg. Co. Automatic sewing machines. 3,089,441, 5-14-63, Cl. 112-2.
- Herr Joseph R., to Sylvania Electric Products Inc. Time delay circuit. 3,098,953, 7-23-63, Cl. 317-148.5.
- Herr, Lewis E., to General Motors Corp. Vehicle power transmission unit mounting. 3,101,126, 8-20-63, Cl. 180-64.
- Herr Mfg. Co., Inc.: *See*—  
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- Herr, Richard F., to The Herr Equipment Corp. Methods of and apparatus for cutting strip material. 3,072,001, 1-8-63, Cl. 83-147.
- Herr, Richard F., to Rio Algom Mines Ltd. Winding apparatus. 3,100,092, 8-6-63, Cl. 242-158.4.
- Herr, Richard W., to The Herr Equipment Corp. Strip handling. 3,083,926, 4-2-63, Cl. 242-56.8.
- Herr, Richard W., to Rio Algom Mines Ltd. Apparatus for storing moving strip material. 3,109,572, 11-5-63, Cl. 226-189.
- Herr, Richard W., to The Herr Equipment Corp. Strip handling. 3,113,741, 12-10-63, Cl. 242-56.8.
- Herr, Ross R.: *See*—  
Bergy, Malcolm E., Herr, and Mason. 3,086,912.
- Herrera, Dan B. Safety brake. 3,101,219, 8-20-63, Cl. 303-6.
- Herrera, Lula M.: *See*—  
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- Herrero, Leonidas G. D. G. Water level control system. 3,084,708, 4-9-63, Cl. 137-392.
- Herrero Rodrigo, Manuel. Soap holder. 3,094,806, 6-25-63, Cl. 45-28.
- Herrick, Carlyle S., and T. L. Etherington, to General Electric Co. Method and apparatus for storing and recovering heat. 3,079,087, 2-26-63, Cl. 237-1.
- Herrick, Clifford E., Jr.: *See*—  
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- Herrick, Clifford E., Jr., to General Aniline & Film Corp. Dazotype printing and developing apparatus. 3,087,403, 4-30-63, Cl. 95-75.
- Herrick, Franklin W., to Rayonier Inc. Water-soluble sulfited lignin-phenolic-formaldehyde complex. 3,095,392, 6-25-63, Cl. 260-17.5.
- Herrick, George Q., A. H. Fredrick, and J. H. Greig, to Thompson Ramo Wooldridge, Inc. Security fence alarm system. 3,110,891, 11-12-63, Cl. 340-258.
- Herrick, Wallace D., to The Coleman Co., Inc. Food and beverage cooler. 3,111,014, 11-19-63, Cl. 62-462.
- Herridge, William G., Jr.: *See*—  
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- Herrin, Gerald R.: *See*—  
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- Herring, Liles G., to Phillips Petroleum Co. Nitropolyurethane compositions. 3,079,355, 2-26-63, Cl. 260-18.
- Herring, Richard W.: *See*—  
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- Herrington, Charley W., and G. G. Simpson, to Masonite Corp. Hardboard and method of manufacture. 3,083,128, 3-26-63, Cl. 154-45.9.
- Herrle, Karl: *See*—  
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- Herrling, Robert F. Apparatus for separating postage stamps and the like from their backings and for washing the same. 3,083,719, 4-2-63, Cl. 134-157.
- Herrmann, Adolf L.: *See*—  
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- Herrmann, Edgar R., to Breeze Corporations, Inc. Capstan for faired cable. 3,116,050, 12-31-63, Cl. 254-175.7.
- Herrmann, Erwin: *See*—  
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- Herrmann, Frank A.: *See*—  
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- Herrmann, Frank A., to Sonotone Corp. Transistor amplifier stage with high input impedance. 3,082,380, 3-19-63, Cl. 330-18.
- Herrmann, Fred L., and L. Safranek. Duplicator stand with router. 3,111,148, 11-19-63, Cl. 144-136.
- Herrmann, Gunter, and R. Goerlich, to Protone Produktionsgesellschaft fuer elektroakustische Gerate m.b.H. Sound recording and reproducing apparatus driving mechanism. 3,085,758, 4-16-63, Cl. 242-55.12.
- Herrmann, Helmut, to Gewerkschaft Eisenhütte Westfalen. Piston impact motor and control therefor. 3,072,103, 1-8-63, Cl. 121-22.
- Herrmann, Helmut, to Gewerkschaft Eisenhütte Westfalen. Piston impact motor. 3,077,188, 2-12-63, Cl. 123-46.
- Herrmann, Julius, to Gewerkschaft Eisenhütte Westfalen. Apparatus for the production of coal by shaving techniques. 3,071,355, 1-1-63, Cl. 262-8.
- Herrmann, Julius, to Gewerkschaft Eisenhütte Westfalen. Mining machine having a reciprocating cutter. 3,113,762, 12-10-63, Cl. 262-18.
- Herrmann, Karl-Heinz, to Siemens & Halske Aktiengesellschaft. Electron microscope diaphragm arrangement with auxiliary device for X-ray spectroscopy of irradiated specimen. 3,086,114, 4-16-63, Cl. 250-51.5.
- Herrmann, Otto, H. Müller, and M. Seibel, to Keuffel & Esser Co. Linear polyester films having surfaces suitable for writing thereon. 3,100,722, 8-13-63, Cl. 117-138.8.
- Herrmann, Richard C., and P. A. Clavier, to Zenith Radio Corp. Computer and a method of computing. 3,073,893, 1-15-63, Cl. 178-5.1.



- Herrmann, William E., to Hewitt Robins Inc. Clamp for conveyor idler assembly. 3,103,726, 9-17-63, Cl. 24-125.
- Herrod, J. T. Combination transmission and differential. 3,095,759, 7-2-63, Cl. 74-701.
- Heron, Henry R., to Harbison-Walker Refractories Co. Tunnel kiln car top. 3,094,759, 6-25-63, Cl. 25-142.
- Herrwerth, Peter: *See*—
- Moesta, Hasso, and Herrwerth. 3,071,968.
- Herschdorf, Arthur. Replaceable heel and outsole structure for shoes. 3,083,476, 4-2-63, Cl. 36-15.
- Herschel, R., Mfg. Co.: *See*—
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- Hersey, Carl D.: *See*—
- Way, Robert B., and Hersey. 3,089,499.
- Way, Robert B., and Hersey. 3,102,053.
- Way, Robert B., and Hersey. 3,107,183.
- Way, Robert B., and Hersey. 3,108,537.
- Hersey, Kenneth J. Apparatus for producing addressed labels. 3,110,248, 11-12-63, Cl. 101-65.
- Hersey, Ralph E., to Bell Telephone Laboratories, Inc. Telephone system. 3,113,184, 12-3-63, Cl. 179-18.
- Hersey-Sparling Meter Co.: *See*—
- Farrow, William H. 3,074,429.
- Hersh, Arthur. Aerosol container control mechanism fitted with applicator. 3,093,857, 6-18-63, Cl. 15-552.
- Hersh, Seymour L.: *See*—
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- Morici, Alfred A. 3,093,175.
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- Hershey, Harold J., and R. A. Spencer, to Bell Telephone Laboratories, Inc. Gong. 3,102,510, 9-3-63, Cl. 116-148.
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- Gross, Richard, Hertel, Kirst, and Mohr. 3,099,651.
- Gross, Richard, Hertel, Kirst, Mohr, and Staab. 3,084,151.
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- Hertel, Wilhelm, to Siemens-Elektrogeräte Aktiengesellschaft. Dishwasher. 3,095,885, 7-2-63, Cl. 134-58.
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- Lehde, John W., Jr., and Hertelendy. 3,092,859.
- Herterich, Oskar, and E. Huttner, to Klockner-Humboldt-Deutz A.G. Ladder device. 3,083,789, 4-2-63, Cl. 182-212.
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- Herting, Gale B. Hydraulic adjustable peripheral hub and wheel combination. 3,087,349, 4-30-63, Cl. 74-230.18.
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- Hertz Michael. Erasing instrument. 3,099,251, 7-30-63, Cl. 120-38.
- Hertz, Michael. Cathode ray tube using replaceable cathode. 3,099,762, 7-30-63, Cl. 313-74.
- Hertzberg, Samuel. Electrically-powered dry shaver convertible to manual power having reinforced shearing means and debris collecting means. 3,079,684, 3-5-63, Cl. 30-34.
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- Easterling, Herbert W., and Hertzner. 3,110,496.
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- Hertzke, Frank H. Hinged plate-like unit and interlocking hinge. 3,087,192, 4-30-63, Cl. 16-128.
- Hertzog, Heber T., to The Garrett Corp. Engine starting apparatus. 3,087,305, 4-30-63, Cl. 60-39.14.
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- Doggett, Roger H., Hervey, and Lanyon. 3,100,143.
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- Hervig, Harold C., and E. W. Bollmeyer, to Minnesota Mining and Mfg. Co. Nozzle. 3,111,269, 11-19-63, Cl. 239-309.
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- Herzberg, Cecile. Scarf. 3,105,970, 10-8-63, Cl. 2-91.
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- Heselwood, James C., to AMP Inc. Solderless electrical connectors. 3,071,750, 1-1-63, Cl. 339-97.
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- Hess, Earl B. Device for forming cuffs on trousers. 3,097,364, 7-16-63, Cl. 2-232.
- Hess, Frederic O., to Selas Corp. of America. Furnace. 3,081,988, 3-19-63, Cl. 266-4.
- Hess, Hans, to Olympia Werke A.G. Coding arrangement. 3,112,821, 12-3-63, Cl. 197-1.5.
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- Heisler, Robert Y., and Hess. 3,087,979.
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- Hess, Joan T.: *See*—
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- Hess, Loyal H.: *See—*  
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- Hessel, Frederick A.: *See—*  
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- Hesson, James C., and R. S. Frost, to Marmon-Harrington Co., Inc. Device for breaking down coal and the like. 3,105,437, 10-1-63, Cl. 102—25.
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- Hester, Eugene E., to National Rubber Machinery Co. Adjustable choke extruder and drive therefor. 3,113,343, 12-10-63, Cl. 18—12.
- Hester, Frank, to Weather-Bloc Co., Inc. Stand for supporting a container in adjusted positions. 3,090,590, 5-21-63, Cl. 248—346.
- Hester, Frank J., to United States of America, Interior. Bathkymograph. 3,104,928, 9-24-63, Cl. 346—72.
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- Heth, Sherman C., and S. C. Akgulian, to Jacobsen Mfg. Co. Powered gang lawn mower. 3,106,811, 10-15-63, Cl. 56—7.
- Heth, Sherman C., W. H. Price, and A. A. Wridd, Jr., to Jacobsen Mfg. Co. Rotary power mower and bagging attachment therefor. 3,112,597, 12-3-63, Cl. 56—202.
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- Hetherington, Robert D., to Electro-Optical Systems, Inc. Mechanical bonding lock. 3,091,578, 5-28-63, Cl. 204—16.
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- Heuser, Helmut C., to Bokum Tool Co., Inc. Tool holder. 3,076,355, 2-5-63, Cl. 77—58.
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 Heyer, Don, to M & H Industries. Magnetic catch assembly, 3,102,748, 9-3-63, Cl. 292—251.5.  
 Heyer, Don, to M & H Industries. Magnetic door catch, 3,102,749, 9-3-63, Cl. 292—251.5.  
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 Heyer, William T., and F. Kepka. Timer valve, 3,104,861, 9-24-63, Cl. 251—43.  
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 Hiatt, Gordon D., and M. E. Rowley, to Eastman Kodak Co. Method of preparing cellulose derivative sulfates, 3,075,963, 1-29-63, Cl. 260—215.  
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 Hibbard, Earl R., to Ampex Corp. Recording and/or reproducing apparatus, 3,076,055, 1-29-63, Cl. 178—6.6.  
 Hibbert, Gilbert S., W. S. Miller, and A. Schofield, to The Calico Printers' Association Ltd. Process of wet crease-proofing cellulose fabrics with specific aldehyde solutions containing specific metal salts and products produced thereby, 3,094,372, 6-18-63, Cl. 8—116.4.  
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 Hickerson, Frederick P., to United States of America, Navy. Variable buoyancy underwater missile, 3,083,667, 4-2-63, Cl. 114—25.  
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- Hickey, John J., and G. L. Clark, to Space Technology Laboratories, Inc. Pulse former capacitor discharging providing rapid rise-time, and thyatron shorting output providing rapid fall-time. 3,100,872, 8-13-63, Cl. 328-67.
- Hickey, Robert L., L. W. Higgins, and E. T. Platz, to I-T-E Circuit Breaker Co. Continuous outlet surface extension assembly. 3,089,042, 5-7-63, Cl. 307-147.
- Hickin, Robert J., to Packaging Corp. of America. Box construction. 3,104,793, 9-24-63, Cl. 229-17.
- Hickle, Clyde S., and P. B. Hoyer, to Ranco Inc. Motor starter relay. 3,110,785, 11-12-63, Cl. 200-87.
- Hickly, Nicholas J., to Pennwood Numechron Co. Electrically operated indexing and presetting means for a clock or like mechanism. 3,078,655, 2-26-63, Cl. 58-26.
- Hickman, Albert F. Vehicle spring suspension for rear drive axle. 3,111,335, 11-19-63, Cl. 280-124.
- Hickman, Carl V., deceased (by J. W. Hickman, administratrix), R. E. Taylor, R. Butterworth, H. G. Miller, A. E. Young, and W. M. Powell, to United States of America, Navy. Ammunition transfer mechanism. 3,075,434, 1-29-63, Cl. 89-45.
- Hickman, Charles F., and E. P. Copenhaver; said Hickman, assor. to said Copenhaver. Thread protector for casing. 3,087,512, 4-30-63, Cl. 138-96.
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- Hickman, Kenneth C. D., to The Battelle Development Corp. Process and apparatus for separating a vaporizable mixture. 3,111,461, 11-19-63, Cl. 202-52.
- Hickman, William P. Combination water dam and gravel stop. 3,100,951, 8-20-63, Cl. 50-66.
- Hickner, Richard A., to The Dow Chemical Co. 2-oxo-1-pyrrolidonepropionates. 3,105,080, 9-24-63, Cl. 260-326.3.
- Hickner, Richard A., W. W. Bakke, and C. I. Judd, to The Dow Chemical Co. Preparation of ethylidene bis-(N-heterocyclic) compounds. 3,072,652, 1-8-63, Cl. 260-244.
- Hickner, Richard A., and C. I. Judd, to The Dow Chemical Co. Certain oxazolidinone-2 and pyrrolidinone-2 derivatives of aromatic sulfonamides and process. 3,072,672, 1-8-63, Cl. 260-307.
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- Hickory, Frank R.: See—  
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- Hickox, Walter A., to Combustion Engineering, Inc. Indicating and recording instrument organization. 3,099,511, 7-30-63, Cl. 346-17.
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- Hicks, Bobby E.: See—  
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- Hicks, Bruce C., to E.M.P. Electric Ltd. Spark gap devices. 3,076,114, 1-29-63, Cl. 313-161.
- Hicks, Charles F., to Cargill, Inc. Belt computer with manually adjustable tensioning member. 3,082,946, 3-26-63, Cl. 235-86.
- Hicks, Darrell D., and J. E. Masters, to Devoe & Reynolds Co., Inc. Process for preparation of a polyester resin of pentaerythritol, a dicarboxylic acid anhydride and a monoepoxide. 3,089,863, 5-14-63, Cl. 260-75.
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- Hicks, Druey F., Jr. Apparatus for flushing and scraping the inside of pipes. 3,078,487, 2-26-63, Cl. 15-104.19.
- Hicks, Duane L., 10% to N. Brown, and 10% to I. D. Bare. Bowling pin cleaner. 3,076,651, 2-5-63, Cl. 273-54.
- Hicks, George W., Jr. Chemical injector. 3,109,452, 11-5-63, Cl. 137-564.5.
- Hicks, John W., Jr., and W. P. Bazinet, Jr., to American Optical Co. Method of manufacturing optical image transfer devices. 3,104,191, 9-17-63, Cl. 156-174.
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- Hicks, William C. Weed catcher for fishing lines. 3,104,488, 9-24-63, Cl. 43-44.88.
- Hicks, William R., and B. E. Oehlbeck, to General Electric Co. Knife sharpener. 3,071,899, 1-8-63, Cl. 51-128.
- Hickson, Donald A., to California Research Corp. Method of determining catalyst activity in the cracking of hydrocarbon oils. 3,072,563, 1-8-63, Cl. 208-120.
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- Hickson, William F., to Continental Copper & Steel Industries, Inc. (Welin Darit and Boat Division). Winch construction. 3,081,067, 3-12-63, Cl. 254-184.
- Hickson, William F., to Continental Copper & Steel Industries, Inc. (Welin Davit and Boat Division). Life boat release gear. 3,094,720, 6-25-63, Cl. 9-45.
- Hidden, William P., and V. H. Meyer, to United Shoe Machinery Corp. Apparatus for performing sequential operations on shoes. 3,077,619, 2-19-63, Cl. 12-1.
- Hidden, William P., L. E. Steimen, and R. N. Sandberg, deceased (by S. F. Sandberg, administratrix), to United States of America, Army. Bolt mechanism for an automatic firearm. 3,103,142, 9-10-63, Cl. 89-188.
- Hidde Niland, Hendrik A., to "COQ", N.V. Driving mechanisms for electric circuit-breakers. 3,098,134, 7-16-63, Cl. 200-78.
- Hidemar S.R.L.: See—  
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- Delachapelle, Richard P., and Hidler. 3,109,959.
- Hiebar, Walter, and G. Wagner, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of manganese pentacarbonyl hydride. 3,100,137, 8-6-63, Cl. 23-14.
- Hieber, Ellsworth E., to Schulz Tool and Mfg. Co. Ring wing drogue. 3,108,769, 10-29-63, Cl. 244-135.
- Hieber, George E., and A. H. Billow, to Landis Machine Co. Pipe handling table. 3,090,499, 5-21-63, Cl. 214-1.
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- Hieger, Robert H. Unitary diaphragm assembly. 3,071,158, 1-1-63, Cl. 137-790.
- Hieken, Charles, to Laboratory for Electronics, Inc. Data signal combining system. 3,084,341, 4-2-63, Cl. 343-8.
- Hierholzer, Frank J., Jr., to Westinghouse Electric Corp. Bridge type inverter network. 3,074,030, 1-15-63, Cl. 331-113.
- Hiers, Victor H., to Hamilton Mfg. Co. Photographic film treatment table. 3,075,447, 1-29-63, Cl. 95-102.
- Hiersteiner, Walter L., to Tension Envelope Corp. of Kansas City. Expansion envelope with solid front and back panels. 3,073,508, 1-15-63, Cl. 229-68.
- Hiersteiner, Walter L., to Tension Envelope Corp. of Kansas City. Envelope for two-way use. 3,096,925, 7-9-63, Cl. 229-73.
- Hiersteiner, Walter L., to Tension Envelope Corp. of Kansas City. Expandable pouch envelope. 3,111,256, 11-19-63, Cl. 229-68.
- Hierta, Lars J., and J. W. Murray, to Ford Motor Co. Damper door control. 3,103,867, 9-17-63, Cl. 98-2.
- Hieserman, Clarence E., T. M. Veazey, and K. R. Lea, to Monsanto Chemical Co. Vinyl polymerization shortstopping process. 3,084,143, 4-2-63, Cl. 260-85.5.
- Hiestand, Preston E., and E. V. Mills, to Handcraft Co., Inc. Stretchable footwear. 3,093,916, 6-18-63, Cl. 36-9.
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- Higashiuchi, Kazuo, to J. R. Short Milling Co. Preparation and methods of employing oxidatively active materials. 3,077,412, 2-12-63, Cl. 99-232.
- Higashiuchi, Kazuo, A. W. Kleinschmidt, and C. G. Ferrari, to J. R. Short Milling Co. Methods for preparing yeast-leavened baked goods. 3,108,878, 10-29-63, Cl. 99-90.
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- Higer, Aaron L. Garbage grinding machine. 3,071,328, 1-1-63, Cl. 241-43.
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- Higginbotham, John W., to Martin-Marietta Corp. Transistor amplifier temperature stabilization circuits. 3,105,198, 9-24-63, Cl. 330-15.
- Higgins, Anthony J. Guard accessory for beds. 3,093,839, 6-18-63, Cl. 5-33.1.
- Higgins, Edward F., Jr., and D. H. Larson, to United States of America, Army. Radio frequency leveling device. 3,096,591, 7-9-63, Cl. 33-206.
- Higgins, Horace M., and A. A. Congwer, to Aerojet-General Corp. Method of propulsion using solid propellant compositions. 3,098,351, 7-23-63, Cl. 60-35.4.
- Higgins, John L.: See—  
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- Higgins, Lyman F., Jr. Animated devices. 3,089,279, 5-14-63, Cl. 46-124.
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- Schmidt, Chester W., Highley, and Hutchins. 3,076,489.
- Highley, Everett L., to Chemetron Corp. Gristle shearing ring for comminuting apparatus. 3,109,471, 11-5-63, Cl. 146—182.
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- Hightower, John R., and J. T. Reynolds. Continuous cooling method and apparatus. 3,099,138, 7-30-63, Cl. 62—63.
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- Higonnet, Rene A., and L. M. Moyroud. Image displacement mechanism. 3,105,624, 10-1-63, Cl. 226—9.
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- Hilado, Alfonso. Self locking differential mechanism. 3,095,761, 7-2-63, Cl. 74—715.
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- Hild, Henry F., and S. E. Manecke, to Robertshaw-Fulton Controls Co. Method for securing terminals. 3,091,838, 6-4-63, Cl. 29—155.55.
- Hild, Henry F., and S. E. Manecke, to Robertshaw Controls Co. Thermally actuated cycling switch. 3,110,789, 11-12-63, Cl. 200—122.
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- Hill, Arthur J., to Holey Carburetor Co. Carburetor. 3,085,792, 4-16-63, Cl. 261—39.
- Hill, Arthur M., to Service Pipe Line Co. Pipeline cleaner propelling cup. 3,107,379, 10-22-63, Cl. 15—104.06.
- Hill, Broadus E., Jr., and L. O. Vanneman, Sr., to E. I. du Pont de Nemours and Co. Yarn windup. 3,092,339, 6-4-63, Cl. 242—18.
- Hill, Clarence L. Support and holder device for fishing rods. 3,074,674, 1-22-63, Cl. 248—45.
- Hill, Claude, to Harry Ferguson Research Ltd. Vehicle braking control. 3,081,836, 3-19-63, Cl. 180—44.
- Hill, Claude, to Harry Ferguson Research Ltd. Dual one-way clutch for differential control. 3,107,763, 10-22-63, Cl. 192—41.
- Hill, Claude, and A. P. R. Rolt, to Harry Ferguson Research Ltd. Vehicle braking control. 3,073,405, 1-15-63, Cl. 180—44.
- Hill, Dale E., to Monsanto Chemical Co. Power rectifier. 3,071,715, 1-1-63, Cl. 317—237.
- Hill, Dale E., to Monsanto Chemical Co. Neutron detector of crystalline boron phosphide. 3,113,210, 12-3-63, Cl. 250—83.1.
- Hill, Dale E., and A. S. Epstein, to Monsanto Chemical Co. Thermoelectricity. 3,077,506, 2-12-63, Cl. 136—5.
- Hill, Dale L.: *See*—  
Hass, Martin A., and Hill. 3,084,435.
- Hill, Donald A.: *See*—  
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- Hill, Earl S.: *See*—  
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- Hill, Edward, to General Electric Co. Toolholder with replaceable tip. 3,097,417, 7-16-63, Cl. 29—96.
- Hill, Edward G., to Kelsey-Hayes Co. Vehicle power brake mechanism. 3,084,514, 4-9-63, Cl. 60—54.5.
- Hill, Edward J. Long term urine collectors. 3,077,883, 2-19-63, Cl. 128—295.
- Hill, Edward J. Elbow restraint means. 3,115,132, 12-24-63, Cl. 128—133.
- Hill, Frank A., and H. L. Stahle, to General Precision, Inc. Input buffer system. 3,095,553, 6-25-63, Cl. 340—172.5.
- Hill, Frank A., and H. L. Stahle, to General Precision, Inc. Computer. 3,102,996, 9-3-63, Cl. 340—172.5.
- Hill, Frank M. Sectional boat. 3,072,928, 1-15-63, Cl. 9—2.
- Hill, Frank W.: *See*—  
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- Hill, Fred L.: *See*—  
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- Hill, Fred N.: *See*—  
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- Hill, George A.: *See*—  
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- Hill, George B. Double sickle mowing machine. 3,089,300, 5-14-63, Cl. 56-25.
- Hill, George N.: *See*—  
Banford, John A., Hill, and Dillard. 3,105,791.
- Hill, George W., to Esco Corp. Wear cap for excavating tooth. 3,082,555, 3-26-63, Cl. 37-142.
- Hill, George W. and V. C. Little, to United States of America, Army. Closure plate for airplane spray tank. 3,087,644, 4-30-63, Cl. 220-57.
- Hill, Gilman A., to Petroleum Research Corp. Ionized boundary layer fluid pumping system. 3,095,163, 6-25-63, Cl. 244-12.
- Hill, H. Leslie: *See*—  
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- Hill, Harold C.: *See*—  
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- Hill, Harold W., Jr., S. L. Kwolek, and W. Sweeney, to E. I. du Pont de Nemours and Co. Wholly aromatic polyamides. 3,094,511, 6-18-63, Cl. 260-78.
- Hill, Harry. Toy display mechanism. 3,109,250, 11-5-63, Cl. 40-31.
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Blanchi, Eduardo A., and Hill. 3,087,144.
- Hill, James B., D. B. Levinson, and L. L. Wolman, to General Precision, Inc. Transistor gate biased by signal being gated. 3,096,447, 7-2-63, Cl. 307-88.5.
- Hill, James S., to Engelhard Industries, Inc. Method of making an electrical resistance device. 3,083,445, 4-2-63, Cl. 29-155.62.
- Hill, James S., to Engelhard Industries, Inc. Thermocouple. 3,099,575, 7-30-63, Cl. 117-212.
- Hill, James S., to Engelhard Industries, Inc. Method of bonding amalgam inserts in cavities and structure thereby produced. 3,110,089, 11-12-63, Cl. 29-155.55.
- Hill, James S., C. S. Sivil, deceased (by B. O. Sivil, executrix), to Engelhard Industries, Inc. Method of making wire. 3,091,026, 5-28-63, Cl. 29-419.
- Hill, James T., and F. Leonard, to United States of America, Army. Process for making prosthetic limbs. 3,107,189, 10-15-63, Cl. 156-212.
- Hill, John, to Cleviste Corp. Method of assembling a semiconductor. 3,094,766, 6-25-63, Cl. 29-25.3.
- Hill, John. Cable reel having sheet metal cheeks. 3,108,758, 10-29-63, Cl. 242-77.3.
- Hill, John A., and G. N. Cyr, to Olin Mathieson Chemical Corp. Stabilization of tetracycline base in dry form with glucono delta lactone. 3,106,512, 10-8-63, Cl. 167-65.
- Hill, John C., to The Metal Box Co. Ltd. Container closures. 3,088,672, 4-23-63, Cl. 215-44.
- Hill, John L., and B. H. Richelmann, to Ramsey Engineering Co. Integrating circuit. 3,104,318, 9-17-63, Cl. 235-183.
- Hill, John W.: *See*—  
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- Hill, John W., deceased (by M. M. Hill, administratrix); said J. W. Hill assor. to The Kartridg Pak Co. Clips and method for sealing containers therewith. 3,079,067, 2-26-63, Cl. 229-65.
- Hill, Joseph M. Strip guiding method and apparatus. 3,072,309, 1-8-63, Cl. 226-88.
- Hill, Joseph M. Crankshaft positioning apparatus. 3,078,751, 2-26-63, Cl. 83-72.
- Hill, Joseph M. Welding method employing ultrasonic energy. 3,101,404, 8-20-63, Cl. 219-128.
- Hill, Justin D., and D. J. Cain, to The Lawrence Paper Co. Manufacture of slip-resistant paper. 3,097,989, 7-16-63, Cl. 162-135.
- Hill, Keith A., to Besly-Welles Corp. Tool for reducing the diameter of a hole. 3,097,426, 7-16-63, Cl. 29-567.
- Hill, Lawrence R., to General Instrument Corp. Method of bonding bismuth-containing bodies. 3,110,100, 11-12-63, Cl. 29-473.1.
- Hill, Lester O.: *See*—  
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- Hill, Lloyd L., to Auto-View Welding Helmet Co. Eye shield holding mechanism for welding helmets. 3,086,212, 4-23-63, Cl. 2-8.
- Hill, Martha A., and A. E. Ballard, to Eastman Kodak Co. Method for removing thiol-contaminants from thioether. 3,110,712, 11-12-63, Cl. 260-240.
- Hill, Martin C. Drill for tractors. 3,108,645, 10-29-63, Cl. 175-108.
- Hill, Mary M.: *See*—  
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- Hill, Max L., to Rockwell Mfg. Co. Plug valve stem mounting. 3,088,706, 5-7-63, Cl. 251-214.
- Hill, Neil. Utility cart having telescoping tubular frame members. 3,104,890, 9-24-63, Cl. 280-34.
- Hill, Oliver W., and J. C. Thomas, to Phillips Petroleum Co. Regeneration of ammonia oxidation catalyst. 3,093,597, 6-11-63, Cl. 252-413.
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- Hill, Robert H.: *See*—  
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- Hill, Robert H., to R. H. Hill and H. Hoffman. Thread rolling tool. 3,089,362, 5-14-63, Cl. 80-6.
- Hill, Robert H. Slush pump. 3,098,449, 7-23-63, Cl. 103-4.
- Hill, Robert H., to United States of America, Army. Self-circulating solution anode for chromium plating vessels. 3,104,221, 9-17-63, Cl. 204-237.
- Hill, Robert H., and J. C. Hetzler, Jr., to Westinghouse Electric Corp. Circuit breakers. 3,073,927, 1-15-63, Cl. 200-88.
- Hill, Robert W.: *See*—  
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- Clark, Clayton F., and Hill. 3,108,981.
- Hill, Roscoe L.: *See*—  
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- Hill, Rowland E., to H. K. Porter, Inc. Portable hand tool. 3,084,432, 4-9-63, Cl. 30-188.
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- Hill, Thomas, Engineering Co. (Hull) Ltd., The: *See*—  
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- Hill, Uno T., to Inland Steel Co. Method and apparatus for automatic control of acid concentration in pickling system. 3,074,277, 1-22-63, Cl. 73-439.
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- Hill, Walter P. Numerically controlled beam fabricating machine. 3,090,261, 5-21-63, Cl. 77-32.2.
- Hill, Wayne N., to Jersey Production Research Co. Permeability measuring device. 3,102,416, 9-3-63, Cl. 73-38.
- Hill, William J., and N. D. Fay, to Morgan Construction Co. Rolling mill apparatus. 3,073,426, 1-15-63, Cl. 193-39.
- Hill, William J., and B. R. Neely, to Morgan Construction Co. Loop thrower. 3,113,477, 12-10-63, Cl. 80-35.
- Hillberg, Bror, to Superior Concrete Accessories, Inc. Panel-aligning bracket assembly for concrete forms. 3,077,652, 2-19-63, Cl. 25-131.
- Hillberg, Bror, to Superior Concrete Accessories, Inc. Cable hold-down anchor device. 3,091,897, 6-4-63, Cl. 50-130.
- Hillberg, Bror, to Superior Concrete Accessories, Inc. Coil tie spacer cone and pulling device for the removal thereof from concrete installations. 3,096,574, 7-9-63, Cl. 29-283.
- Hillburn, Edward, to Continental Oil Co. Subterranean drilling process. 3,102,599, 9-3-63, Cl. 175-72.
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- Hiller, John D.: *See*—  
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- Hillgren, Carl C., to Hillgren Mfg. Co. Tool kit for installation of a strike plate for a latch bolt of a door. 3,113,600, 12-10-63, Cl. 145-129.
- Hillgren Mfg. Co.: *See*—  
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- Hilliard, Robert C., to Microwave Electronic Tube Co., Inc. Device for attenuating microwave energy. 3,110,842, 11-12-63, Cl. 315-39.
- Hillier, Edward L., to The United States Stoneware Co. Dry blending vinyl resin. 3,090,763, 5-21-63, Cl. 260-23.
- Hillier, Malcolm E., to Automation Ltd. Bar stock push feeder. 3,072,269, 1-8-63, Cl. 214-1.2.
- Hillig, Clemens R. Engraving attachment. 3,110,966, 11-19-63, Cl. 33-25.
- Hilliker, Arthur F., to Crouse-Hinds Co. Minor movement controller. 3,078,440, 2-19-63, Cl. 340-35.
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- Hilliker, Donald E., to General Electric Co. Refrigerator cabinet, including improved closure sealing means. 3,070,852, 1-1-63, Cl. 20-16.
- Hilliker, Frank T. Preliminary rinsing machines. 3,071,144, 1-1-63, Cl. 134-46.
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- Hillman, James G. E., to Molins Machine Co. Ltd. Apparatus for filling trays with cigarettes or articles of substantially the same shape. 3,091,064, 5-23-63, Cl. 53-148.
- Hillmer, Willy. Joint lock ring for thin walled cylinders. 3,100,121, 8-6-63, Cl. 285-321.
- Hills-McCanna Co.: *See*—  
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- McFarland, Roland, Jr. 3,096,966.
- Priese, Werner K. 3,107,080.
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- Hills, Robert C., to Freeport Sulphur Co. Recovery of nickel and cobalt by reduction and leaching. 3,100,700, 8-13-63, Cl. 75-63.
- Hills, Russell B. Pilot to water skier intercom-alarm. 3,103,005, 9-3-63, Cl. 340-286.
- Hills, William H.: *See*—  
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- Hills, William H., to Monsanto Chemical Co. Filament severing devices. 3,113,368, 12-10-63, Cl. 28-64.
- Hillson, Frank, and R. Krivisky. Sliding drawer construction. 3,099,501, 7-30-63, Cl. 308-3.8.
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- Hillyer, John C., and J. L. Hart, to Phillips Petroleum Co. Inhibition of post precipitation of uranium in barren liquor of carbonate leaching process. 3,081,148, 3-12-63, Cl. 23-14.5.
- Hillyer, John C., and L. D. Sneary, to Phillips Petroleum Co. Uranium recovery process. 3,086,840, 4-23-63, Cl. 23-14.5.
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- Hilpert, Conrad R., to Twin Disc Clutch Co., Torque limiting device. 3,071,922, 1-8-63, Cl. 60-12.
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- Hiltbrand, Charles, to Societe de Ventilation et d'Electricite Appliques. Hair drier. 3,082,540, 3-26-63, Cl. 34-48.
- Hiltbrand, Heinrich, to Lennartz & Co. Method for manufacturing circular saws. 3,071,027, 1-1-63, Cl. 76-112.
- Hiltl, Martin, to Anstalt für Montage-Technik. Stud-driving apparatus. 3,105,238, 10-1-63, Cl. 1-44.5.
- Hiltl, Martin, to Anstalt für Montage-Technik. Explosively actuated stud driving apparatus. 3,112,487, 12-3-63, Cl. 1-44.5.
- Hiltman, Rudolf, H. Wollweber, F. Hoffmeister, and W. Wirth, to Farbenfabriken Bayer Aktiengesellschaft. 3-methoxy-4-carbamidomethoxy-phenylacetic acid esters. 3,086,978, 4-23-63, Cl. 260-326.3.
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- Hilton, Albert R., Jr., and H. H. Spain, to Jersey Production Research Co. Sand consolidation. 3,100,527, 8-13-63, Cl. 166-33.
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- Hilton, Frank E., to Package Containers Inc. Method and apparatus for closing and tying bag tops. 3,083,512, 4-2-63, Cl. 53-134.
- Hilton, Frederick. Coin or token dispenser. 3,077,893, 2-19-63, Cl. 133-5.
- Hilton, James C. Phonograph turntable units. 3,081,092, 3-12-63, Cl. 274-9.
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- Himes, Glenn R., and H. O. Spang, to Shell Oil Co. Polymerization shortstopping. 3,091,602, 5-28-63, Cl. 260-84.3.
- Himes, John M., and R. F. Garms, to E. R. Wagner Mfg. Co. Squeeze-handle cleaning device having brush-sponge head. 3,101,506, 8-27-63, Cl. 15-532.
- Himler, Gary J., and O. C. Mitchell, to North American Aviation Inc. Range tracking computer system. 3,078,457, 2-19-63, Cl. 343-7.3.
- Himmelberger, Harold, to United States of America, Navy. Talos positioning jig. 3,103,062, 9-10-63, Cl. 29-200.
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- Hinchcliffe, Emily: See—
- Hinchcliffe, Theodore H. 3,085,676.
- Hinchcliffe, Theodore H. 3,100,566.
- Hinchcliffe, Theodore H., deceased (E. Hinchcliffe, administratrix). Conveyor belt cleats. 3,085,676, 4-16-63, Cl. 198-198.
- Hinchcliffe, Theodore H., deceased (E. Hinchcliffe, administratrix). Conveyor belt cleats. 3,100,566, 8-13-63, Cl. 198-199.
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- Hinckley, Alfred A., to Metal Hydrides Inc. Dyeing with acid leuco vat dyes. 3,112,982, 12-3-63, Cl. 8-34.
- Hinckley, Arthur T., to Strategic Material Corp. Electrode structures and processes for utilizing the same. 3,076,050, 1-29-63, Cl. 13-18.
- Hinckley, John A., and W. J. Leighty, to United States of America, Navy. Cable cutter. 3,071,098, 1-1-63, Cl. 114-221.
- Hinckleff, Alan E.: See—
- Brown, Leonard, and Hinckleff. 3,100,975.
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- Hinder, Gordon H. A., to Hamilton Clamp & Stampings Ltd. Windshield wipers. 3,089,175, 5-14-63, Cl. 15-250.36.
- Hinder, Gordon H. A., to Hamilton Clamp & Stampings Ltd. Windshield cleaners. 3,104,412, 9-24-63, Cl. 15-250.42.
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- Hindin, Herbert B., L. E. Reinowski, and R. J. Olejniczak, to United States Rubber Co. Reserve chamber tubeless tire. 3,087,528, 4-30-63, Cl. 152-330.
- Hindle, Thomas. Warp tensioning devices for looms. 3,101,747, 8-27-63, Cl. 139-109.
- Hindle, Thomas. Dobbie mechanism. 3,115,899, 12-31-63, Cl. 139-76.
- Hindle, Thomas, and D. D. Banks. Positive let-off motions for looms. 3,115,901, 12-31-63, Cl. 139-110.
- Hindle, Walter H., to Monsanto Chemical Co. Union dyeing acrylonitrile copolymer and wool blends. 3,096,139, 7-2-63, Cl. 8-21.
- Hindman, William M. Measuring pipet. 3,091,124, 5-28-63, Cl. 73-425.4.
- Hindmarch, Thomas. Oil operated clutches. 3,115,231, 12-24-63, Cl. 192-86.
- Hinds, Earl S. Pick-up arm and container. 3,078,621, 2-26-63, Cl. 50-71.
- Hinds, Frank R., and H. O. Pommer, to Martin-Marietta Corp. Metering system for electrically conductive flowable materials. 3,090,525, 5-21-63, Cl. 222-64.
- Hinds, George E.: See—
- Jacobs, Claud L., and Hinds. 3,094,503.
- Hinds, Ronald. Capacitor winding machines. 3,113,740, 12-10-63, Cl. 242-56.1.
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- Chillson, Charles W., and Hine. 3,073,328.
- Hine, Edward K. Guidance apparatus. 3,095,939, 7-2-63, Cl. 180-79.1.
- Hine, Sheldon H. Power optical apparatus. 3,107,296, 10-15-63, Cl. 250-42.
- Hine, Wilbur H., Jr. Apparatus for raising and quickly restoring the level of water in wells. 3,094,167, 6-18-63, Cl. 166-97.
- Hiner, Edward C. Scaffold. 3,098,540, 7-23-63, Cl. 182-152.
- Hines, Benjamin M. Identification tag. 3,094,799, 6-25-63, Cl. 40-2.
- Hines, Eugene W., and R. A. Hard, to General Motors Corp. Adjustable electronic chassis mounting. 3,081,139, 3-12-63, Cl. 312-351.
- Hines, Marion E., to Bell Telephone Laboratories, Inc. Multiplex message transmission. 3,089,921, 5-14-63, Cl. 179-15.
- Hings, Donald L. Inductor survey apparatus and method for determining presence of oil bearing substrata. 3,085,197, 4-9-63, Cl. 324-8.
- Hingst, Erika: See—
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- Hinkein, Donald J., to International Business Machines Corp. Information-gated flip-flop adapted to generate output in response to millimicrosecond sampling pulse from blocking oscillator. 3,115,583, 12-24-63, Cl. 307-88.5.
- Hinkein, Donald J., and W. N. Carroll, to International Business Machines Corp. Single pulse generator employing integrator and logic gates to detect and form clock synchronized output. 3,088,041, 4-30-63, Cl. 307-88.5.
- Hinkle, Glenber L., and L. R. Breese, to North Electric Co. Reversing counting chain. 3,076,918, 2-5-63, Cl. 317-140.



- Hinkle, James O., R. K. Miller, and J. J. Monahan, to Western Electric Co., Inc. Apparatus for zone refining elongated bodies of metal. 3,076,049, 1-29-63, Cl. 13-1.
- Hinkle, James O., and P. Toth, Jr., to Western Electric Co. Inc. Wire straightening apparatus. 3,114,400, 12-17-63, Cl. 140-147.
- Hinkle, John H., Jr., to Hooker Chemical Corp. Conveyor apparatus. 3,087,602, 4-30-63, Cl. 198-220.
- Hinkle, John H., Jr., to Hooker Chemical Corp. Process for recovery of HF and SiO<sub>2</sub> from waste gases. 3,110,562, 11-12-63, Cl. 23-153.
- Hinkle, John H., Jr., E. J. Weaver, and L. M. Smith, to Hooker Chemical Corp. Process for defluorinating phosphatic materials. 3,107,145, 10-15-63, Cl. 23-108.
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Bowman, Robert L., and Hinkley. 3,078,235.
- Hinks, William L. Continuous strip type of laminated bearing. 3,071,422, 1-1-63, Cl. 308-237.
- Hinks, William L., and G. D. Shook. Static load bearing having preformed lateral support features. 3,083,065, 3-26-63, Cl. 308-237.
- Hinlicky, John A.: *See*—  
Thorn, John P., and Hinlicky. 3,089,844.
- Hinman, Montford E. Float. 3,105,980, 10-8-63, Cl. 9-9.
- Hinman, Virginia B.: *See*—  
Steer, Inez, and Hinman. 3,106,721.
- Hino, Kumao, M. Yokogawa, S. Asaka, and G. Okada, to Nippon Kayaku Kabushiki Kaisha. Cap sensitive ammonium nitrate-fuel oil explosive and a method of manufacturing the same. 3,111,437, 11-19-63, Cl. 149-21.
- Hinrichs, Karl, and J. V. White, to Beckman Instruments, Inc. Method of and apparatus for transferring analog signal voltages. 3,084,321, 4-2-63, Cl. 320-1.
- Hinrichsen, Ejner C., and F. A. Harder. Watch crystal removing and replacing tool. 3,074,156, 1-22-63, Cl. 29-210.
- Hirsch, Karl: *See*—  
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- Hinsey, Robert S., to Universal American Corp. Method of forming a pull rod. 3,077,848, 2-19-63, Cl. 113-116.
- Hinshaw, Meral W., to Diamond Tool Associates. Method of making a cutting apparatus. 3,072,470, 1-8-63, Cl. 51-293.
- Hinson, Arthur L., to Kimble Glass Co. Method and apparatus for cleaning small glass containers. 3,071,497, 1-1-63, Cl. 134-1.
- Hinton, Everett H., Jr., to E. I. du Pont de Nemours and Co. Dyeing polyacrylonitrile and cellulosic blends with vat and cationic dyes. 3,085,848, 4-16-63, Cl. 8-21.
- Hintz, Gerhard O. Stretcher device for producing artificial respiration. 3,094,117, 6-18-63, Cl. 128-28.
- Hintze, Klaus: *See*—  
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- Hausmann, Günter, and Hintze. 3,107,593.
- Reiher, Wolfgang, and Hintze. 3,098,418.
- Hintzen, Heinz, to Ford Motor Co. Spring mounting means. 3,089,690, 5-14-63, Cl. 267-30.
- Hinz, Arnulf: *See*—  
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- Hinz, Walter W. P. Stansbury, W. M. Parkison, and D. W. Boutwell, to Miller and Poston Mfg. Co. Method for interconnecting malleable tubing and fittings therefor. 3,103,068, 9-10-63, Cl. 29-523.
- Hinze, Charles G., to International Business Machines Corp. Magnetic core sensing device. 3,092,815, 6-4-63, Cl. 340-174.1.
- Hirons, Frederick J., to C.U.R.A. Patents Ltd. Apparatus for the disintegration of solid particles. 3,072,348, 1-8-63, Cl. 241-103.
- Hipp, Allen J., to Allis-Chalmers Mfg. Co. Method of making fuel cell electrodes and the like. 3,110,622, 11-12-63, Cl. 117-227.
- Hipp, Allen J. Method of making fuel cell electrodes and the like. 3,116,165, 12-31-63, Cl. 117-217.
- Hipp, Otto T.: *See*—  
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- Hipp, William J., to Webster Electric Co. Regenerative hydraulic circuit. 3,091,929, 6-4-63, Cl. 60-52.
- Hippen, Ralph W. Method of resolving emulsions. 3,085,068, 4-9-63, Cl. 252-324.
- Hippen, Ralph W., and C. L. Murphy. Metering and sampling apparatus for fluids. 3,107,527, 10-22-63, Cl. 73-198.
- Hipple, George M., to American Brake Shoe Co. Electric control circuit. 3,080,508, 3-5-63, Cl. 317-135.
- Hi-Press Air Conditioning of America, Inc.: *See*—  
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- Hirahara, Katsuji, to FMC Corp. Apparatus for processing fruit. 3,105,504, 10-1-63, Cl. 134-57.
- Hiraiwa, Fukushima: *See*—  
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- Hirano, Yutaka: *See*—  
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- Hirayama, Hisao, to Shionogi & Co., Ltd. Method of combating coccidiosis with sulfonamide compositions. 3,085,937, 4-16-63, Cl. 167-53.1.
- Hire, William R. Foldable extension ladder. 3,081,840, 3-19-63, Cl. 182-163.
- Hirons, John L. Machine for sandblasting. 3,104,499, 9-24-63, Cl. 51-8.
- Hiroumi, Mitsui, and S. Work feed and product remover means for punching machine. 3,081,635, 3-19-63, Cl. 83-112.
- Hiroumi, Shimbee: *See*—  
Hiroumi, Mitsui, and S. 3,081,655.
- Hirs, Gene. Filter apparatus. 3,087,620, 4-30-63, Cl. 210-111.
- Hirs, Gene. Filter apparatus. 3,091,336, 5-28-63, Cl. 210-111.
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- Hirsch, Albert W. H. Decorative twirling baton shaft. 3,113,482, 12-10-63, Cl. 84-477.
- Hirsch, James C., to Klauber Games, Inc. Table tennis table. 3,091,196, 5-28-63, Cl. 108-112.
- Hirsch, Leo. Wheel chock apparatus for carrying motor cars. 3,110,361, 11-12-63, Cl. 188-32.
- Hirsch, Mahlon E., and C. Merl, to Louis Marx & Co., Inc. Toy repeat firing cap gun with percussive firing noise and simulated used shell ejection. 3,098,474, 7-23-63, Cl. 124-2.
- Hirsch, Max. Three dimensional optical display apparatus. 3,077,816, 2-19-63, Cl. 88-24.
- Hirsch, Richard A.: *See*—  
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- Bodem, Roy C., Brandes, Hirsch, McDonald, and Wood. 3,091,295.
- Hirsch, Robert L.: *See*—  
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- Hirschbeck, Joseph, and F. Lohöfer, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for the removal of carbon monoxide from olefin-containing gas mixtures. 3,102,919, 9-3-63, Cl. 260-677.
- Hirschberg, Rudolf, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for the manufacture of chlorine dioxide. 3,101,253, 8-20-63, Cl. 23-152.
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- Hirschberg, Rudolf, and H. Hund, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for the manufacture of alkali metal chlorites and alkaline earth metal chlorites. 3,101,248, 8-20-63, Cl. 23-85.
- Hirschfeld, Irving M., C. Caccioppo, R. E. Linse, and D. M. Leitch, to North American Aviation, Inc. Positive expulsion tank. 3,104,526, 9-24-63, Cl. 60-39.48.
- Hirschhorn, Ernestine: *See*—  
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- Hirschhorn, Leo. Denture construction. 3,083,461, 4-2-63, Cl. 32-6.
- Hirschhorn, Louis. Mouth-to-airway artificial respiration device. 3,089,485, 5-14-63, Cl. 128-29.
- Hirschhorn, Max L. Cooled surgical instrument. 3,093,135, 6-11-63, Cl. 128-303.1.
- Hirschland, Richard S., and A. A. and S. R. Cohen, to George V. Clark Co., Inc. Motion picture film reel. 3,080,129, 3-5-63, Cl. 242-71.8.
- Hirschle, Arthur J. Arch file. 3,079,923, 3-5-63, Cl. 129-23.
- Hirschler, Alfred E.: *See*—  
Antonsen, Donald H., and Hirschler. 3,104,267.
- Hirschmann, Ralph F.: *See*—  
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- Chemerd, John M., and Hirschmann. 3,083,198.
- Christensen, Burton G., Hirschmann, and Chemerd. 3,087,925.
- Christensen, Burton G., Hirschmann, and Chemerd. 3,088,945.
- Hirschmann, Ralph F., to Merck & Co., Inc. Preparation of 2-methyl-3-phytyl-1,4-naphthohydroquinone esters. 3,076,004, 1-29-63, Cl. 260-410.5.
- Hirschmann, Ralph F., to Merck & Co., Inc. 6-chloro-4,6-androstadieno-[3,2-c]pyrazoles. 3,092,622, 6-4-63, Cl. 260-239.5.
- Hirschmann, Ralph F., to Merck & Co., Inc. [3,2-c]pyrazolo-4,9-androstadienes. 3,092,623, 6-4-63, Cl. 260-239.5.
- Hirschmann, Ralph F., to Merck & Co., Inc. Novel 6-chloro-17a-ethynyl-androstadienes and processes. 3,094,540, 6-18-63, Cl. 260-397.4.
- Hirschmann, Ralph F., and A. A. Patchett, to Merck & Co., Inc. 16-oxygenated-4-pregнено-[3,2-c] pyrazoles and process of preparing them. 3,072,639, 1-8-63, Cl. 260-239.5.
- Hirschmann, Ralph F., and A. A. Patchett, to Merck & Co., Inc. 16-oxygenated-4-pregнено-[3,2-c] pyrazoles and process of preparing them. 3,072,640, 1-8-63, Cl. 260-239.5.
- Hirschmann, Ralph F., and A. A. Patchett, to Merck & Co., Inc. 16-oxygenated-4-pregнено-[3,2-c] pyrazoles and process of preparing them. 3,072,641, 1-8-63, Cl. 260-239.5.
- Hirschmann, Ralph F., and A. A. Patchett, to Merck & Co., Inc. 16-oxygenated-4-pregнено-[3,2-c] pyrazoles and process of preparing them. 3,072,642, 1-8-63, Cl. 260-239.5.



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- Hirschmann, Richard, Radiotechnisches Werk: See—Burkhardt, Hermann. 3,109,691.
- Hornasch, Georg. 3,071,751.
- Odenwald, Helmut. 3,089,141.
- Stroebel, Hermann. 3,090,029.
- Hirschson, Richard, Automatic vending machines. 3,076,537, 2-5-63, Cl. 194—65.
- Hirsekorn, Fred S., to Frontier Chemical Co., Division of Vulcan Materials Co. Liquid metering apparatus. 3,083,873, 4-2-63, Cl. 222—48.
- Hirsh, S. A., Mfg. Co.: See—Ferdinand, Irwin J. 3,099,931.
- Handler, Milton E. 3,099,891.
- Handler, Milton E., and Bellon. 3,097,746.
- Hirshhorn, Leo, Fixed restorative dentistry. 3,091,032, 5-28-63, Cl. 32—6.
- Hirst, Archie J., to Metalastik Ltd. Vehicle spring suspension systems. 3,097,839, 7-16-63, Cl. 267—11.
- Hirst, Archie J., to Metalastik Ltd. Vehicle suspensions. 3,101,938, 8-27-63, Cl. 267—25.
- Hirst, Archie J., and G. Liversage, to Metalastik Ltd. Vehicle wheel suspensions. 3,099,967, 8-6-63, Cl. 105—224.1.
- Hirst, Arthur A., and A. N. Burns, to Coal Industry (Patents) Ltd. Quick acting valve. 3,083,942, 4-2-63, Cl. 251—48.
- Hirst, Donald A. Take-off and landing strip. 3,094,907, 6-25-63, Cl. 94—4.
- Hirst, Raymond V. Apparatus for cleaning paint brushes. 3,095,000, 6-25-63, Cl. 134—164.
- Hirst, Raymond V. Rotary paint brush comb. 3,112,505, 12-3-63, Cl. 15—38.
- Hirt, Gerald E.: See—Peterson, Leslie D. and Hirt. 3,096,957.
- Hirt, Gerald E., to Rocket Power, Inc. Ejection seat catapult. 3,115,320, 12-24-63, Cl. 244—122.
- Hisatsune, Chnyo: See—Kaneko, Kazuo, Hisatsune, Kuwako, and Kobayashi. 3,112,540.
- Hi-Shear Corp.: See—Brown, Clarence K. 3,109,216.
- Brown, Clarence K. 3,114,962.
- Wing, George S. 3,079,819.
- Wing, George S., and Bochman. 3,071,903.
- Hi-Shear Rivet Tool Co.: See—Brown, Clarence K. 3,107,136.
- Reddy, Robert R. 3,080,633.
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- Hitachi Ltd.: See—Nishiyama, Shizuo, Takagi, Anzai, and Haga. 3,114,654.
- Takeuchi, Kazumi. 3,078,339.
- Hitachi Wire and Cable, Ltd.: See—Mase, Kiyoshi, Ouchi, Azuma, and Yagi. 3,074,107.
- Hitch, Eric G.: See—King, Daniel L., and Hitch. 3,100,244.
- Hitchcock, Arthur B. Razor blade holder. 3,084,434, 4-9-63, Cl. 30—330.
- Hitchcock, Helen K. Feeding apparatus for infants. 3,106,312, 10-8-63, Cl. 220—90.4.
- Hitchen, Cedric: See—Kilby, William, and Hitchen. 3,077,370.
- Hitchings, Douglas W.: See—Kraft, Gerald H., and Hitchings. 3,111,895.
- Hitchings, George H., and I. Goodman, to Burroughs Wellcome & Co. (U.S.A.) Inc. Glycosides of 6-mercaptopurine. 3,074,929, 1-22-63, Cl. 260—211.5.
- Hitchings, George H., and I. Goodman, to Burroughs Wellcome & Co. (U.S.A.) Inc. 6-mercaptopurine nucleosides and method of preparing them. 3,074,930, 1-22-63, Cl. 260—211.5.
- Hitchings, George H., G. B. Elion, and L. E. Mackay, to Burroughs Wellcome & Co. (U.S.A.) Inc. 6-thiocarboxamidopurine. 3,098,074, 7-16-63, Cl. 260—252.
- Hite, Billy L., to Vanity Fair Mills, Inc. Garment working apparatus. 3,099,970, 8-6-63, Cl. 112—2.
- Hite, Merrill W., to Washington Iron Works. Differential slack line carrier. 3,090,497, 5-21-63, Cl. 212—120.
- Hitomi, Hiromu: See—Nakazawa, Koiti, Shibata, Higashide, Kanzaki, Yamamoto, Miyake, Hitomi, Horii, Yamaguchi, Araki, Tsuchiya, Oka and Imai. 3,089,827.
- Tatsuoka, Sueo, Kanazawa, Araki, Nakazawa, Miyake, Hitomi, Ueyanagi, Shibata, Hiraiwa, Tsuchiya, Iwasaki, and Yamaguchi. 3,112,341.
- Hitov, Joseph J.: See—Rainer, William C., Redding, Hitov, Sloan, and Stewart. 3,097,150.
- Hitt, James J., to Leeds and Northrup Co. Transistor switching circuit. 3,107,309, 10-15-63, Cl. 307—88.5.
- Hitz, Luin K., to McGraw-Edison Co. Cabinet pants press. 3,115,285, 12-24-63, Cl. 223—73.
- Hitzelberger, Erwin, to Daimler-Benz Aktiengesellschaft. Door frame construction for motor vehicles. 3,083,049, 3-26-63, Cl. 296—44.5.
- Hitzelberger, William S., to Walker Mfg. Co. Spinning tool. 3,078,912, 2-26-63, Cl. 156—582.
- Hitzfeld, Donald V.: See—Crawford, William B., Hitzfeld, and Scott. 3,083,409.
- Hitzman, Donald O., to Phillips Petroleum Co. Geomicrobiological prospecting. 3,096,254, 7-2-63, Cl. 195—103.5.
- Hitzman, Donald O., and A. M. Mills, to Phillips Petroleum Co. Conversion of hydrocarbons by Gibberella fujikuroi. 3,084,106, 4-2-63, Cl. 195—51.
- Hi-Way Safety Equipment Co.: See—Hatton, Samuel J. 3,080,740.
- Hix, Marvin C., to Phillips Petroleum Co. Irrigation system employing flexible conduits. 3,107,684, 10-22-63, Cl. 137—236.
- Hixon, Philip E., and E. E. White. Continuous film processing apparatus. 3,072,037, 1-8-63, Cl. 95—94.
- Hiyama, Hachiro: See—Utsunomiya, Masaiichi, Hiyama, and Manabe. 3,108,846.
- Hiyama, Howard K.: See—Hiyama, Kazuo and H. K. 3,096,848.
- Hiyama, Kazuo. Retractable mobile scaffold. 3,072,217, 1-8-63, Cl. 182—63.
- Hiyama, Kazuo and H. K. Mobile extensible scaffold. 3,096,848, 7-9-63, Cl. 182—131.
- Hjelt, Heikki O. Production of sheet material. 3,082,138, 3-19-63, Cl. 156—33.
- Hjelte, George, and M. H. Baer. Repeating exercising device. 3,090,617, 5-21-63, Cl. 272—44.
- Hjerstrand, Svante L., to International Standard Electric Corp. Magnetic crossbar switch. 3,099,727, 7-30-63, Cl. 200—87.
- Hjulian, Julius A., to E. P. Aghnides. Aerator device. Re. 25,447, 9-17-63, Cl. 239—424.
- Hlavacek, Robert J., J. E. Sauvage, J. W. Dillehay, and N. Swift, to Swift & Co. Method for stunning animals. 3,112,519, 12-3-63, Cl. 17—45.
- Hlavacek, Robert J., J. E. Sauvage, and J. W. Dillehay, to Swift & Co. Method for restraining animals. 3,115,670, 12-31-63, Cl. 17—45.
- Hlinsky, Emil J., to Goodman Mfg. Co. Cutter bit cluster support. 3,088,720, 5-7-63, Cl. 262—26.
- Hlinsky, Emil J., to Goodman Mfg. Co. Load distributing cutter arm support. 3,109,636, 11-5-63, Cl. 262—26.
- Hnilicka, Milo P., Jr., to National Research Corp. Apparatus for reducing vaporizable refractory metal compounds. 3,078,082, 2-19-63, Cl. 266—19.
- Hnizda, Vincent F., to Ethyl Corp. Preparation of manganese carbonyl. 3,113,840, 12-10-63, Cl. 23—203.
- Ho, Chun F.: See—Wadsworth, Daniel V., Marino, and Ho. 3,085,879.
- Ho, John K., and J. D. Fisherman's gaffs. 3,092,925, 6-11-63, Cl. 43—5.
- Ho, Johnny D.: See—Ho, John K., and J. D. 3,092,925.
- Hoad, Herbert J. G., to The Monotype Corp. Ltd. Wire straightening device. 3,107,701, 10-22-63, Cl. 140—147.
- Hoadley, Cyrus E., to Manco Mfg. Co. Hydraulically actuated tool. 3,099,135, 7-30-63, Cl. 60—52.
- Hoag, Dale H.: See—Valentyne, Peter H., and Hoag. 3,101,143.
- Hoag, Elbridge G.: See—Devonshire, William H., Moran, Lumdberg, and Hoag. 3,074,353.
- Hoag, Lehman E., and R. N. Wendricks, to American Can Co. Dielectric sealing of thermoplastic coated fibreboard. 3,113,899, 12-10-63, Cl. 156—273.
- Hoag-Streit A.G.: See—Papritz, Franz, Goldmann, and Schmidt. 3,070,997.
- Hoag, Yates M., to General Electric Co. Connecting device. 3,115,381, 12-24-63, Cl. 339—217.
- Hoagland, Albert S., to International Business Machines Corp. Signal decoding system. 3,092,814, 6-4-63, Cl. 340—174.1.
- Hoagland, Earl J., to Standard Safety Equipment Co. Shoulder-mounted safety hood. 3,098,233, 7-23-63, Cl. 2—3.
- Hoagland, William W., and E. P. Bolen, to American Auto-Felt Corp. Pad for spring cushions and method of making same. 3,087,171, 4-30-63, Cl. 5—354.
- Hoar, Brooks, to Borg-Warner Corp. Pressure measuring devices and systems employing the same. 3,079,800, 3-5-63, Cl. 73—399.
- Hoard, Lee M., and R. F. Mamer, to Utility Body Co. Aerial ladder. 3,078,949, 2-26-63, Cl. 182—2.
- Hoare, David J. R., to Normalair Ltd. Filler, build-up, vent and drain valve unit. 3,103,945, 9-17-63, Cl. 137—317.
- Hoare, John J.: See—Eberle, Otto E., and Hoare. 3,115,758.
- Hoare, Robert C., to Allied Chemical Corp. (1-amino-2-anthraquinonyl carbonylamino)-alkylquaternary ammonium salts. 3,076,821, 2-5-63, Cl. 260—377.
- Hobart Bros. Co.: See—Orr, Harley J., and Williams. 3,112,392.
- Hobart Mfg. Co., The: See—Allen, Charles M., Geiger, and Meeker. 3,092,134.
- Allen, Kenneth C. 3,071,318.
- Allen, Kenneth C. 3,084,754.
- Allen, Kenneth C. 3,085,640.
- Allen, Kenneth C. 3,095,054.
- Allen, Kenneth G. 3,104,806.
- Allen, Kenneth C. 3,109,091.
- Burns, Richard H., and Hartley. 3,091,269.
- Geiger, Russell C. 3,099,164.
- Hobbs, Charles L., Jr., to E. I. du Pont de Nemours and Co. Preparation of dicyclopentadienylnickel and dicyclopentadienylnickel. 3,092,647, 6-4-63, Cl. 260—439.
- Hobbs, Donald C.: See—Celmor, Walter D., and Hobbs. 3,116,285.
- Hobbs, Donald C., to Chas. Pfizer & Co., Inc. Novel penicillin compounds. 3,093,633, 6-11-63, Cl. 260—239.1.



- Hobbs, Donald S., to North American Philips Co., Inc. Particle counting apparatus. 3,088,036, 4-30-63, Cl. 250—217.
- Hobbs, Edwin D., and T. J. Crust, to J. Stone & Co. (Deptford) Ltd. Driving arrangements for generators. 3,112,655, 12-3-63, Cl. 74—421.
- Hobbs, Howard F., to Hobbs Transmission Ltd. Power transmission Ltd. Power transmission apparatus. 3,071,025, 1-1-63, Cl. 74—763.
- Hobbs, Howard F., to Hobbs Transmission Ltd. Internal combustion engines and power transmission therefor. 3,089,305, 5-14-63, Cl. 60—19.
- Hobbs, Howard F., to Hobbs Transmission Ltd. Power transmission apparatus. 3,115,793, 12-31-63, Cl. 74—761.
- Hobbs, Jack W. Bag holder. 3,091,422, 5-28-63, Cl. 248—101.
- Hobbs, Kenneth, to North American Philips Co., Inc. Holder for pluralities of objects. 3,091,452, 5-28-63, Cl. 269—68.
- Hobbs, Kenneth, to North American Philips Co., Inc. Device for handling articles. 3,095,229, 6-25-63, Cl. 294—64.
- Hobbs, Kenneth, to North American Philips Co., Inc. Method of separating into pieces, plates of brittle material. 3,105,623, 10-1-63, Cl. 225—99.
- Hobbs Transmission Ltd.: *See*—  
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- Hobbs, William, Jr.: *See*—  
Kline, Charles M., Hofmeister, Hobbs, and Best. 3,090,133.  
Hobbs, William, Jr., to Sperry Rand Corp. Conveyor. 3,077,975, 2-19-63, Cl. 198—213.
- Hoberg, George G., and O. Hohnacker, to Burroughs Corp. Magnetic storage system. 3,090,947, 5-21-63, Cl. 340—174.1.
- Hoberman, Max J., to Engelhard Industries, Inc. Cathodic protection system. 3,113,093, 12-3-63, Cl. 204—196.
- Hobert, Richard H. Apparatus and process for the conversion of heat to electricity. 3,080,442, 3-5-63, Cl. 136—86.
- Hobgood, Carl W.: *See*—  
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- Hobiger, Friedrich: *See*—  
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- Hobiger, Leopold: *See*—  
Nohl, Egon and G. 3,081,481.
- Hobin, John L., to Springfield Greene Industries Inc. Thermometer construction. 3,074,275, 1-22-63, Cl. 73—340.
- Hobin, Martin A., and R. A. Foos, to National Distillers and Chemical Corp. Process for recovery of hafnium values from crude potassium fluohafnate solutions. 3,114,600, 12-17-63, Cl. 23—24.
- Hobley, Peter, to Radio Corp. of America. Channel tuning system for signal receivers in which tuning components assigned to unselected channels form part of adjacent channel traps. 3,099,808, 7-30-63, Cl. 334—50.
- Hobley, Peter. Electro-magnetic means for measuring a mechanical excursion. 3,113,280, 12-3-63, Cl. 336—118.
- Hobourn-F.N.F. Ltd.: *See*—  
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- Ho-Boy Corp.: *See*—  
Satrum, Clarence R. 3,091,501.
- Hobrough, Gilbert L., and F. M. Hanna, to Hunting Survey Corp. Ltd. Apparatus for aerial survey radar distance measurement. 3,097,355, 7-9-63, Cl. 343—7.3.
- Hobson, Carroll D., to Goshen Rubber Co., Inc. Hydraulic piston cup. 3,072,450, 1-8-63, Cl. 309—53.
- Hobson, Carroll D., to Goshen Rubber Co., Inc. Plunger mold. 3,077,003, 2-12-63, Cl. 18—36.
- Hobson, Charles F., Jr., to General Electric Co. Circuit breaker trip assembly. 3,116,388, 12-31-63, Cl. 200—116.
- Hobson, Charles F., Jr., and F. H. Murphy, to General Electric Co. Electric circuit breaker. 3,110,848, 11-12-63, Cl. 317—176.
- Hobson, Eric D., to Yarrow and Co. Ltd. Oil burning installations for furnaces. 3,073,376, 1-15-63, Cl. 158—36.3.
- Hobson, Richard W.: *See*—  
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- Hoffmeister, Erich, and K. Rohm, to A. Kaltenbach, and E. Hoffmeister, responsible partners of Kaltenbach & Voight. Handpieces for dental purposes. 3,076,267, 2-5-63, Cl. 32-26.
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- Hofmann, Albert, and F. Troxler, to Sandoz Ltd. Esters of indoles. 3,075,992, 1-29-63, Cl. 260-319.
- Hofmann, Albert, and F. Troxler, to Sandoz A.G. (also known as Sandoz Ltd.). Treatment of mental disturbances with esters of indoles. 3,078,214, 2-19-63, Cl. 167-65.
- Hofmann, Albert, and F. Troxler, to Sandoz Ltd. (also known as Sandoz A.G.). Preparation of lysergic acid derivatives, and intermediates. 3,085,092, 4-9-63, Cl. 260-285.5.
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- Hofmann, Charles F., C. H. Vondracek, and D. C. Westervelt to Westinghouse Electric Corp. High temperature electrical insulating tape. 3,082,133, 3-19-63, Cl. 154-2.6.
- Hofmann, Dionys, Jr., to Gebrüder Hofmann K.G. Maschinenfabrik. Apparatus for balancing vehicle wheels. 3,078,720, 2-26-63, Cl. 73-457.
- Hofmann, Eugen, to Imperial Chemical Industries Ltd. Production of halogen substituted phosphines. 3,086,047, 4-16-63, Cl. 260-543.
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- Hofmann, Walter A., to The Warner & Swasey Co. Wire screen selva and method of manufacture. 3,076,252, 2-5-63, Cl. 28-73.
- Hofmann, Walter K., to E. Rose. Electrical apparatus for cosmetic treatment of the skin. 3,107,672, 10-22-63, Cl. 128-405.
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- Hofmeister, William F., to Chain Belt Co. Chain adjustment for traveling water screens. 3,093,578, 6-11-63, Cl. 210-91.
- Hofreiter, Bernard T., G. E. Hamerstrand, and C. L. Mehlreiter, to United States of America, Agriculture. Cationic polymeric dialdehydes and their use in making wet strength paper. 3,087,852, 4-30-63, Cl. 162-175.
- Hofstein, Steven R., to Radio Corp. of America. Thyristor receiver. 3,114,882, 12-17-63, Cl. 325-491.
- Hofstetter, Hermann, to Sulzer Freres, S.A. Apparatus for providing a clear view of fast moving elements. 3,071,918, 1-8-63, Cl. 57-56.
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- Hogan, James D., to Thompson Ramo Wooldridge Inc. Radix conversion system. 3,082,950, 3-26-63, Cl. 235-155.
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- Hogan, Walter H., to Arthur D. Little, Inc. Refrigeration apparatus and method. 3,115,015, 12-24-63, Cl. 62-6.
- Hogan, Walter H., to Arthur D. Little, Inc. Refrigeration method and apparatus. 3,115,016, 12-24-63, Cl. 62-6.
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- Hogue, Ephraim W., to United States of America, Air Force. Transistorized magnetic amplifier and amplifier-complementer for digital computer circuits. 3,107,308, 10-15-63, Cl. 307-88.5.
- Hoh, Siegfried R., to International Telephone and Telegraph Corp. Energy converter. 3,073,974, 1-15-63, Cl. 307-149.
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- Hohe, Donald G. Disposable charcoal grill cover. 3,082,757, 3-26-63, Cl. 126-25.
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- Hoke, Le Roy A. Swimming pool safety enclosure and cover. 3,094,710, 6-25-63, Cl. 4-172.
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- Holdeman, Eugene J., and D. A. Burkholder. Water softener for supply lines. 3,099,283, 7-30-63, Cl. 137-111.
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- Holden, William S., and I. T. Jones, to Texas Instruments Inc. Superregenerative transistor transceiver. 3,112,445, 11-26-63, Cl. 325-19.
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- Holland, John B., and V. C. Starnier, to Richardson & Holland, Inc. Sweet powdered coating for bakery products. 3,084,050, 4-2-63, Cl. 99-141.
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- Holland, Joseph R. Means for controlling the temperature of an internal combustion engine. 3,106,343, 10-8-63, Cl. 236-35.
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- Holland Transplanter Co.: *See*—  
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- Holland, Warren E.: *See*—  
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- Hollenbach, Robert Z., to Corning Glass Works. Method of making ceramic articles. 3,112,184, 11-26-63, Cl. 25-156.
- Hollenbaugh, William J., and H. G. Winter, to General Motors Corp. Fabric tester. 3,095,737, 7-2-63, Cl. 73-159.
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- Bettoni, Eugene C., and Kerr. 3,076,064.
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- Lift, Bob G. 3,081,846.
- Marsee, Frederick J. 3,110,749.
- McGregor, Arvin D. 3,081,030.
- Moss, James R. 3,076,351.
- Pemberton, James D. 3,092,128.
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- Souligney, Mitchell J. 3,098,916.
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- Vismara, John F. 3,099,999.
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- Holley, Herschel Q., and E. Marsh, to Thiokol Chemical Corp. Apparatus for casting thixotropic material. 3,111,058, 11-19-63, Cl. 86-20.
- Holley, John M. Propulsion apparatus. 3,086,492, 4-23-63, Cl. 115-28.
- Holliday, Reuben H. Microwave absorption measurement. 3,115,131, 12-24-63, Cl. 128-2.
- Holliday, Walter T., T. R. Lynch, and W. K. Fooshe, Jr., to Riegel Textile Corp. Diaper with hydrophobic yarns. 3,113,570, 12-10-63, Cl. 128-284.
- Holliday, William M., H. C. Schweizer, and P. E. Norris, to The Procter & Gamble Co. Dentifrice composition. 3,105,798, 10-1-63, Cl. 167-93.
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- Hollingshead, Ethan A., and N. W. F. Phillips, to Aluminum Laboratories Ltd. Subhalide distillation of aluminum. 3,078,159, 2-19-63, Cl. 75-63.
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- Hollingsworth, Ernest H., to Aluminum Co. of America. Wrought aluminous metal article. 3,113,002, 12-3-63, Cl. 29-195.
- Hollingsworth, Henry L., to Phelps Dodge Copper Products Corp. Wire coiling apparatus. 3,079,103, 2-26-63, Cl. 242-82.
- Hollingsworth, John H., and L. Block, to The Siegler Corp. Furnaces. 3,073,296, 1-15-63, Cl. 126-110.
- Hollingsworth, Pierce, to Standard-Thomson Corp. Fluid control apparatus. 3,096,828, 7-9-63, Cl. 170-160.14.
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- Holloway, Robert L., and H. C. Congelli, to American Machine & Foundry Co. Bowling ball storage and retarding device. 3,106,396, 10-8-63, Cl. 273-47.
- Holloway, William S., to Madison Industries Inc. Cutter assembly for boring bar. 3,081,649, 3-19-63, Cl. 77-58.
- Hollowell, John R., to Ford Motor Co. Wheel suspension with ride control. 3,083,034, 3-26-63, Cl. 280-124.
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- Hollyday, James H., to Sperry Rand Corp. Thrower-type conveyor. 3,110,392, 11-12-63, Cl. 198-128.
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- Holm, James P., to J. A. Sexauer Mfg. Co., Inc. Tank bulb. 3,084,347, 4-9-63, Cl. 4-56.
- Holm, Le Roy W.: *See*—  
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- Holm, Le Roy W., to The Pure Oil Co. Secondary recovery of petroleum. 3,075,918, 1-29-63, Cl. 252-8.55.
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- Holm, Le Roy W., and G. G. Bernard, to The Pure Oil Co. Secondary recovery water-flood process. 3,082,822, 3-26-63, Cl. 166-9.
- Holm, Roy F., and J. F. Proesch, to Standard Conveyor Co. Conveyor belt actuators. 3,115,238, 12-24-63, Cl. 198-127.



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- Holm, Vernon C. F., to Phillips Petroleum Co. Polymerization with a catalyst of an alkali metal chromate on silica-alumina. 3,072,627, 1-8-63, Cl. 260—93.7.
- Holman, Elmer. Zipper safety fastener. 3,080,632, 3-12-63, Cl. 24—203.14.
- Holman, Emmette R., to Purex Corp., Ltd. Container structure. 3,101,839, 8-27-63, Cl. 206—2.
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- Holman, Rudolph G., to W. J. Voit Rubber Corp. Ball winding apparatus. 3,071,331, 1-1-63, Cl. 242—3.
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- Holmes, Elmond A., G. H. Rohrbach, and W. R. Scott, Jr., to Magna Products, Inc. Corrosion measuring probe with a temperature compensating element in a Wheatstone bridge and method of using same. 3,104,355, 9-17-63, Cl. 324—71.
- Holmes, Frank C., to Beaver Industries, Inc. Cultivator for use on a four-wheel tractor. 3,080,929, 3-12-63, Cl. 172—99.
- Holmes, Gifford I., to American Air Filter Co., Inc. Louvered outside air intake. 3,087,412, 4-30-63, Cl. 98—121.
- Holmes, John D., Jr., to Roper Hydraulics, Inc. Truck pumping apparatus. 3,109,445, 11-5-63, Cl. 137—354.
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- Holmes, Lucas C. Dual headlights for motorcycles. 3,099,400, 7-3-63, Cl. 240—7.55.
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- Holmes, Romayne E., Jr., to Kelsey-Hayes Co. Wheel structure. 3,102,758, 9-3-63, Cl. 301—9.
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- Holmlund, Chester E., R. H. Blank, and R. H. Evans, to American Cyanamid Co. 16 $\alpha$ -hydroxylation of steroids by staurophoma species. 3,071,516, 1-1-63, Cl. 195—51.
- Holmlund, Chester E., L. I. Feldman, R. H. Evans, Jr., S. Bernstein, and J. P. Dusza, to American Cyanamid Co. 6 $\beta$ -hydroxy-16 $\alpha$ ,17 $\alpha$ -alkylidenedioxy-11-oxygenated pregnenes. 3,071,580, 1-1-63, Cl. 260—239.55.
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- Holowaty, Michael O., to Inland Steel Co. Two-stage coking process. 3,075,889, 1-29-63, Cl. 202—22.
- Holowaty, Michael O., to Inland Steel Co. Spray-coating process. 3,079,275, 2-26-63, Cl. 117—105.
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- Holowaty, Michael O., to Inland Steel Co. Screening apparatus. 3,100,746, 8-13-63, Cl. 209—304.
- Holowaty, Michael O., and E. S. Madrzyk, to Inland Steel Co. Non-skid metal sheets. 3,112,212, 11-26-63, Cl. 117—22.
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- Holstad, Arleigh J. Basketball practice device. 3,085,800, 4-16-63, Cl. 273—1.5.
- Holstein, Alvin W., and H. H. Pryor, to National Vendors, Inc. Vending machine. 3,084,047, 4-2-63, Cl. 99—65.
- Holstein, Alvin W., and J. T. Schuller, to National Vendors, Inc. Vending machine. 3,085,711, 4-16-63, Cl. 221—75.
- Holsteyn, Henry W. Slab straightening. 3,096,808, 7-9-63, Cl. 153—48.
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- Holt, Arthur W., to United States of America, Commerce. Diode amplifier. 3,112,453, 11-26-63, Cl. 330—34.
- Holt, Frederick W., Jr., C. H. Lorenz, and R. B. Reif, to The Brown-Bridge Mills, Inc. Electrostatic production of gummed web. 3,090,353, 5-21-63, Cl. 118—621.
- Holt, George A., and J. C. Hutton, to Ricardo & Co., Engineers (1927) Ltd. Internal combustion engines. 3,092,087, 6-4-63, Cl. 123—32.
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- Holt, William J., to Commissioners for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland. Collapsible boats. 3,071,785, 1-8-63, Cl. 9—2.
- Holt, William J., to The United States Time Corp. Inertial angular velocity sensing instrument. 3,113,463, 12-10-63, Cl. 73—505.
- Holt, William J., Jr., and M. V. Braine, to United Aircraft Corp. Voting ballot handling machine. 3,073,445, 1-15-63, Cl. 209—74.
- Holt, William J., Jr., and M. V. Braine, to United Aircraft Corp. High speed ballot handler. 3,074,712, 1-22-63, Cl. 271—5.
- Holtan, Maurice O. Planetary speed change transmission. 3,109,325, 11-5-63, Cl. 74—767.
- Holtan, Maurice O. Change speed power transmission. 3,109,326, 11-5-63, Cl. 74—792.
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- Holton, Robert J., to Tinnerman Products Inc. Fastening assembly. 3,108,666, 10-29-63, Cl. 189-88.
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- Holtzschmidt, Hans, and K. E. Müller,  $\frac{1}{2}$  to Farbenfabriken Bayer Aktiengesellschaft, and  $\frac{1}{2}$  to Mobay Chemical Co. Rubber-like polyurethanes and storage stable intermediates for producing the same. 3,099,642, 7-30-63, Cl. 260-75.
- Holtz, Abraham, to Beacon Looms, Inc. Drop wire for knitting machines. 3,106,829, 10-15-63, Cl. 66-163.
- Holtz, Hermann J. Magnetic display arrangement. 3,093,919, 6-18-63, Cl. 40-142.
- Holtz, Robert W. Arrow case. 3,088,583, 5-7-63, Cl. 206-1.
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- Holzboog, Walter H., H. C. Reinhart, and S. E. Marr, Jr., to Micro Controls, Inc. Gas regulator apparatus. 3,090,560, 5-21-63, Cl. 236-68.
- Holzboog, Walter H., and H. C. Reinhart, to Micro Controls, Inc. Gas safety regulator apparatus. 3,090,561, 5-21-63, Cl. 236-68.
- Holzboog, Walter H., and H. C. Reinhart, to Micro Controls, Inc. Safety control apparatus. 3,107,856, 10-22-63, Cl. 236-1.
- Holzer, Johann, and H. Wolf, to United States of America, Army. Time correcting regenerative pulse repeater. 3,071,733, 1-1-63, Cl. 328-164.
- Holzer, Walter. Dose-device for washing machines. 3,104,033, 9-17-63, Cl. 222-135.
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- Holzer, Walter, to Hoover Ltd. Device for changing the program of washing machines. 3,112,378, 11-26-63, Cl. 200-33.
- Holzer, Walter, to Hoover Ltd. Apparatus for the preselection of programmes in connection with fully automatic washing machines. 3,112,379, 11-26-63, Cl. 200-46.
- Holzinger, Rudolph J., to Socony Mobil Oil Co., Inc. Fire-resistant hydraulic fluids. 3,088,914, 5-7-63, Cl. 252-76.
- Holzinger, Rudolph J., C. Liddy, and H. F. Waldmann, to Socony Mobil Oil Co., Inc. Fire-resistant hydraulic fluids. 3,080,322, 3-5-63, Cl. 252-75.
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- Hoover, Dillon B., to Westinghouse Electric Corp. Commutator construction. 3,073,980, 1-15-63, Cl. 310—236.
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- Hoover, John C., to United Aircraft Corp. Pressure balanced pump. 3,073,254, 1-15-63, Cl. 103—162.
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- Hopf, Henry. Convertible ladder. 3,100,552, 8-13-63, Cl. 182—22.
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- Hopkins, Robert W., to Pittsburgh Plate Glass Co. Method of preparing glass. 3,096,186, 7-2-63, Cl. 106—52.
- Hopkins, Thomas R., to Spencer Chemical Co. Process for producing lactams. 3,094,520, 6-18-63, Cl. 260—239.3.
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- Hopkinson, Paul O. W., to St. Barnabas Free Home, Inc. Apparatus for reducing fluid pressure. 3,111,091, 11-19-63, Cl. 103—262.
- Hopp, Harold P. Thread forming sparkplug gaskets. 3,099,456, 7-30-63, Cl. 277—166.
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- Hoppe, Clemens B. Mandrel for driving pile shells. 3,107,497, 10-22-63, Cl. 61—53.72.
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- Hoppenstand, David, to Transport Industries, Inc. Shaft lock. 3,096,858, 7-9-63, Cl. 188—82.7.
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- Hopper, John H., to Armour and Co. Method of feeding chicks. 3,089,771, 5-14-63, Cl. 99—4.
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- Hopper, Lois H., to Munsingwear, Inc. Brassiere. 3,077,885, 2-19-63, Cl. 128—510.
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- Horak, Heinz, to Apparatefabrik AG. Loom let-off. 3,086,560, 4-23-63, Cl. 139—110.
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- Horath, Werner K., to Societe de Fabrication d'Instruments de Mesure (S.F.I.M.). Floating, integrating rate gyros. 3,084,559, 4-9-63, Cl. 74—5.
- Horbinski, Richard D., R. D. MacGregor, and M. R. Neuman, to Thermo Products Co., Inc. Depth and temperature indicator. 3,087,338, 4-30-63, Cl. 73—362.
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- Horeau, Alain M., and A. Becker, to Societe des Usines Chimiques Rhone-Poulenc. 1-methyl-3-phenylindene-1-carboxylic acid. 3,080,419, 3-5-63, Cl. 260—515.
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- Horelick, Arnold L., H. W. Dornbush, and J. J. Zimsky, to McGraw-Edison Co. Distribution transformer. 3,097,346, 7-9-63, Cl. 336—68.
- Horelick, Arnold L., H. H. Wagner, and J. C. Lynch, to McGraw-Edison Co. Method for testing electrical instrumentalities for incipient fault. 3,111,388, 11-19-63, Cl. 23—232.
- Horeth, John M., J. D. Skelton, and W. J. Stark, to Jersey Production Research Co. Transcription of linear traces. 3,110,878, 11-12-63, Cl. 340—15.5.
- Horgan, James F.: *See*—  
Greening, John H., and Horgan. 3,087,281.
- Horgan, William J., Jr., to Pittsburgh Plate Glass Co. Door assembly. 3,114,944, 12-24-63, Cl. 20—19.
- Hörig, Martin, to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft. Power vehicle with hydrostatic power transmission to motive and operating drives. 3,104,528, 9-24-63, Cl. 60—52.
- Hori, Satoshi: *See*—  
Nakazawa, Koiti, Shibata, Higashide, Kanzaki, Yamamoto, Miyake, Hitomi, Hori, Yamaguchi, Araki, Tsuchiya, Oka, and Imai. 3,089,827.
- Horino, Masao. Discharge tube blinking signal device. 3,089,060, 5-7-63, Cl. 315—224.
- Horiuchi, Shizuko: *See*—  
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- Horiuchi, Uri: *See*—  
Ueno, Fumio, and Horiuchi. 3,087,813.
- Horizons Inc.: *See*—  
Beasley, Robert M., and Johns. 3,082,099.
- Beasley, Robert M., and Johns. 3,110,545.
- Fichter, Harry L., Jr., and Hamilton. 3,102,029.
- Fidelman, J. George. 3,114,635.
- Mayer, Edward F., and Straughan. 3,082,054.
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- Sprague, Robert H. 3,082,086.
- Sprague, Robert H., and Fichter. 3,106,466.
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- Sprague, Robert H., Stewart, and Lewis. 3,113,024.
- Sprague, Robert H., and Urbancik. 3,109,736.
- Wainer, Eugene. 3,079,309.
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- Wainer, Eugene. 3,108,932.
- Wainer, Eugene, and Beasley. 3,082,051.
- Wainer, Eugene, and Cunningham. 3,077,380.
- Wainer, Eugene, and Mayer. 3,096,144.
- Horlacher, Herman, to The Cincinnati Milling Machine Co. Combined sequence and check valve. 3,101,738, 8-27-63, Cl. 137—489.
- Horman, John H., to Allied Control Co., Inc. Electromagnetic switch apparatus. 3,109,077, 10-29-63, Cl. 200—87.
- Hormann, George A. Combined game board and dice agitator. 3,111,321, 11-19-63, Cl. 273—136.
- Hormel, Geo. A., & Co.: *See*—  
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- Macy, Christian D., and Lindstrom. 3,084,378.
- Murphy, Laurence W., and Macy. 3,101,508.
- Horn, Burchell E.: *See*—  
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- Horn, Charles W., and D. K. Wilburn, to United States of America, Army. Titanium coating process. 3,071,491, 1-1-63, Cl. 117—50.
- Horn, Christian F., to Union Carbide Corp. (Sulfolphenoxy) alkoxy-substituted aromatic dicarboxylic acids and derivatives thereof. 3,077,492, 2-12-63, Cl. 260—470.
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- Horn, Christian F., H. Vineyard, and G. W. Fowler, to Union Carbide Corp. Acyloxy-metallosulfophthalates. 3,088,956, 5-7-63, Cl. 260—429.9.



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- Horn, Clarence L. Collapsible and adjustable head stand apparatus. 3,114,545, 12-17-63, Cl. 272-60.
- Horn, Edward P., and C. A. Ballard, deceased (M. A. Ballard, administratrix); to Combustion Engineering, Inc. Rotor construction. 3,073,384, 1-15-63, Cl. 165-9.
- Horn, Franz: *See*—
- Klapdohr, Hans, Binder, Horn, and Peus. 3,106,866.
- Horn, Frederick L.: *See*—
- Johnson, Richard, Horn, and Strickland. 3,088,800.
- Horn, Friedrich: *See*—
- Heuse, Otto, Fisher, Horn, and Winner. 3,098,883.
- Horn, Hans, and H. Stern, to Konrad Peter Aktiengesellschaft. Pad-steam dyeing of polyacrylonitrile tows padded in nip of squeeze rollers. 3,104,932, 9-24-63, Cl. 8-55.
- Horn, Herman, H. C. Klein, and R. Griffith, to Nopco Chemical Co. Process for recovering water-soluble glucoheptonic acid salts. 3,084,185, 4-2-63, Cl. 260-528.
- Horn, Howell F.: *See*—
- White, Donald L., Ketcham, and Horn. 3,085,892.
- Horn, Jesse L., Jr. Spring-loaded frog g/g. 3,102,355, 9-3-63, Cl. 43-6.
- Horn, Karl H., and B. Schlachter, to Motorola, Inc. Printed circuit panel with plug-in connectors. 3,104,282, 9-17-63, Cl. 178-7.8.
- Horn, Lutz, R. Dieberg, F. Philipp, and S. Dickfeldt, to Accumulatoren-Fabrik Aktiengesellschaft. Process of producing porous, electrically conductive sheet material. 3,071,637, 1-1-63, Cl. 136-36.
- Horn, Lutz, and F. Philipp, to Varta Aktiengesellschaft. Separator for electric batteries. 3,097,975, 7-16-63, Cl. 136-145.
- Horn, Lutz, and F. Philipp, to Varta Aktiengesellschaft. Expanded metal. 3,099,899, 8-6-63, Cl. 50-500.
- Horn, Lutz, and F. Philipp, to Varta Aktiengesellschaft. Sinter electrode. 3,102,329, 9-3-63, Cl. 29-182.3.
- Horn, Richard C.: *See*—
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- Horn, Robert B., to Ball Brothers Co., Inc. Carton erecting machine. 3,094,045, 6-18-63, Cl. 93-36.
- Horn, Roy H. Relatively collapsible aerosol foam compositions. 3,092,555, 6-4-63, Cl. 167-88.
- Horn, Walter, and F. P. Vultaggio, to Aero Supply Mfg. Co. Inc. Gas supply unit. 3,107,724, 10-22-63, Cl. 165-35.
- Horna, Otakar, to Vyzkumny ustav matematickych stroju. Shift register equipped with tunnel diodes. 3,102,962, 9-3-63, Cl. 307-88.5.
- Hornbaker, Edwin D., to Ethyl Corp. Stabilized vinyl chloride monomer. 3,109,035, 10-29-63, Cl. 260-652.5.
- Hornberger, Clarence L., to Armstrong Cork Co. Register control for rotary printing press. 3,098,436, 7-23-63, Cl. 101-248.
- Hornberger, Clarence L., and E. W. Stanley, to Armstrong Cork Co. Doctor blade and drive for rotary printing press. 3,098,433, 7-23-63, Cl. 101-157.
- Hornberger, Harry M., Sr., to Merrow Machine Co. Sewing machine thread cutting mechanism. 3,109,399, 11-5-63, Cl. 112-252.
- Hornbostel, Lloyd, to Beloit Iron Works. Reconstituted creped paper and method and apparatus for making same. 3,072,522, 1-8-63, Cl. 162-113.
- Hornbostel, Lloyd, to Beloit Iron Works. Supporting and conveying means for pulp grinders. 3,073,498, 1-15-63, Cl. 226-98.
- Hornbostel, Lloyd, to Beloit Iron Works. Pulpwood grinding apparatus. 3,077,310, 2-12-63, Cl. 241-280.
- Hornbostel, Lloyd, to Beloit Iron Works. Pressure chamber feeder. 3,080,074, 3-5-63, Cl. 214-17.
- Hornbostel, Lloyd, to Beloit Iron Works. Inverse first press for paper machine. 3,080,913, 3-12-63, Cl. 162-360.
- Hornbostel, Lloyd. Reel with reciprocable spool. 3,084,885, 4-9-63, Cl. 242-84.21.
- Hornbostel, Lloyd, to Beloit Iron Works. Roll subject to deflection. 3,098,284, 7-23-63, Cl. 29-113.
- Hornbostel, Lloyd, and S. G. Holt, to Beloit Iron Works. Method for producing paper. 3,079,700, 3-5-63, Cl. 34-41.
- Hornbostel, Lloyd, and J. F. Pigman. Mooring buoy. 3,082,439, 3-26-63, Cl. 9-8.
- Hornbostel, Lloyd, and C. E. Youngchild, to Beloit Iron Works. Stock refiner. 3,102,695, 9-3-63, Cl. 241-255.
- Hornbostel, Lloyd, and J. H. Franz. Sailboat fitting. 3,103,908, 9-17-63, Cl. 114-111.
- Hornbostel, Lloyd, Jr., to Beloit Iron Works. Traversing cutting apparatus having magnetic follower means. 3,088,355, 5-7-63, Cl. 83-177.
- Hornbostel, Lloyd, Jr., to Beloit Iron Works. Liquid removal means for rotatable perforated shells. 3,098,788, 7-23-63, Cl. 162-274.
- Hornbrook, Lester H., Jr. Control mechanism. 3,083,579, 4-2-63, Cl. 74-25.
- Horncastle, David C., to The Ontario Paper Co. Ltd. Tree felling and bunching mechanism. 3,102,562, 9-3-63, Cl. 144-3.
- Horncastle, David C., to The Ontario Paper Co. Ltd. Tree felling and bunching mechanism. 3,102,563, 9-3-63, Cl. 144-3.
- Horndasch, Georg, to Richard Hirschmann Radiotechnisches Werk. Connector element for ignition systems. 3,071,751, 1-1-63, Cl. 339-100.
- Horne, Campbell C., to The International Nickel Co., Inc. Method of making turbine and compressor blades. 3,107,416, 10-22-63, Cl. 29-156.8.
- Horne, Clede A. Trailer stabilizer. 3,096,065, 7-2-63, Cl. 248-354.
- Horne, Donald S., R. Ashton, and L. L. Kepkay, to Massey-Ferguson Ltd. Grain handling conveyors for combines. 3,108,703, 10-29-63, Cl. 214-522.
- Horne, Frederick H.: *See*—
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- Horne, James Q., Jr. Apparatus for justifying. 3,075,446, 1-29-63, Cl. 95-85.
- Horne, Russel K., to Singing Needles, Inc. Adjustable shoulder straps. 3,077,650, 2-19-63, Cl. 24-200.
- Horne, Samuel E., Jr., to Goodrich-Gulf Chemicals, Inc. Method of preparing synthetic rubber. 3,114,743, 12-17-63, Cl. 260-94.3.
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- Beals, Kenneth M., and Horne. 3,080,313.
- Horner, Amos A. Truck adapter. 3,095,217, 6-25-63, Cl. 280-404.
- Horner, Carl L. Sun screens. 3,077,643, 2-19-63, Cl. 20-56.5.
- Horner, Frank W.: *See*—
- Sachs, Hans W., Fromm, and Horner. 3,087,405.
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- Cohen, Jacob L. 3,072,527.
- Horner, Henry L., and H. A. S. Hamlin, to Normalair Ltd. Pressure releasing means. 3,091,365, 5-28-63, Cl. 222-5.
- Horner, Jimmy M.: *See*—
- Jones, Martin L., and Horner. 3,099,754.
- Horner, John W., to Thompson Ramo Wooldridge Inc. Quantized impulse rocket. 3,088,406, 5-7-63, Cl. 102-49.
- Horner, William M.: *See*—
- Osborn, John D. 3,107,738.
- Hornfeck, Anthony J.: *See*—
- Gorrie, Harvard H., Hornfeck, Koppel, and Luhrs. 3,076,097.
- Hornfeck, Anthony J., to Bailey Meter Co. Transmission means. 3,071,006, 1-1-63, Cl. 73-432.
- Hörnig, Lothar, E. Paszthory, O. Probst, W. Riemenschneider, and A. Steinmetz, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for oxidizing olefins to aldehydes, ketones and acids. 3,087,968, 4-30-63, Cl. 260-604.
- Hörnig, Lothar, and H. Lenzmann, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for oxidizing olefins to aldehydes and ketones. 3,106,579, 10-8-63, Cl. 260-586.
- Hornish, Arthur H. Dispensing coin saver. 3,088,570, 5-7-63, Cl. 194-91.
- Hornkohl, Owen T.: *See*—
- Carrellini, Andrew E., Lee, and Hornkohl. 3,107,818.
- Hornschuch, Hanns, to Ingersoll-Rand Co. Pipe line pump. 3,096,785, 7-9-63, Cl. 137-569.
- Hornschuch, Hanns, to Ingersoll-Rand Co. Impact tool. 3,100,558, 8-13-63, Cl. 192-30.5.
- Hornschuch, Hanns, to Ingersoll-Rand Co. Centrifugal pump. 3,115,843, 12-31-63, Cl. 103-103.
- Hornschuch, Hanns, and A. Brkich, to Ingersoll-Rand Co. Centrifugal pump. 3,071,077, 1-1-63, Cl. 103-103.
- Hornstein, Victor, M. Schneider, and B. Lenz, to Jagenberg-Werke Akt. Ges. Method of and apparatus for the longitudinal cutting and subsequent winding of a paper web. 3,075,719, 1-29-63, Cl. 242-65.
- Hornsteiner, Maximilian. Transmission apparatus. 3,079,807, 3-5-63, Cl. 74-415.
- Hornung, Hans: *See*—
- Biel, Hans, and Hornung. 3,085,265.
- Biel, Hans, and Hornung. 3,090,481.
- Horowitz, Marcus, to Metalastik Ltd. Methods of manufacturing ball joints and universal couplings employing such ball joints. 3,099,879, 8-6-63, Cl. 29-436.
- Horowitz, Marcus, to Metalastik Ltd. Multi-conductor cable spacers for overhead transmission lines. 3,113,173, 12-3-63, Cl. 174-40.
- Horowitz, Arnold J. Collapsible motorized cart. 3,094,187, 6-18-63, Cl. 180-27.
- Horowitz, Bernard and S. Waterproof over-pants. 3,111,680, 11-26-63, Cl. 2-227.
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- Mendelsohn, Meyer, and Horowitz. 3,104,933.
- Horowitz, Carl, and T. Bretnier, to Yardney International Corp. Anhydrous electric battery. 3,098,770, 7-23-63, Cl. 136-100.
- Horowitz, Charles, to Berg Airlectro Products Co. Quick release valve. 3,093,153, 6-11-63, Cl. 137-102.
- Horowitz, Charles, to Berg Airlectro Products Co. Snap action switch. 3,093,716, 6-11-63, Cl. 200-83.
- Horowitz, Charles, to Berg Airlectro Products Co. Tractor protection valve. 3,109,442, 11-5-63, Cl. 137-111.
- Horowitz, Charles, and H. L. Dobrikin, to Berg Airlectro Products Co. Dash control parking brake valve. 3,096,789, 7-9-63, Cl. 137-627.5.
- Horowitz, Charles, and H. L. Dobrikin, to Berg Airlectro Products Co. Brake system control valve. 3,109,455, 11-5-63, Cl. 137-627.5.
- Horowitz, Charles, and H. L. Dobrikin, to Berg Airlectro Products Co. Dash control valve. 3,109,456, 11-5-63, Cl. 137-627.5.



- Horowitz, Irving, to Blonder-Tongue Electronics. Audio-tone control circuit. 3,116,462, 12-31-63, Cl. 330-157.
- Horowitz, Robert M., and B. Gentill, to United States of America, Agriculture. Dihydrochalcone derivatives and their use as sweetening agents. 3,087,821, 4-30-63, Cl. 99-141.
- Horowitz, Sol: See—
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- Horrell, Maurice W., and E. R. Sanders, to United States of America, Atomic Energy Commission. System for measuring distance by the utilization of pulse echoes. 3,110,025, 11-5-63, Cl. 343-13.
- Horrogran, Robert V., to National Lead Co. Tanning with silicated sodium zirconyl sulfate. 3,096,143, 7-2-63, Cl. 8-94.25.
- Horrobin, Sydney, to Imperial Chemical Industries Ltd. Dichlorotriazines stabilized with arylaminosulphonic acid/salt mixtures. 3,103,504, 9-10-63, Cl. 260-153.
- Horrocks, David L., and R. G. Trenchard, to Microcell Ltd. Seats, chairs, chairbacks and the like. 3,088,773, 5-7-63, Cl. 297-445.
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- Horrom, Bruce W., and W. B. Martin, to Abbott Laboratories. N-benzyl cyclopropylamines and carbamates. 3,083,226, 3-26-63, Cl. 260-471.
- Horrom, Bruce W., and L. R. Swett, to Abbott Laboratories. N - (N' - cyclopropyl - N' - benzyl - aminoalkyl) - substituted amides. 3,112,344, 11-26-63, Cl. 260-562.
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- Frouws, Simon M., and Horseling. 3,072,825.
- Horsfall, Robert B.: See—
- Slater, John M., and Horsfall. 3,073,170.
- Horsley, Franz A., and P. A. Gray, Jr., to Shell Oil Co. Urea-sulfur fertilizer composition and method for its production. 3,100,698, 8-13-63, Cl. 71-28.
- Horsley, William D., to C. A. Parsons & Co. Ltd. Dynamo-electric machines. 3,082,337, 3-19-63, Cl. 310-179.
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- Horstman, Anton J., to The Bauer Bros. Co. Continuous digester. 3,085,624, 4-16-63, Cl. 162-237.
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- Goethe, Paul K., and Horstman. 3,106,769.
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- Horton, Claude W., to United States of America, Navy. Missile mounted circular slot antenna. 3,074,063, 1-15-63, Cl. 343-708.
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- Horton, Harold B., to Sperry Rand Corp. Delay line memory. 3,075,548, 1-29-63, Cl. 137-569.
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- Horton, John P., G. E. Berry, and J. E. Stirling. Rotary broom for street sweeper. 3,101,501, 8-27-63, Cl. 15-180.
- Horton, John W., to International Business Machines Corp. Vapor cell light modulator. 3,098,112, 7-16-63, Cl. 88-61.
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- Horton, Paul V., to International Business Machines Corp. Method of fabricating an array of magnetic cores. 3,071,843, 1-8-63, Cl. 29-155.5.
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- Horton, Robert A., to Precision Metalsmiths, Inc. Method of form removal from precision casting shells. 3,094,751, 6-25-63, Cl. 22-196.
- Horton, Robert R., to Wynlit Pharmaceutical, Inc. Pelvic measuring device. 3,097,637, 7-16-63, Cl. 128-2.
- Horton, Walter, and G. H. Townsend, to G.K.N. Group Services Ltd. Methods and apparatus for forming a stream of articles. 3,112,022, 11-26-63, Cl. 198-32.
- Horton, William H., to Eastman Kodak Co. Clip for detachably connecting a carrying strap to a camera. 3,071,832, 1-8-63, Cl. 24-265.
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- Horvath, Gyula, to Rotax Ltd. Apparatus for dispensing packaged goods. 3,080,032, 3-5-63, Cl. 193-21.
- Horvath, John P., to International Duplex Corp. Automatic washing machine. 3,101,625, 8-27-63, Cl. 74-472.
- Horvath, Josef. Draughting device. 3,082,568, 3-26-63, Cl. 45-131.
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- Horvitz, David, to FMC Corp. Preparation of methylhydrazine. 3,113,152, 12-3-63, Cl. 260-583.
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- Clark, Charles A., Doorenbos, and Horwitz. 3,101,343.
- Clark, Charles A., Doorenbos, and Horwitz. 3,102,141.
- Horwitz, Lester, and C. B. Roth, to General Aniline & Film Corp. Sensitizing dyes derived from 2-methyl-6-(2-carbamylethoxy)-benzothiazoles. 3,080,363, 3-5-63, Cl. 260-240.6.
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- Horzick, Joseph: See—
- Huff, Robert S., and Horzick. 3,090,462.
- Hosbein, Hugh W., to Essex Wire Corp. Wire-unwinding device. 3,112,899, 12-3-63, Cl. 242-128.
- Hosbein, Louis H., to M. H. Detrick Co. Plate holder. 3,077,362, 2-12-63, Cl. 294-87.
- Hosbein, Louis H., and K. T. Kimmlinger, to M. H. Detrick Co. Method of co-moulding brick. 3,109,702, 11-5-63, Cl. 18-59.
- Hose, Alexander V., to Atwood & Morrill Co. Check valve with dashpot. 3,106,220, 10-8-63, Cl. 137-514.
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- Werner, Robert V., and Hose. 3,078,460.
- Hosegood, Samuel B., B. E. Puffett, and J. H. Swain, to United Kingdom Atomic Energy Authority. Fluid circuits. 3,105,025, 9-24-63, Cl. 204-193.2.
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- Hosford, Harry W., Jr. Cathodic protection system for submerged installations. 3,071,531, 1-1-63, Cl. 204-196.
- Hoshino, Toshio, K. Ashida, and T. Mukaiyama. Process of manufacturing polyurethane foam. 3,078,240, 2-19-63, Cl. 260-2.5.
- Hoshino, Yasushi, M. Namikawa, and S. Tochihiro. Apparatus for printing magnetic sound record provided with a device for the inspection of the intensity of printed magnetic sound record. 3,093,709, 6-11-63, Cl. 179-100.2.
- Hoshizaki, Akira, to Illinois Tool Works Inc. Self aligning arbor. 3,115,712, 12-31-63, Cl. 33-179.5.
- Hosier, William A., and H. S. Hoffman, Jr., to Research Corp. Selective comparison apparatus for a digital computer. 3,105,143, 9-24-63, Cl. 235-157.
- Hosiery Research Corp.: See—
- Bryant, Glenn B., Jr. 3,072,805.
- Bryant, Marvin R. 3,085,409.
- Hosking, Michael B., to Electronic Assistance Corp. Liquid degassing means and method. 3,103,424, 9-10-63, Cl. 55-15.
- Hosking, Paul C.: See—
- Bjorn, Thomas E., Hosking, and Szymber. 3,071,007.
- Hosking, Paul C., to Stewart-Warner Corp. Wheel spinner. 3,071,221, 1-1-63, Cl. 192-4.
- Hoskins, Nathan D. Can opener. 3,108,372, 10-29-63, Cl. 30-15.
- Hoskins, Robert J., and A. J. Tenner, to Entoleter, Inc. Centrifugal processing apparatus for destroying insect infestation. 3,102,781, 9-3-63, Cl. 21-61.
- Hoskins, Thomas E., to Wheatland Electric Products Co. Closures for access openings and method of using the same. 3,081,896, 3-19-63, Cl. 220-3.4.
- Hosli, Hansjakob, to Brevets Aero-Mecaniques S.A. Projectiles to be slidably fitted on the end of a gun barrel. 3,098,447, 7-23-63, Cl. 102-51.



- Hosmer, A. J., Corp.: *See*—  
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- Hosmer, William A., and A. C. Starke, Jr., to General Aniline & Film Corp. Water soluble compositions consisting essentially of iodine and a water soluble oxygen containing polymer. 3,087,853, 4-30-63, Cl. 167-17.
- Hosokawa, Zenmaro, to Nirpon Reizo Kabushiki Kaisha. Revolving annular hen house. 3,092,075, 6-4-63, Cl. 119-15.
- Hossain, Shafi U.: *See*—  
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- Hostetler, Charles P., to Fruit Equipment Service. Fruit loader. 3,076,485, 2-5-63, Cl. 141-82.
- Hostetler, Charles P., to Fruit Equipment Service. Fruit sampler. 3,111,034, 11-19-63, Cl. 73-421.
- Hostetler, Ervin A. Overhead door. 3,092,173, 6-4-63, Cl. 160-191.
- Hostetler, Gerald W., and V. W. Kelley, to International Harvester Co. Vehicle cab mounting means. 3,101,809, 8-27-63, Cl. 180-89.
- Hostetter, John V. Retractable dome light. 3,107,865, 10-22-63, Cl. 240-7.1.
- Hostettler, Fritz, R. K. Barnes, and R. W. McLaughlin, to Union Carbide Corp. Polyurethane foams. 3,073,788, 1-15-63, Cl. 260-2.5.
- Hostettler, Fritz, and E. F. Cox, to Union Carbide Corp. Method of reacting castor oil and an organic polyisocyanate in the presence of an organo-metallic tin catalyst. 3,084,177, 4-2-63, Cl. 260-404.5.
- Hostettler, Werner, to F. Fahrni. Moulding line for moulding loose particle material into preliminary blanks destined to be pressed in a multiple tier press. 3,070,838, 1-1-63, Cl. 18-4.
- Hosticka, Harold E.: *See*—  
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- Hotard, Septime R.,  $\frac{1}{4}$  to O. L. Durrance, and  $\frac{1}{4}$  to M. E. Jenkins. Carcass splitting machine. 3,074,102, 1-22-63, Cl. 17-23.
- Hotas, Leon G. Shoulder exercising machines. 3,089,700, 5-14-63, Cl. 272-80.
- Hotchkiss-Brandt: *See*—  
 Jasse, Joseph R. 3,074,322.  
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 Jasse, Joseph R. 3,112,674.
- Hotchkiss, Robert J., Jr. Tooth drag attachment. 3,085,634, 4-16-63, Cl. 172-180.
- Hotchkiss, Robert J., Jr. Combination disc harrow and tooth drag attachment. 3,090,447, 5-21-63, Cl. 172-178.
- Hotchkiss, Robert J., Jr. Combination wheel-mounted disc harrow and tooth drag attachment with tension means therefor. 3,090,448, 5-21-63, Cl. 172-178.
- Hotchkiss, William E. Gas absorption apparatus. 3,109,873, 11-5-63, Cl. 261-35.
- Hoteko, Henry E., to Aluminium Laboratories Ltd. Continuous casting of metal. 3,080,627, 3-12-63, Cl. 22-57.4.
- Hotelling, Eric B.: *See*—  
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- Hotelling, Harry, to Erie Resistor Corp. Trimming capacitor. 3,100,855, 8-13-63, Cl. 317-249.
- Hotkins, Ralph, and C. Shankman, to Capitol Projector Corp. Auto test amusement device. 3,078,093, 2-19-63, Cl. 273-1.
- Hotop, Werner, H. G. Meese, E. Masjoshusmann, U. Böhle, and G. Ginzle, to Deutsche Edelstahlwerke Aktiengesellschaft. Printing cylinder. 3,097,598, 7-16-63, Cl. 101-378.
- Hotovy, Rudolf: *See*—  
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- Hotovy, Rudolf, and G. Schorre, to E. Merck Aktiengesellschaft. Bis(pyridyl-methyl)disulfides. 3,116,296, 12-31-63, Cl. 260-294.8.
- Hott, Ion V. K. Balancing mechanism for two-wheeled vehicles. 3,075,789, 1-29-63, Cl. 280-295.
- Hott, Ion V. K., to The Joyce-Cridland Co. Movable vehicle lift post with roller elements for supporting pit cover plates. 3,106,988, 10-15-63, Cl. 187-8.45.
- Hotten, Bruce W.: *See*—  
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- Hottenroth, Fred W., and R. C. Spooner, to Hupp Corp. Fuel burning hot air heater. 3,092,095, 6-4-63, Cl. 126-110.
- Houbeau, Hubert, and F. von Olnhausen. Vibrating apparatus. 3,077,869, 2-19-63, Cl. 128-33.
- Houck, Harry W., and N. W. Gaw, Jr., to McGraw-Edison Co. Multistage frequency measurement system utilizing predetermined frequency slip factors. 3,102,980, 9-3-63, Cl. 324-79.
- Houda, James C., Jr., to Western Electric Co., Inc. Article tensioning apparatus. 3,091,960, 6-4-63, Cl. 73-95.
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- Houff, William H., and W. T. Tsatsos, to Shell Oil Co. Treatment of fibrous textile materials and resulting products. 3,079,280, 2-26-63, Cl. 117-139.5.
- Houff, William H., and A. C. Nixon, to Shell Oil Co. Preparation of paper having improved wet strength. 3,079,296, 2-26-63, Cl. 162-168.
- Hougen, Everett D. Article for separating spot welded panels. 3,104,564, 9-24-63, Cl. 77-69.
- Hougen, Olaf A., to Miller Brewing Co. Catalytic reduction of a hop extract. 3,079,262, 2-26-63, Cl. 99-50.5.
- Hough, Cass S., and R. I. Daniel, to Daisy Mfg. Co. Noise making popgun. 3,078,618, 2-26-63, Cl. 46-177.
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- Houghton, Daniel E.: *See*—  
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- Houghton, Daniel E., E. F. Daedy, and S. F. Reed, to Cambridge Wire Cloth Co. Loom harness. 3,088,496, 5-7-63, Cl. 139-92.
- Houghton, E. F., & Co.: *See*—  
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- Houghton, William D., and R. E. Morey, to Radio Corp. of America. Television magnetic tape reproducing system. 3,091,660, 5-28-63, Cl. 178-6.6.
- Houilleres du Bassin du Nord & du Pas-de-Calais: *See*—  
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- Houilleres du Bassin du Nord et du Pas-de-Calais, and Commissariat a l'Energie Atomique: *See*—  
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- House, Arthur W. Applicator cap. 3,108,314, 10-29-63, Cl. 15-566.
- House, Bryan E., to Rockwell-Standard Corp. Hand brake lever-ratchet type. 3,071,979, 1-8-63, Cl. 74-141.5.
- House, Bryan E., to Rockwell-Standard Corp. Brake assembly. 3,114,437, 12-17-63, Cl. 188-78.
- House, Bryan E., and J. C. Cumming, to Rockwell-Standard Corp. Safety brake mechanism. 3,101,133, 8-20-63, Cl. 188-170.
- House, David C., to Electrolux Corp. Vacuum cleaner suction nozzles. 3,108,311, 10-29-63, Cl. 15-417.
- House, John L., and L. G. Ward. Muffler. 3,076,521, 2-5-63, Cl. 181-65.
- House, Ronald R., J. H. Rassweiler, and J. M. Schmitt, to American Cyanamid Co. Water-soluble dibasic acid-polyalkylenepolyaminealkylene glycol cross-linked polymer. 3,086,961, 4-23-63, Cl. 260-75.
- House, William C., to Aerojet-General Corp. Gas generator turbojet motor. 3,110,153, 11-12-63, Cl. 60-35.3.
- House, William H., Jr. Rotary cutting blade. 3,103,093, 9-10-63, Cl. 56-295.
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- Houser, Raymond J. Pew construction. 3,091,497, 5-28-63, Cl. 297-450.
- Houser, Roy W., to Robertshaw-Fulton Controls Co. Temperature responsive device. 3,090,235, 5-21-63, Cl. 73-358.
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- Housman, Robert W., to Automatic Radio Mfg. Co., Inc. Means and method for securing a radio to a cab roof. 3,076,936, 2-5-63, Cl. 325-312.
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- Houston Oil Field Material Co., Inc.: *See*—  
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- Houston, William R., Jr. Melon carrier. 3,097,774, 7-16-63, Cl. 224-45.
- Houvenner, Henry C.: *See*—  
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- Hovannesian, Albert S., A. J. Gere, and C. Cicciarella, to Diamond Antenna & Microwave Corp. Proximity warning system. 3,089,139, 5-7-63, Cl. 343-112.
- Hovekamp, John C., and E. J. Russell, Jr., to Kamru Products Co. Blanket roll means. 3,111,896, 11-26-63, Cl. 161-37.
- Hovell, Victor E. Auxiliary safety braking system. 3,090,652, 5-21-63, Cl. 303-9.
- Hoven, Alfred C., and W. E. Nordmark, to American Seating Co. Communication booth. 3,079,473, 2-26-63, Cl. 179-149.
- Hoven, Alfred C., W. E. Nordmark, and G. F. Thompson, to American Seating Co. Chair. 3,111,344, 11-19-63, Cl. 297-452.
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- Hovey, John M., and F. C. Hallberg, to United States of America, Navy. Gated amplifier with positive feedback. 3,081,405, 3-12-63, Cl. 307-88.5.
- Hovey, Richard J., to American Optical Co. Optical filters and method of making same. 3,104,176, 9-17-63, Cl. 117-33.3.
- Hovingh, Albertus R., and H. J. R. Perdijk, to North American Philips Co. Inc. Method of heating getters in strip-shaped holders. 3,102,764, 9-3-63, Cl. 316-25.
- Hovland, Howard N., to American Can Co. Corner sealed leakproof carton. 3,094,265, 6-18-63, Cl. 229-37.
- Hovland, Howard N., to American Can Co. Dispensing package. 3,115,293, 12-24-63, Cl. 229-51.
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- Howard, Donald W., and W. C. Wintrod, to The Bendix Corp. Torque indicator and control for turbo-shaft gas turbine engine. 3,114,240, 12-17-63, Cl. 60-39.16.
- Howard, Ernest R., to Texas Instruments Inc. Condition responsive device. 3,078,717, 2-26-63, Cl. 73-363.5.
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- Howard, George C., to Pan American Petroleum Corp. Restraining flow of sand into wells. 3,107,727, 10-22-63, Cl. 166-12.
- Howard, George C., and E. R. Jennings, to Pan American Petroleum Corp. Method of cementing parallel tubes in a well. 3,110,347, 11-12-63, Cl. 166-46.
- Howard, Glenn. Emergency fuel supplies. 3,113,584, 12-10-63, Cl. 137-266.
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- Howard, James E.: *See*—  
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- Howard, James E. Mailing device. 3,113,716, 12-10-63, Cl. 229-73.
- Howard, James W. Transistorized pulse gate noise limiter. 3,098,972, 7-23-63, Cl. 325-319.
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- Howard, John, and S. Y. C. Soong, to Stauffer Chemical Co. Method of controlling vegetative growth. 3,077,393, 2-12-63, Cl. 71-2.5.
- Howard, John B. Thermo-responsive switch. 3,082,306, 3-19-63, Cl. 200-140.
- Howard, John C.: *See*—  
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- Howard, John C., to The Norwich Pharmacal Co. Alkylalkoxyalkylhydrazones. 3,091,611, 5-23-63, Cl. 260-240.
- Howard, John H., to Burroughs Corp. Magnetic cores. 3,071,755, 1-1-63, Cl. 340-174.
- Howard, John W., to General Fire Extinguisher Corp. Hose actuated valve apparatus. 3,086,545, 4-23-63, Cl. 137-343.
- Howard, Lewis F.: *See*—  
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- Howard, Luther D., to Stall & Dean Mfg. Co. Hockey helmet. 3,087,166, 4-30-63, Cl. 2-3.
- Howard, Paul J. Container for plants. 3,091,896, 6-4-63, Cl. 47-37.
- Howard, Robert. Scraper. 3,073,028, 1-15-63, Cl. 30-330.
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- Howard, Robert C., and A. W. Conow, to Giannini Controls Corp. Computer for functions such as true airspeed. 3,104,315, 9-17-63, Cl. 235-151.
- Howard, Robert G. Sucker rod safety joint. 3,100,662, 8-13-63, Cl. 287-119.
- Howard, Robert L.: *See*—  
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- Howard, Robert L., R. B. Thorness, and J. R. Winckler, to United States of America, Navy. Coding apparatus. 3,092,825, 6-4-63, Cl. 340-353.
- Howard, Sheldon J., to Trico Products Corp. Windshield wiper system. 3,113,333, 12-10-63, Cl. 15-250.14.
- Howard, Sheldon J., to Trico Products Corp. Windshield wiper system. 3,113,334, 12-10-63, Cl. 15-250.14.
- Howard, Wayne R.: *See*—  
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- Howard, Wayne R., to Clark Equipment Co. Power transmission mechanism. 3,109,524, 11-5-63, Cl. 192-3.2.
- Howard, William J. Valve stem caps. 3,112,770, 12-3-63, Cl. 138-89.2.
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- Howard, William L., and N. B. Lorette, to The Dow Chemical Co. Process for the preparation of ketals. 3,072,727, 1-8-63, Cl. 260-611.
- Howard, William W. Coin handling means. 3,085,378, 4-16-63, Cl. 53-254.
- Howarth, John T., and J. Shulman, to Arthur D. Little, Inc. Waterproof plastic films of increased water vapor permeability and method of making them. 3,081,270, 3-12-63, Cl. 260-17.
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- Howdle, Frederic E., and J. Kauenbuehler, to Cutler-Hammer, Inc. Signature jogging and stacking mechanism. 3,083,014, 3-26-63, Cl. 271-89.
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- Howe, Earl E., 50% to E. E. Howe, 25% to R. W. Howe, and 25% to M. H. Frisbey. Mandrel swage. 3,115,797, 12-31-63, Cl. 78-60.
- Howe, Earl E., and R. W. Steering suspension. 3,103,376, 9-10-63, Cl. 287-90.
- Howe, Elira F. Floor valve. 3,107,687, 10-22-63, Cl. 137-362.
- Howe, Eugene E., to Eagle-Picher Co. Composite coated muffler and method of making the same. 3,093,208, 6-11-63, Cl. 181-33.
- Howe Folding Furniture, Inc.: *See*—  
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Howe, Harold, and Bauer. 3,093,095.
- Howe, Harold, to Howe Folding Furniture, Inc. Snowshoe harness. Re. 25,472, 11-5-63, Cl. 36-4.5.
- Howe, Harold, and L. S. Bauer, to Howe Folding Furniture, Inc. Executive-type folding table. 3,093,095, 6-11-63, Cl. 108-131.
- Howe, Howard W., to Stauffer Chemical Co. Electron-beam furnace with opposed-field magnetic beam guidance. 3,087,211, 4-30-63, Cl. 22-57.2.
- Howe, John J. Dual sun visors and mounting means therefor. 3,074,756, 1-22-63, Cl. 296-97.
- Howe, Joseph H., and L. R. Morris, to The Dow Chemical Co. Process for making pyrocarbonate esters. 3,078,294, 2-19-63, Cl. 260-453.
- Howe, Joseph H., and L. R. Morris, to The Dow Chemical Co. Selective separation of luteo cobalt from ammoniacal solutions containing divalent copper and/or divalent nickel by preferential adsorption on a chelating resin. 3,082,081, 3-19-63, Cl. 75-119.
- Howe, Milton A., Jr.: *See*—  
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- Howe, Milton A., Jr., and R. L. Dreyfus, to W. R. Grace & Co. Poultry packaging apparatus. 3,091,904, 6-4-63, Cl. 53-390.
- Howe, Ralph S., Jr., and J. R. Bechert, to The Fafnir Bearing Co. Retaining ring for a bearing seal. 3,085,810, 4-16-63, Cl. 277-181.
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- Howe, Wilfred H., to The Foxboro Co. Dominant signal selecting servosystem. 3,083,321, 3-26-63, Cl. 318-19.
- Howell, Alun R., and C. E. Moss, to Power Jets (Research and Development) Ltd. Jet propulsion plant. 3,111,005, 11-19-63, Cl. 60-35.6.
- Howell, David S., to Arlington Aluminum Co. Display assembly and poster holder. 3,083,489, 4-2-63, Cl. 40-152.
- Howell, David S., to Arlington Aluminum Co. Double-sided poster holder. 3,102,551, 9-3-63, Cl. 40-125.
- Howell, Dennis G., R. Farr, and K. R. Heath, to Glaxo Group Ltd. Improved swine erysipelas vaccine. 3,083,142, 3-26-63, Cl. 167-78.
- Howell, Derek, to Faraday Electronic Instruments Ltd. Apparatus for use in stethoscopy. 3,110,770, 11-12-63, Cl. 179-1.
- Howell, Dixie, to Kellwood Co. Composite garment. 3,098,485, 7-23-63, Cl. 128-455.
- Howell, Edward K., to General Electric Co. Photoelectric controller. 3,080,491, 3-5-63, Cl. 307-117.
- Howell, George E. Illuminated signal attachment for a fishing rig. 3,078,610, 2-26-63, Cl. 43-17.
- Howell, Harvey L., and R. E. Ruhf, to Avien, Inc. Buoyancy capsule for deep submerged buoys. 3,110,914, 11-19-63, Cl. 9-8.
- Howell, Louis J., to General Electric Co. Condition responsive electric switch mechanism. 3,096,419, 7-2-63, Cl. 200-140.
- Howell, Peter A., to Union Carbide Corp. Process for producing molecular sieves. 3,101,251, 8-20-63, Cl. 23-113.
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- Howell, Richard S., to Burroughs Corp. Cathode ray electrostatic printing or recording device. 3,103,606, 9-10-63, Cl. 313-73.
- Howell, Richard S., to Burroughs Corp. Method and apparatus for erasing developed images. 3,108,895, 10-29-63, Cl. 117-19.
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- Howell, Sabert N., to Servo Corp. of America. Direct-reading pyrometer microscope. 3,081,632, 3-19-63, Cl. 73-335.
- Hower, Wayne F., to Halliburton Co. Composition and method for sealing porous formations. 3,082,823, 3-26-63, Cl. 166-29.
- Howerton, Hugh K., to American Instrument Co., Inc. Spectro-phosphorescence measuring instrument. 3,092,722, 6-4-63, Cl. 250-77.
- Howerton, Hugh K., to American Instrument Co., Inc. Diaphragm pump protective system. 3,105,442, 10-1-63, Cl. 103-11.
- Howeth, Marvin S., to General Dynamics Corp. Apparatus for controlled etching of metal. 3,071,178, 1-1-63, Cl. 156-345.
- Howick, Kenneth W.: *See*—  
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- Howk, Benjamin W., to E. I. du Pont de Nemours and Co. Polyalkyl benzene manufacture. 3,110,742, 11-12-63, Cl. 280-668.
- Howland, George R., and D. A. Malohn, to Ford Motor Co. Combustion vaporizer. 3,086,361, 4-23-63, Cl. 60-39.14.
- Howland, Louis H., and V. S. Chambers, to United States Rubber Co. Process of increasing the particle size of synthetic rubber latex. 3,095,398, 6-25-63, Cl. 260-29.7.
- Howle, Ray B., to The Pure Oil Co. Ion exchange material regeneration process. 3,116,241, 12-31-63, Cl. 210-35.
- Howlett, Charles L., to Huron Portland Cement Co. Pneumatic discharge systems. 3,104,030, 9-17-63, Cl. 222-59.
- Howlett, Claude W., to Leeford (London) Ltd. Trenching machines. 3,072,272, 1-8-63, Cl. 214-141.
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- Howling, Dennis H., to McGraw-Edison Co. U-V detector tube with heated electrodes. 3,103,589, 9-10-63, Cl. 250-83.6.
- Howling, Harold L., to Basic Atomics Inc. Purification of leach liquor containing lithium values. 3,099,527, 7-30-63, Cl. 23-33.
- Howrey, Harold C., deceased; M. L. Solomon, administratrix, to M. E. Obrist and W. H. Solomon. Furnace fireplace. 3,096,754, 7-9-63, Cl. 126-120.
- Hoxie, John P., and A. J. Werner, to Corning Glass Works. Light filter. 3,113,033, 12-3-63, Cl. 106-54.
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- Hoy, Leland C.: *See*—  
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- Hoyer, Ekkehard, to Volkswagenwerk Aktiengesellschaft. Cover panels and method of manufacture. 3,075,862, 1-29-63, Cl. 154-45.9.
- Hoyer, Llewellyn E.: *See*—  
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- Hoyer, Norman S.: *See*—  
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- Hoyle, Vinton A., Jr.: *See*—  
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- Hoyle, Walter W., and J. Black, to Carrier Corp. Air distributing apparatus. 3,111,075, 11-19-63, Cl. 98-40.
- Hoyle, Alfred, to Robert Bosch G.m.b.H. Windshield wiper. 3,094,734, 6-25-63, Cl. 15-250.12.
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- Hoyt, Donald L., to Texaco Inc. Method of improving production of petroleum from an underground reservoir. 3,093,190, 6-11-63, Cl. 166-9.
- Hoyt, Donald L., to Texaco Inc. Petroleum production by secondary recovery. 3,109,487, 11-5-63, Cl. 166-9.4.
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- Hoza, Martin D., to Reed Roller Bit Co. Pneumatic tool. 3,099,187, 7-30-63, Cl. 91-232.
- Hradel, Joseph R. and M. F., to The Dow Chemical Co. Detonating device. 3,092,025, 6-4-63, Cl. 102-24.
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- Hrusch, Louis C., to Cleveland Pneumatic Industries, Inc. Aircraft steering system control. 3,099,424, 7-30-63, Cl. 244-50.
- Hruska, Howard E., F. B. Burt, and A. K. Brown, Jr., to The Bendix Corp. Power steering mechanism. 3,075,501, 1-29-63, Cl. 121-41.
- Hruskoci, Paul P., to Standard Oil Co. Fluid dispensing apparatus. 3,075,674, 1-29-63, Cl. 222-309.
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- Hryniskaz, Waldemar, to C. A. Parsons & Co. Ltd. Gas turbine plants. 3,103,100, 9-10-63, Cl. 60-13.
- Hsia, Henry T., to Lockheed Aircraft Corp. Hydrogen transpiration cooling of a high temperature surface using a metal hydride as the coolant material. 3,115,746, 12-31-63, Cl. 60-35.6.
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- Hu, Hsun, to Westinghouse Electric Corp. Method for producing fiber texture and cube-texture sheets of iron-base alloys. 3,089,795, 5-14-63, Cl. 148-111.
- Hu, Quang-Hsi. Novel and safety process and device for use in connection with motor vehicles. 3,098,538, 7-23-63, Cl. 180-82.
- Huang, Chaang, and B. H. White, to Sylvania Electric Products Inc. Trigger circuits employing transistors of complementary characteristics. 3,113,217, 12-3-63, Cl. 307-88.5.
- Huang, Chingyun, and M. Imoto. Production of thermo-setting hydrocarbon resins from polyaromatic hydrocarbon glycol. 3,116,265, 12-31-63, Cl. 260-42.



- Huang, Hsing T., to Chas. Pfizer & Co., Inc. 6-aminopenicillanic acid amide production. 3,088,880, 5-7-63, Cl. 195-36.
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- Hubbaker, Earl F., to Whirlpool Corp. Home appliance. 3,090,209, 5-21-63, Cl. 62-180.
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- Hubbard, Albert B., to Rotron Mfg. Co., Inc. Vortex flow control device. 3,091,118, 5-28-63, Cl. 73-230.
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- Hubbard, Burnette L., to Philco Corp. Laundry apparatus having leakage detecting means. 3,091,953, 6-4-63, Cl. 68-12.
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- Hubbard, David C., and H. R. Weitkemper, to A. B. Chance Co. Wire clamp. 3,095,223, 6-25-63, Cl. 287-83.
- Hubbard, David W., and S. H. Lippa, to Sperry Rand Corp. Electromagnetic set-up device for a selective perforator. 3,106,339, 10-8-63, Cl. 234-115.
- Hubbard, Eber J., to Van Norman Industries, Inc. Method and apparatus for packaging, shipping and supplying wire. 3,082,868, 3-26-63, Cl. 206-52.
- Hubbard, James R., and S. V. Horecky, to Philco Corp. Laundry apparatus having automatic clutch control. 3,100,387, 8-13-63, Cl. 68-12.
- Hubbard, John L., and A. Kromm, to The First Carpet Co. Looper with sliding cutter. 3,070,983, 1-1-63, Cl. 66-84.
- Hubbard, Leo J., G. J. Heckel, and B. M. Leyland, to General Electric Co. Hinged gate document feeder. 3,103,355, 9-10-63, Cl. 271-5.
- Hubbard, Raymond E. Disposable syringe and compression device therefor. 3,099,264, 7-30-63, Cl. 128-215.
- Hubbard, Richard T. Spirit level. 3,110,115, 11-12-63, Cl. 33-214.
- Hubbard, Robert M. Magnetic amplifiers. 3,083,334, 3-26-63, Cl. 323-89.
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- Hubbard, S. Eugene, to Kawneer Co. Building construction. 3,081,849, 3-19-63, Cl. 189-34.
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- Hubbard, S. Eugene, to Kawneer Co. Metal construction element. 3,081,851, 3-19-63, Cl. 189-34.
- Hubbard, Stephen R. Joint for prestressed concrete pipe. 3,110,503, 11-12-63, Cl. 277-237.
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- Hubbell, Harvey, Inc.: See—  
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- Hubbell, Richard L., and F. A. Record, to Varian Associates. Microwave switching device having moveable jumper for internally shorting electrodes of T-R tube. 3,092,791, 6-4-63, Cl. 333-13.
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- Huber, Charles L., to Xerox Corp. Xerographic developing apparatus. 3,094,238, 6-18-63, Cl. 222-193.
- Huber, Fritz, to Guhl & Scheibler A.G. Label printing machines. 3,094,925, 6-25-63, Cl. 101-227.
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- Huber, Jakob. Rail for railway vehicles. 3,111,265, 11-19-63, Cl. 238-148.
- Huber, James D., and G. C. Gettelman, to Jones & Laughlin Steel Corp. Refuse can lid latch. 3,112,133, 11-26-63, Cl. 292-128.
- Huber, Johann. Sterilizing apparatus. 3,086,263, 4-23-63, Cl. 21-98.
- Huber, John R., to Eastern Rotocraft Corp. Adjusting and tensioning device. 3,071,348, 1-1-63, Cl. 254-78.
- Huber, John R., to Eastern Rotocraft Corp. Strap tensioning device. 3,099,055, 7-30-63, Cl. 24-68.
- Huber, Mortimer J. Torque clutch. 3,092,983, 6-11-63, Cl. 64-30.
- Huber, Mortimer J. Drive mechanisms. 3,107,493, 10-22-63, Cl. 60-97.
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- Huber, Robert A. Double-firing-per-trigger-actuation cap pistol. 3,080,672, 3-12-63, Cl. 42-57.
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- Huber, William J., to Goodman Mfg. Co. Conveyor system for large material removal areas. 3,107,002, 10-15-63, Cl. 198-95.
- Huberman, Sam, to Schwartz & Benjamin, Inc. Foot conforming shoe upper. 3,084,460, 4-9-63, Cl. 36-51.
- Huberty, Elmer J., to Advance Transformer Co. Ballast apparatus with dimming control. 3,091,720, 5-28-63, Cl. 315-98.
- Hubka, Theodore, to General Precision, Inc. Microwave transmitter and receiver. 3,095,561, 6-25-63, Cl. 343-5.
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- Huck, William F., to W. F. Huck, d.b.a. Huck Co. Coordinated heater and speed control for web drying machines. 3,078,587, 2-26-63, Cl. 34-48.
- Huck, William F. Web tension control mechanism. 3,083,887, 4-2-63, Cl. 226-41.
- Huck, William F. Multiple web collating and folding apparatus. 3,094,320, 6-18-63, Cl. 270-52.
- Huck, William F., to William F. Huck, d.b.a. Huck Co. Automatic web register controls. 3,097,844, 7-16-63, Cl. 270-52.
- Huck, William F., to W. F. Huck, d.b.a. Huck Co. Automatic splicing rollstand. 3,103,320, 9-10-63, Cl. 242-58.3.
- Huck, William F., to W. F. Huck, d.b.a. Huck Co. Reciprocation balancing mechanism. 3,112,657, 12-3-63, Cl. 74-590.
- Huckabay, William B., to Socony Mobil Oil Co. Inc. Multiple reflection determination for continuous marine acoustic exploration. 3,075,606, 1-29-63, Cl. 181-5.
- Huckabay, William B., and W. H. Parker, to Rayflex Exploration Co. Underwater beacon. 3,090,938, 5-21-63, Cl. 340-5.
- Huckabee, Thad T. Apparatus for cooking and smoke-flavoring food. 3,088,393, 5-7-63, Cl. 99-259.
- Hucker, Francis E. Display device. 3,087,624, 4-30-63, Cl. 211-87.
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- Huddleston, Richard H., Jr., to Halliburton Co. Temperature measuring system. 3,085,436, 4-16-63, Cl. 73-361.
- Huddleston, Richard H., Jr., to Halliburton Co. Bridge circuit. 3,109,137, 10-29-63, Cl. 323-75.
- Huddleston, Richard H., Jr., F. R. Bravence, and E. Eszlinger, to Halliburton Co. Electrical well logging system. 3,079,550, 2-26-63, Cl. 324-1.
- Huddleston, Sherell R.: *See*—  
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- Huddlestone, Richard H.: *See*—  
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- Hudgens, Bernard C., C. F. Hammond, and R. P. Kohlitz to Gemmer Mfg. Co., Division of Ross Gear and Tool Co., Inc. Close tolerance anti-friction component assembly. 3,081,644, 3-19-63, Cl. 74-424.8.
- Hudgin, Donald E., and F. M. Berardinelli, to Celanese Corp. of America. Continuous bulk polymerization process. 3,093,617, 6-11-63, Cl. 260-67.
- Hudimac, Albert A. Electromechanical vibratory force suppressor and indicator. 3,088,062, 4-30-63, Cl. 318-128.
- Hudis, Michael I., and G. Mihalowicz, to Chain Belt Co. Pavement surface finishing apparatus. 3,094,048, 6-18-63, Cl. 94-45.
- Hudon, Marie A. Combined gaiter and overshoe. 3,087,260, 4-30-63, Cl. 36-7.2.
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- Hudson, Edwin B., to Armco Steel Corp. Cold mill pressure control. 3,097,549, 7-16-63, Cl. 80-60.
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- Hudson, George A., to Mobay Chemical Co. Polyurethane polymers containing tall oil. 3,095,386, 6-25-63, Cl. 260-2.5.
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- Hudson, James W.: *See*—  
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- Hudson, Paul S.: *See*—  
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- Hudson, Paul S., to Phillips Petroleum Co. Hybrid method of rocket propulsion using tetranitromethane. 3,083,526, 4-2-63, Cl. 60-35.4.
- Hudson, Paul S., and C. C. Bice, to Phillips Petroleum Co. Solid composite propellants containing aziridinyl curing agents. 3,087,844, 4-30-63, Cl. 149-19.
- Hudson, Perry D. Combustion products pressure generator. 3,088,276, 5-7-63, Cl. 60-39.6.
- Hudson, Ray E., to Bell Corp. Pneumatic device. 3,086,397, 4-23-63, Cl. 73-311.
- Hudson, Raymond A., and R. S. Nelson, to Chicago Rawhide Mfg. Co. Oil seal assemblies. 3,086,781, 4-23-63, Cl. 277-99.
- Hudson, Robert L. Shaded panel groove. 3,087,269, 4-30-63, Cl. 41-24.
- Hudson, William J.: *See*—  
Ford, David E., Jr., and Hudson. 3,081,427.
- Hueber, Carl J.: *See*—  
Brugge, Walter J., Hueber, and Hampton. 3,077,828.
- Huebner, Charles F., to Ciba Corp. Substituted indenenes. 3,072,716, 1-8-63, Cl. 260-501.
- Huebner, Charles F., to Ciba Corp. 2-(N,N-di-loweralkyl-amino-loweralkyl)-1-[pyridylmethylidene]-indene and process. 3,076,804, 2-5-63, Cl. 260-240.
- Huebner, Charles F., to Ciba Corp. Heterocyclic compounds. 3,085,094, 4-9-63, Cl. 260-295.
- Huebner, Charles F., to Ciba Corp. Certain 3-(pyridyl lower alkyl)-2-(tert-amino-lower alkyl)-indene quaternary salts. 3,105,836, 10-1-63, Cl. 260-296.
- Huebner, Charles F., to Ciba Corp. Bicyclic hydrazinium compounds. 3,105,849, 10-1-63, Cl. 260-501.
- Huebner, Herbert A.: *See*—  
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- Huebner, William C. Printing plate treating apparatus. 3,072,049, 1-8-63, Cl. 101-147.
- Huebner, William C., to Lanston Industries, Inc. All-purpose photographic mechanical reproduction camera. 3,101,024, 8-20-63, Cl. 88-24.
- Huebner, William C., and J. Kunicki, to Advanced Graphics, Inc. Humid air press plate conditioning apparatus for printing press. 3,093,067, 6-11-63, Cl. 101-147.
- Huebschmann, Eugene C., to United States of America, Air Force. Accelerometer using magnetic torsion. 3,074,280, 1-22-63, Cl. 73-517.
- Huelskamp, Donald A., to Koehring Co. Hydraulic molding machines. 3,084,512, 4-9-63, Cl. 60-52.
- Huelster, Otto J., to Scovill Mfg. Co. Spring-locking slider for zipper fasteners. 3,070,865, 1-1-63, Cl. 24-205.14.
- Huelster, Otto J., to Scovill Mfg. Co. Spring-locking slider for zipper fasteners. 3,099,059, 7-30-63, Cl. 24-205.14.
- Huelster, Otto J., and J. F. Scott, to Scovill Mfg. Co. Plastic stud and socket with common rivet. 3,107,408, 10-22-63, Cl. 24-208.
- Huemmer, Hans, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Perchloromethylmercaptoaminotriazines and a process for their production. 3,079,391, 2-26-63, Cl. 260-249.8.
- Huenig, Siegfried: *See*—  
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- Huet, André, to Combustion Engineering, Inc. Control for neck forming machine. 3,074,460, 1-22-63, Cl. 153-21.
- Huet, André, to Combustion Engineering, Inc. Machine for the fabrication of spiral tube coils. 3,074,465, 1-22-63, Cl. 153-64.
- Huet, André. Furnaces for heat treating articles. 3,087,714, 4-30-63, Cl. 263-2.
- Huet, André. Metallic piping system for fluids at high temperature. 3,089,520, 5-14-63, Cl. 138-138.
- Huet, André. Device for regularizing the distribution of a fluid. 3,092,147, 6-4-63, Cl. 138-37.
- Huet, André. Light boiler for use in a nuclear energy installation. 3,098,468, 7-23-63, Cl. 122-32.
- Huet, André. Nuclear reactor with fuel under spheroidal form. 3,098,809, 7-23-63, Cl. 204-193.2.
- Huet, André. Process of forming a bulb on a straight metal tube. 3,099,880, 8-6-63, Cl. 29-544.
- Huet, André. Tubular heat exchanger. 3,101,930, 8-27-63, Cl. 165-143.
- Huet, André. Device for the controlled circulation of water in evaporator assembly. 3,103,918, 9-17-63, Cl. 122-407.
- Huet, André. Method of making tubular heat exchanger. 3,108,362, 10-29-63, Cl. 29-157.4.
- Huet, André. Heat exchangers. 3,111,168, 11-19-63, Cl. 165-165.
- Huet, André. Heat exchange installation. 3,115,870, 12-31-63, Cl. 122-32.
- Huet, Jean R. Method of obtaining coloured images. 3,091,155, 5-28-63, Cl. 88-16.4.
- Huet, Raymond J., to United States Steel Corp. Method of drawing wire and a lubricant therefor. 3,111,218, 11-19-63, Cl. 205-21.
- Hueter, Theodore F., to Raytheon Co. Electroacoustical apparatus. 3,115,588, 12-24-63, Cl. 310-8.6.
- Huettnner, Robert J., and C. M. Goodyear. Orthodontic attachment device. 3,087,244, 4-30-63, Cl. 32-14.
- Huey, Homer D., to Martin-Marietta Corp. Turret and electronic sighting station. 3,086,425, 4-23-63, Cl. 89-37.5.
- Huey, Norman R., to General Electric Co. Constructional kit. 3,111,219, 11-19-63, Cl. 206-45.34.
- Huff, Ehrman P.: *See*—  
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- Huff, George F., to Gallery Chemical Co. Preparation of metal borohydrides. 3,079,224, 2-26-63, Cl. 23-14.



- Huff, Hazel S.: *See*—  
Huff, Leslie R. 3,095,667.
- Huff, Irwin K., to Cart Ads Corp. Advertising display board. 3,082,557, 3-26-63, Cl. 40-10.
- Huff, James R., and D. T. Haworth, to Allis-Chalmers Mfg. Co. Preparation of iron tetracarbonyl,  $\text{Fe}(\text{CO})_5$ . 3,107,978, 10-22-63, Cl. 23-203.
- Huff, John, to L. A. Welt. Folding rack. 3,104,763, 9-24-63, Cl. 211-178.
- Huff, Joseph F., to Northrop Corp. Precision adjusting head for machine tools. 3,101,631, 8-27-63, Cl. 77-58.
- Huff, Leslie R., deceased; H. S. Huff, administratrix of the estate of L. R. Huff. Rotatable and translatable drawing board. 3,095,667, 7-2-63, Cl. 45-131.
- Huff, Robert S., to Motorola, Inc. Portable radio cabinet. 3,089,740, 5-14-63, Cl. 312-7.
- Huff, Robert S., and J. Horzick, to Motorola, Inc. Cabinet for sound reproducing equipment. 3,090,462, 5-21-63, Cl. 181-31.
- Huffaker, James E.: *See*—  
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- Hufferd, George H.: *See*—  
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- Hufferd, George H., H. L. Vail, Jr., and R. H. Josephson, to Cleviste Corp. Voltage or spark source. 3,082,333, 3-19-63, Cl. 310-8.3.
- Hufferd, George H., R. H. Josephson, and A. L. W. Williams, to Cleviste Corp. Distorted bearing piezoelectric voltage source. 3,101,420, 8-20-63, Cl. 310-8.7.
- Hufferd, George H., and R. E. Stewart, to Cleviste Corp. Piezoelectric voltage source. 3,114,059, 12-10-63, Cl. 310-8.7.
- Huffman, Charles O., W. F. Gale, and G. W. Misson, to Pittsburgh Plate Glass Co. Glass cutting apparatus. 3,107,834, 10-22-63, Cl. 225-96.5.
- Huffman, George W., to The Quaker Oats Co. Method for producing a barley fraction having thickening properties and the product resulting therefrom. 3,115,410, 12-24-63, Cl. 99-80.
- Huffman, Harold W., to The Hamilton Tool Co. Method and apparatus for producing air-cooled carbon-coated paper. 3,084,449, 4-9-63, Cl. 34-159.
- Huffman, Harold W., to The Hamilton Tool Co. Air expandable core shaft. 3,096,949, 7-9-63, Cl. 242-72.
- Huffman, Harold W., to The Hamilton Tool Co. Apparatus for rotarily punching webs of paper. 3,106,859, 10-15-63, Cl. 83-345.
- Huffman, John W., to Pace, Inc. Thermostat switch. 3,098,913, 7-23-63, Cl. 200-138.
- Huffman Mfg. Co.: *See*—  
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- Huffman, Max N., to Lasdon Foundation, Inc. 3-alkenyl ethers of 17 $\alpha$ -hydrocarbonyl-17 $\beta$  estradiols. 3,077,486, 2-12-63, Cl. 260-397.5.
- Huffman, Mervin C., to Gardner-Denver Co. Drilling device. 3,082,741, 3-26-63, Cl. 121-7.
- Huffman, Raymond A., to Sperry Rand Corp. Overridable clutch mechanism. 3,091,316, 5-28-63, Cl. 192-150.
- Huffman, Robert E.: *See*—  
Kafoure, Lewis, and Huffman. 3,097,888.
- Hufford Corp.: *See*—  
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- Hufford, Harold H.,  $\frac{1}{2}$  to R. C. Shape. Interchangeable lure bodies and single support means therefor. 3,091,883, 6-4-63, Cl. 43-42.08.
- Hug, Hans A.: *See*—  
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- Hug, Richard C.: *See*—  
Rhodes, James L., and Hug. 3,081,916.
- Huge, Ernest C., and G. Musat, to The Babcock & Wilcox Co. Pulverized fuel burner. 3,074,361, 1-22-63, Cl. 110-28.
- Hugelshofer, Paul: *See*—  
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- Hugenholtz, Eduard H., to North American Philips Co., Inc. Frequency converting circuit with mixing element in input circuit of amplifying device. 3,084,330, 4-2-63, Cl. 325-440.
- Huger, Wilhelm: *See*—  
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- Huggins, Donald N.: *See*—  
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- Huggins, Homer D., to Modine Mfg. Co. Heat exchanger header construction. 3,113,615, 12-10-63, Cl. 165-149.
- Hugheds, William R.: *See*—  
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- Hughel, Thomas J., to General Motors Corp. Strain gage dilatometer. 3,106,086, 10-8-63, Cl. 73-16.
- Hughes Aircraft Co.: *See*—  
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- Berk, Aristid D., and Strumwasser. 3,099,805.
- Blasberg, Lawrence A., Lader, and Young. 3,099,806.
- Bordelon, Sidney A., Jr. 3,106,650.
- Braentigam, Jean L. 3,084,302.
- Branch, Gerald L., Richardson, and Scapple. 3,105,869.
- Brennan, Robert A. 3,080,539.
- Coronado, Robert J., Yamashiro, and Ward. 3,083,960.
- Davidson, Richard S., Jr. 3,076,947.
- Dehirst, Donald R. 3,080,536.
- Denney, Joseph M., Friedland, and Keywell. 3,110,806.
- Dill, Johann G. 3,075,092.
- Farnsworth, Robert P., and Azar. 3,076,135.
- Fusfield, Robert L., and Sterba. 3,095,542.
- Gebhardt, Carl C. 3,091,761.
- Gebhardt, Carl C. 3,110,022.
- Gluth, Norman P. 3,109,143.
- Holcomb, Don R. 3,076,133.
- Holcomb, Don R. 3,109,934.
- Holcomb, Don R., and Leeson. 3,101,452.
- Hulett, Henry R. 3,080,484.
- Kleinman, Leonard, and Berk. 3,076,132.
- Knechtli, Ronald C., and Grabowski. 3,076,149.
- Leetmaa, Juri G., and Uebele. 3,104,361.
- Lehrer, Norman H. 3,086,139.
- Lehrer, Norman H. 3,089,055.
- Lehrer, Norman H. 3,089,056.
- Lehrer, Norman H., and Solivan. 3,089,050.
- Munushian, Jack, and Klinger. 3,084,293.
- O'Meara, Thomas R. 3,116,455.
- Paschal, Edwin A. 3,081,441.
- Plummer, Robert E. 3,109,174.
- Preston, Daniel S. 3,086,071.
- Reuvers, John F., and Clark. 3,108,237.
- Reuvers, John F., Clark, and Lockhart. 3,084,296.
- Riley, Ray L. 3,109,945.
- Scapple, Robert Y., and Stillman. 3,103,454.
- Schultz, Harold R., Sr., and Mason. 3,084,284.
- Steiger, Werner. 3,092,753.
- Stello, Phyllis E., Hall, and Nestor. 3,103,428.
- Thaler, Samuel. 3,072,857.
- Urias, Gilbert, and Paustian. 3,112,354.
- Wannlund, Arthur L., Jr. 3,076,731.
- Wannlund, Arthur L., Jr., and Waters. 3,088,856.
- Wargo, Lorand J. 3,099,995.
- Welty, William R. 3,090,928.
- Welty, William R., and Levenson. 3,083,360.
- Hughes, Alvin W. Apparatus for animal immobilization. 3,081,483, 3-19-63, Cl. 17-1.
- Hughes, Alvin W. Slaughter house equipment and apparatus for bleeding slaughtered animals. 3,115,666, 12-31-63, Cl. 17-1.
- Hughes, Arthur C.: *See*—  
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- Dumas, Roger E., and Hughes. 3,076,927.
- Hughes, Brian G.: *See*—  
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- Hughes, Daniel C., to Royal Masters Grinders, Inc. Centerless grinder. 3,108,470, 10-29-63, Cl. 51-103.
- Hughes, Daniel C., to Royal Master Grinders, Inc. Grinding wheel crush dressing apparatus. 3,113,563, 12-10-63, Cl. 125-11.
- Hughes, David E., to Superior Valve & Fittings Co. High pressure valve. 3,111,141, 11-19-63, Cl. 137-630.22.
- Hughes, Donald W., Jr. Integral battery multiple cell cover. 3,081,373, 3-12-63, Cl. 136-177.
- Hughes, Edward L.: *See*—  
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- Hughes, Ernest S., Jr.: *See*—  
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- Hughes, F. A., & Co. Ltd.: *See*—  
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- Waite, William G., and Higgins. 3,081,175.
- Hughes, Frank J.: *See*—  
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- Hughes, George M. K.: *See*—  
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- Hughes, George M. K., to Chas. Pfizer & Co., Inc. 3-pyridylacrylonitriles. 3,094,533, 6-18-63, Cl. 260-294.9.
- Hughes, George W. Sand trap for pump by-pass line to motor control switch diaphragm. 3,114,320, 12-17-63, Cl. 103-25.
- Hughes, Herbert D., and R. W. Lewis, to Metachemical Processes Ltd. Production of articles or coatings by electrodeposition. 3,092,558, 6-4-63, Cl. 204-4.
- Hughes, Hugh F. Recreational bounce type device. 3,114,550, 12-17-63, Cl. 273-106.
- Hughes, James R.: *See*—  
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- Hughes, James R., to Hughes-Tyler Mfg. Co. Conveyor. 3,088,580, 5-7-63, Cl. 198-184.
- Hughes, James W.: *See*—  
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- Hughes, Lawrence J., to Monsanto Chemical Co. Method of producing benzene and ethylene from allyl chloride. 3,114,780, 12-17-63, Cl. 260-668.
- Hughes, Lawrence J., T. D. McMinn, Jr., and J. C. Burleson, to Monsanto Chemical Co. Process for the oxidation of organic sulfides. 3,114,775, 12-17-63, Cl. 260-607.
- Hughes, Martin R.: *See*—  
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- Hughes, Ralph L. Automobile alarm system. 3,072,884, 1-8-63, Cl. 340-52.
- Hughes, Ralph L. Automobile alarm system. 3,077,576, 2-12-63, Cl. 340-52.
- Hughes, Ritchmond P. Piston ring assembly. 3,108,817, 10-29-63, Cl. 277-136.
- Hughes, Robert W., to Joy Mfg. Co. Cryogenic apparatus. 3,092,973, 6-11-63, Cl. 62-55.
- Hughes, Robert W., and N. A. Leist, to Joy Mfg. Co. Compressor control. 3,074,434, 1-22-63, Cl. 137-628.



- Hughes, Roland L.: *See*—  
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- Hughes, Shannon C. Hand truck. 3,102,648, 9-3-63, Cl. 214-375.
- Hughes, Stanley G., to General Electric Co. Plasma accelerometer. 3,105,385, 10-1-63, Cl. 73-516.
- Hughes, Stanley G., to General Electric Co. Split anode plasma accelerometer. 3,110,185, 11-12-63, Cl. 73-517.
- Hughes Tool Co., Aircraft Division: *See*—  
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- Atkinson, Gerald O., Cline, and Cunningham. 3,075,781.
- Dougherty, Walter J., Jr. 3,087,558.
- Galle, Edward M., and Scott. 3,086,601.
- Hughes-Tyler Mfg. Co.: *See*—  
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- Tyler, Merle D., Hughes, and Bitzer. 3,092,240.
- Hughes, William B., to Petrolite Corp. Process of inhibiting corrosion. 3,096,294, 7-2-63, Cl. 252-390.
- Hughes, William B., to Petrolite Corp. Testing corrosion inhibitors. 3,110,567, 11-12-63, Cl. 23-230.
- Hughey, Carter J.: *See*—  
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- Hughey, J. Benedict, to Standard Fire Hose Co. Fire hose cabinet. 3,091,251, 5-28-63, Cl. 137-355.28.
- Hugley, Dale G., to Skinner Brothers Rubber Co. Expandable swab cups. 3,079,205, 2-26-63, Cl. 309-54.
- Hugo, August O.: *See*—  
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- Hugo, Jif, E. Köllner, F. Novák, and B. Schreiber, to Statni vyzkumny ustav materialu a technologic. Method of machining metal parts. 3,084,426, 4-9-63, Cl. 29-418.
- Hugoson, Birger O. G., to Worthington Corp. Induction circulator tube means assembly. 3,114,307, 12-17-63, Cl. 98-38.
- Huguley, William C. Method of fabricating small motor armatures. 3,093,888, 6-18-63, Cl. 29-155.53.
- Huhn, Wolfram, and F. Berndt, to Krauss-Maffei Aktiengesellschaft. Method for treatment of fatty animal material. 3,114,638, 12-17-63, Cl. 99-7.
- Huisman, George R., and C. Shorts, to Filon Plastics Corp. Method and apparatus for manufacture of transverse contoured reinforced plastic sheet material. 3,077,000, 2-12-63, Cl. 18-19.
- Huisman, Henderikus O., J. H. Uhlenbroek, and M. J. Koopmans, to North American Philips Co., Inc. Method of destroying plant harmful microorganisms. 3,102,069, 8-27-63, Cl. 167-30.
- Huitt, Jimmie L., E. B. McGlothlin, and J. L. Pekarek, to Gulf Research & Development Co. Method of fracturing a subsurface formation. 3,106,959, 10-15-63, Cl. 166-37.
- Hulbert, John K., to Bell Aerospace Corp. Hydrodynamic propulsion system. 3,090,345, 5-21-63, Cl. 115-6.1.
- Hulbert, John K., to Bell Aerospace Corp. Helicopter rotor blade. 3,100,539, 8-13-63, Cl. 170-172.
- Hulbert, Warren D.: *See*—  
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- Hulbert, Robert S. Fence construction apparatus. 3,079,129, 2-26-63, Cl. 254-29.
- Hulet, Henry R., to Hughes Aircraft Co. Electrooptical light-detecting apparatus. 3,080,484, 3-5-63, Cl. 250-203.
- Hulet, Henry R., W. Snyder, and H. A. Elliott, to American Radiator & Standard Sanitary Corp. Space vehicle angular rate and orbiting vehicle yaw attitude sensor. 3,110,812, 11-12-63, Cl. 250-203.
- Hulette, Roger L.: *See*—  
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- Hull, David C., to United States of America, Secretary of War. Nitrolysis of hexamine. 3,093,640, 6-11-63, Cl. 260-248.
- Hull, David C., and S. B. Vaughn, Jr., to Eastman Kodak Co. Process for incorporating additives into polymers and resulting product. 3,085,988, 4-16-63, Cl. 260-33.6.
- Hull, David C., H. J. Hagemeyer, Jr., and M. B. Edwards, to Eastman Kodak Co. Olefin polymerization catalyst pretreatment. 3,091,605, 5-28-63, Cl. 260-93.7.
- Hull, David C., H. J. Hagemeyer, Jr., and J. W. Wilder, to Eastman Kodak Co. Method for purifying polyolefins by filtration under a partial pressure dissolved gas. 3,096,317, 7-2-63, Cl. 260-93.7.
- Hull, Donald E., to California Research Corp. Methods of fluid measurement with radioactive tracers. 3,108,184, 10-22-63, Cl. 250-43.5.
- Hull, Joseph F.: *See*—  
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- Hull, R. Dell. Drag brake for spinning reels. 3,088,691, 5-7-63, Cl. 242-84.6.
- Hull, R. Dell. Closed-face spinning reel. 3,105,651, 10-1-63, Cl. 242-84.2.
- Hull, Raymond J., to Gas Processing Inc. Apparatus and methods for treatment of natural gas. 3,100,147, 8-6-63, Cl. 62-37.
- Hull, Raymond J., to Gas Processing Inc. Apparatus for treatment of natural gas. 3,100,697, 8-13-63, Cl. 62-42.
- Hull, Richard L., and A. M. Harp, to Ametek, Inc. Fan assembly. 3,094,273, 6-18-63, Cl. 230-211.
- Hull, Robert E.: *See*—  
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- Hull, Robert L., to Parke, Davis & Co. Basic esters of 11-oxygenated 17,21-dihydroxy-1,4-pregnadiene-3,20 diones. 3,086,011, 4-16-63, Cl. 260-239.5.
- Hull, Thomas N., Jr., and C. E. Le Bell, to General Electric Co. Engine rotor design. 3,094,309, 6-18-63, Cl. 253-39.
- Hull, Walter E. Magnetic compass. 3,079,698, 3-5-63, Cl. 33-223.
- Hulls, Leonard R.: *See*—  
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- Hulls, Leonard R., and B. P. Jacobsen, to Canadian Westinghouse Co., Ltd. Control systems. 3,100,410, 8-13-63, Cl. 80-56.
- Hulme, Kenneth F., and J. B. Mullin, to National Research Development Corp. Process for purifying intermetallic binary antimonides containing zinc and cadmium impurities. 3,116,113, 12-31-63, Cl. 23-204.
- Hulse, Alexander. Drive mechanism. 3,075,368, 1-29-63, Cl. 64-20.
- Hulsey, Hansford E. Dispensing apparatus. 3,113,816, 12-10-63, Cl. 312-72.
- Hulsing, Kenneth L.: *See*—  
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- Hulst, Cornelius R., to Merry Maid Co., Inc. Roller-type floor waxer. 3,115,663, 12-31-63, Cl. 15-506.
- Hulten, Richard E., to General Motors Corp. Oil control baffle. 3,101,129, 8-20-63, Cl. 184-106.
- Hulterstrum, Harold D., to Flambeau Plastics Corp. Nylon wheel and axle assembly. 3,107,947, 10-22-63, Cl. 308-8.
- Hultgren, Gunnar V.: *See*—  
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- Hultgren, Hjalmar H.: *See*—  
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- Hultquist, Albert, to Sylvania Electric Products Inc. Automatic stop mechanism. 3,072,411, 1-8-63, Cl. 274-10.
- Hultquist, Charles H. Tall weed lawn mower attachment. 3,083,518, 4-2-63, Cl. 56-238.
- Hultquist, J. Albert, to Sylvania Electric Products Inc. Illuminated electronic time piece. 3,079,748, 3-5-63, Cl. 58-50.
- Hultquist, Martin E., to Arapahoe Chemicals, Inc. Method for manufacture of L-glutamine. 3,083,227, 3-26-63, Cl. 260-534.
- Hultquist, Victor J. Storage container for vehicles. 3,084,825, 4-9-63, Cl. 220-8.
- Hults, Harold W., to Cutler-Hammer, Inc. Electric switches. 3,087,341, 4-30-63, Cl. 74-18.1.
- Hulverson, Adrian F.: *See*—  
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- Hulverson, Adrian F., to General Motors Corp. Windshield cleaning system. 3,084,371, 4-9-63, Cl. 15-250.2.
- Hulverson, Adrian F., and J. W. Harper, to Fruehauf Trailer Co. Kingpin construction. 3,082,020, 3-19-63, Cl. 280-433.
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- Hum, Jack K. Y.: *See*—  
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- Hum, Jack K. Y., and A. L. Donlevy, to Stauffer Chemical Co. Multicomponent columbium alloys. 3,115,407, 12-24-63, Cl. 75-174.
- Humane Slaughtering Device Corp.: *See*—  
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- Humbert, Edward R.: *See*—  
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- Humbert, Edward R., and S. A. Nestor, to Sperry Rand Corp. Bi-directional precision fluid flow measuring apparatus. 3,104,549, 9-24-63, Cl. 73-228.
- Humbert, Kingsley E., Jr., to Wix Corp. Filter sealing means. 3,076,551, 2-5-63, Cl. 210-232.
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- Humboldt Co., The: *See*—  
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- Humby, Edward T., to The Magnavox Electronics Co. Ltd. Automatic record changers. 3,109,656, 11-5-63, Cl. 274-10.
- Hume, Horace D.: *See*—  
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- Scheidenhelm, Earl L. 3,093,229.
- Humes, Norman S., and F. A. Hohler, to The Heald Machine Co. Grinding machine. 3,089,291, 5-14-63, Cl. 51-103.
- Humiston, Charles G., to The Dow Chemical Co. Internal sizing of paper. 3,084,093, 4-2-63, Cl. 162-168.
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- Hummer, Herbert B., and E. W. Conklin, to Durametallic Corp. Seals for stuffing boxes and the like permitting thereof. 3,090,320, 5-21-63, Cl. 103-111.
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- Hummitsch, Werner: See—  
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- Humphrey, David H. Rotatable drawer cabinet. 3,075,820, 1-29-63, Cl. 312-326.
- Humphrey, Earl L., and C. E. Trautman, to Gulf Research & Development Co. Lubricating composition. 3,073,782, 1-15-63, Cl. 252-54.
- Humphrey, Frederick H. Device for mixing and applying liquids. 3,089,180, 5-14-63, Cl. 15-525.
- Humphrey, Howard C., to Texaco, Inc. Weighted drill collar. Re. 25,485, 11-26-63, Cl. 189-26.
- Humphrey, Howard C., to Texaco Inc. Pumping apparatus. 3,103,175, 9-10-63, Cl. 103-46.
- Humphrey, Robert. Speed change gear mechanism. 3,113,468, 12-10-63, Cl. 74-353.
- Humphrey, Sidney B., and D. R. Smoak, to United States Rubber Co. Nitration of aromatic hydrocarbons. 3,092,671, 6-4-63, Cl. 260-645.
- Humphrey, Watts S., Jr., J. Terzian, and F. M. Bosch, to Sylvania Electric Products Inc. Electronic computers. 3,094,610, 6-18-63, Cl. 235-157.
- Humphrey, William G.: See—  
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- Humphreys, Hanna R., Jr.: See—  
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- Humphreys, John W.: See—  
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- Humphreys, John W., to Johnson Products, Inc. Hydraulic tappet. 3,079,903, 3-5-63, Cl. 123-90.
- Humphreys, John W., to Johnson Products, Inc. Self-adjusting mechanical tappet. 3,105,475, 10-1-63, Cl. 123-90.
- Humphreys, John W., to Johnson Products Inc. Crankcase pressure controller. 3,108,581, 10-29-63, Cl. 123-119.
- Humphreys, John W., and M. V. Dadd, to Johnson Products, Inc. Crankcase ventilation regulator. 3,111,138, 11-19-63, Cl. 137-480.
- Humphreys, Joseph A. Alarm transmission apparatus and system. 3,109,894, 11-5-63, Cl. 179-5.
- Humphreys, Robert E., and I. L. Marra, to Small Business Administration. Injector tool. 3,110,205, 11-12-63, Cl. 81-15.7.
- Humphreys, T. William: See—  
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- Humphries, Harvey G.: See—  
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- Fox, William R., and Humphries. 3,088,446.
- Humphries, Harvey G., to General Motors Corp. Fuel injector pump with hydraulically controlled injection valve. 3,115,304, 12-24-63, Cl. 239-90.
- Humphries, James J., A. L. Hodge, R. S. Babcock, and B. C. Whitmore, to Union Carbide Corp. Process for the manufacture of cement. 3,074,707, 1-22-63, Cl. 263-53.
- Humphries, John, W. C. Brown, and A. G. McIntosh, to National Research Council. Infra-red detecting systems. 3,094,617, 6-18-63, Cl. 250-83.3.
- Humphries, John B., to The Excelsior Hardward Co. Luggage latch. 3,100,980, 8-20-63, Cl. 70-71.
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- Hund, Franz, to Farbenfabriken Bayer Aktiengesellschaft. Process for producing ferrites. 3,084,123, 4-2-63, Cl. 252-62.5.
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- Hunkeler, Jules W., to Perma Tubes Ltd. Method of forming a bituminous coated glass fiber pipe. 3,084,088, 4-2-63, Cl. 156-167.
- Hunnicut, Wayne, to Applied Power Industries, Inc. Fluid motor. 3,079,900, 3-5-63, Cl. 121-164.
- Hunsberger, John R., and A. F. Welch, to General Motors Corp. Plating thickness indicating apparatus and method. 3,081,194, 3-12-63, Cl. 117-113.
- Hunsdiecker, Heinz, to U.S. Plastic and Chemical Corp. Plastic articles and method of producing same. 3,073,732, 1-15-63, Cl. 154-43.
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- Hunt, Charles D'A.: See—  
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- Hunt, Charles K., to Hunt Industries, Inc. Boat hull. 3,085,535, 4-16-63, Cl. 114-56.
- Hunt, Chester M.: See—  
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- Hunt, Donald E. Power-operated winch for boat trailers and the like. 3,088,709, 5-7-63, Cl. 254-166.
- Hunt, Donald L. Adapter for portable motor driven floor maintaining machines. 3,115,660, 12-31-63, Cl. 15-230.
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- Hunt, Elwood M., to Aircraft Products Co. Control assembly for automatic pilot. 3,080,877, 3-12-63, Cl. 137-82.
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- Hunt, George B. Floor squeegee. 3,089,173, 5-14-63, Cl. 15-245.
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- Hunt, Grover C., to Norton Co. Lapping machine. 3,089,292, 5-14-63, Cl. 51-118.
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- Hunt Industries, Inc.: See—  
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- Hunt, Nathan C., to International Basic Economy Corp. Fluid control valves. 3,095,176, 6-25-63, Cl. 251-62.
- Hunt, Nathan C., A. W. Hainlin, and D. E. Lockwood, to International Basic Economy Corp. Methods of and means for providing safe operation of devices. 3,075,552, 1-29-63, Cl. 137-620.
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- Hunt, Paul B., Jr.: See—  
Hunt, Paul B., Sr. 3,076,456.
- Hunt, Paul B., Sr., deceased (by P. B. Hunt, Jr., administrator), to E. B. Hunt. Hypodermic syringe. 3,076,453, 2-5-63, Cl. 128-218.
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- Hunt, Richard M., and W. V. Hough, to Callery Chemical Co. Process for production of cyclic tetrazines. 3,086,016, 4-16-63, Cl. 260-241.
- Hunt, Robert A., and G. P. Taillie; said Hunt assor, to Xerox Corp. Sheet feeding apparatus. 3,071,370, 1-1-63, Cl. 271-7.
- Hunt, Robert A., and G. P. Taillie; said Hunt assor, Xerox Corp. Xerographic reproducing apparatus. 3,078,770, 2-26-63, Cl. 95-1.7.
- Hunt, Robert G., to Marco Products Co. Pipe cleaning machine. 3,095,592, 7-2-63, Cl. 15-104.3.
- Hunt, Robert W. G., to Eastman Kodak Co. Method of controlling the spectral composition of a light source. 3,089,386, 5-14-63, Cl. 88-111.
- Hunt, Russell A., Jr., and B. L. Mickel, to Standard Oil Co. Radiation-stable and thermally stable oils. 3,109,815, 11-5-63, Cl. 252-33.
- Hunt, Seymour. Linear detector circuit and method of operation. 3,084,292, 4-2-63, Cl. 329-170.
- Hunt, William A. Starter for small gasoline engines. 3,080,942, 3-12-63, Cl. 185-39.
- Hunter, Arthur T., to Combustion Engineering, Inc. Steam generation. 3,101,697, 8-27-63, Cl. 122-4.
- Hunter, Buren V., to H. E. Aine, and A. Leinwohl. Miniature radio beacon apparatus. 3,108,223, 10-22-63, Cl. 325-105.
- Hunter, Byron A.: See—  
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- Hunter, Byron A., to United States Rubber Co. Low temperature expansion of liquid organic polysulfide polymer with hydrazine-type compounds and an oxidative curative. 3,114,723, 12-17-63, Cl. 260-2.



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- Hunter, Byron A., and R. R. Barnhart, to United States Rubber Co. High temperature blowing of rubber and plastics with alkali metal azodicarboxylate. 3,111,496, 11-19-63, Cl. 260-2.5.
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- Hunter, Melmoth W. 3,079,620.
- Hunter, Clayton M. Dispensing caps for container. 3,094,255, 6-18-63, Cl. 222-507.
- Hunter, Don L., to United States Borax & Chemical Corp. Preparation of metaborate and polyborate esters. 3,099,677, 7-30-63, Cl. 260-462.
- Hunter, Don L., K. Kitasaki, and G. W. Willcockson, to United States Borax & Chemical Corp. Lubricating oil compositions. 3,074,885, 1-22-63, Cl. 252-33.6.
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- Hunter, Edward A., and C. L. Aldridge, to Esso Research and Engineering Co. Indane synthesis. 3,082,267, 3-19-63, Cl. 260-668.
- Hunter, Edward A., and C. L. Aldridge, to Esso Research and Engineering Co. Process for hydrogenating carbonyl compounds. 3,102,150, 8-27-63, Cl. 260-632.
- Hunter, Edwin J., to Moist O Matic, Inc. Sprinkler. 3,107,056, 10-15-63, Cl. 239-206.
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- Hunter, George D., to Deere & Co. Cushion spring standard for an earth working tool. 3,098,531, 7-23-63, Cl. 172-710.
- Hunter, George D., to Deere & Co. Tractor cultivator mounting. 3,100,654, 8-13-63, Cl. 280-412.
- Hunter, George D., to Deere & Co. Control system. 3,108,642, 10-29-63, Cl. 172-44.
- Hunter, George D., and D. A. Hill, to Deere & Co. Farm implement. 3,092,187, 6-4-63, Cl. 172-297.
- Hunter, George D., and W. W. Jackson, to Deere & Co. Center enclosed drive for rod weeder. 3,101,786, 8-27-63, Cl. 172-44.
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- Hunter, Ian, to Marconi's Wireless Telegraph Co. Ltd. Radar system for indicating a collision course. 3,088,110, 4-30-63, Cl. 343-11.
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- Hunter, John M. Surgical instrument. 3,081,770, 3-19-63, Cl. 128-221.
- Hunter, Joseph L.: *See*—
- Greene, Ernest W., Duke, and Hunter. 3,072,255.
- Hunter, Lee. Torsion bar height gauge. 3,111,773, 11-26-63, Cl. 33-181.
- Hunter, Lloyd P., to International Business Machines Corp. Superconductor persistent current circuits. 3,093,816, 6-11-63, Cl. 340-173.1.
- Hunter, Lloyd P., to International Business Machines Corp. Domain rotational memory system. 3,093,818, 6-11-63, Cl. 340-174.
- Hunter, Lloyd P., to International Business Machines Corp. Graded energy gap semiconductor devices. 3,111,611, 11-19-63, Cl. 317-235.
- Hunter, Matthew S., and E. C. Franz, to Aluminum Co. of America. Production of void-free aluminum and aluminum base alloy articles. 3,084,080, 4-2-63, Cl. 148-11.5.
- Hunter, Melmoth W., deceased, C. E. Hunter, executrix. Mobile device for removing water from playing fields. 3,079,620, 3-5-63, Cl. 15-119.
- Hunter, Robert B., and R. F. Archer, to The National Cash Register Co. Regulated power supply. 3,087,107, 4-23-63, Cl. 321-19.
- Hunter, Roger W., and I. K. Haak, to International Telephone and Telegraph Corp. Electron discharge device. 3,087,088, 4-23-63, Cl. 315-12.
- Hunter, Walter F. Pneumatic dispatch system. 3,101,183, 8-20-63, Cl. 243-3.
- Hunter, Walter J. Battery terminal connector. 3,116,100, 12-31-63, Cl. 339-226.
- Hunter, Wesley L., to The Pure Oil Co. Sampling apparatus. 3,101,619, 8-27-63, Cl. 73-422.
- Hunter, William A., to Pettibone Mulliken Corp. Spinning table assembly. 3,102,810, 9-3-63, Cl. 22-17.
- Hunter, William A., to Pettibone Mulliken Corp. Core-unloading apparatus for an automatic core-making machine. 3,107,402, 10-22-63, Cl. 22-10.
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- Ullman, John E. 3,101,654.
- Huntington Chemical Corp.: *See*—
- Huntington, Morgan G. 3,083,471.
- Huntington, Morgan G. 3,088,816.
- Huntington, Morgan G. 3,100,146.
- Huntington, Morgan G. 3,106,521.
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- Huntington, Laurance W., to Reno Engineering & Mining Co. Continuous process mineral separation. 3,100,701, 8-13-63, Cl. 75-101.
- Huntington, Morgan G., to Huntington Chemical Corp. Apparatus for continuous and uniform contacting of fluids and solids. 3,083,471, 4-2-63, Cl. 34-52.
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- Huntley, Baxter D., to Huntley Knitting Mills, Inc. Method of making knit garment. 3,078,699, 2-26-63, Cl. 66-176.
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- Huntly Engineering & Welding Co. Ltd.: *See*—
- Wight, John L. 3,093,008.
- Hunton, James K., and A. G. Ryals, to Hewlett-Packard. High frequency transmission line having variable absorption using variably biased semiconductor devices shunting the line. 3,107,335, 10-15-63, Cl. 333-81.
- Huntowski, Raymond J., to FMC Corp. Strainer. 3,074,558, 1-22-63, Cl. 210-299.
- Huntress, Howard B., to American Brake Shoe Co. Powder metallurgy. 3,074,152, 1-22-63, Cl. 29-182.3.
- Huntsinger Associates: *See*—
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- Huntsinger, Carl F., to Huntsinger Associates. Slip engaging portion of drill string formed of increased wall thickness and reduced hardness. 3,080,179, 3-5-63, Cl. 285-45.
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- Huppert, K. H., Co.: *See*—
- Weise, Erwin K. 3,114,082.
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- Hurd, Elmer G., to Norton Co. Cathode bar for aluminum reduction cell. 3,088,906, 5-7-63, Cl. 204-279.



- Hurdell, Thomas D. Pneumatic tire. 3,106,951, 10-15-63, Cl. 152-334.
- Hurdlow, William R., B. B. Boecker, and R. E. Johnson, Jr., to United States of America, Air Force. Swipe sampler. 3,091,967, 6-4-63, Cl. 73-425.
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- Hurford, Walter J.: See—  
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- Hurlbut, Gordon K., and H. C. Reynolds, to Cadre Industries Corp. Cable stripping apparatus. 3,085,455, 4-16-63, Cl. 81-9.51.
- Hurlebaus, Richard P., to The Budd Co. Indirect welding. 3,089,020, 5-7-63, Cl. 219-86.
- Hurley, Frederick A., to Forward Industries, Inc. Golf game apparatus. 3,114,554, 12-17-63, Cl. 273-176.
- Hurley, Frederick A., to Forward Industries, Inc. Golf game apparatus. 3,114,555, 12-17-63, Cl. 273-176.
- Hurley, George F.: See—  
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- Hurley, Roy T., to Curtiss-Wright Corp. Gas seal for rotary mechanisms. 3,081,745, 3-19-63, Cl. 121-68.
- Hurley, Roy T., M. Bentele, and J. A. Kimberley, to Curtiss-Wright Corp. Rotary combustion engines. 3,081,753, 3-19-63, Cl. 123-8.
- Hurley, Rupert B., and P. C. Colodny, to The Dow Chemical Co. Process of treating wet-spun acrylonitrile fibers. 3,099,517, 7-30-63, Cl. 18-48.
- Hurley, Stanley R.: See—  
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- Hurley, Thomas P., F. L. Donohue, and J. R. Teeple, to Sprague Electric Co. Fully silvered ceramic. 3,103,734, 9-17-63, Cl. 29-25.42.
- Huron, James W. Vacuum sensitive electric control with mounting bracket. 3,076,627, 2-5-63, Cl. 248-309.
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- Hurst, Derek, and P. D. Havard, to Electric & Musical Industries Ltd. Apparatus for maintaining a predetermined quantity of an elongated medium at a predetermined zone. 3,090,535, 5-21-63, Cl. 226-26.
- Hurst, Frank E. Device for holding a fish. 3,086,311, 4-23-63, Cl. 43-25.
- Hurst, George P. Wire rope connector and kiln structure. 3,097,834, 7-16-63, Cl. 263-33.
- Hurst, George P. Boat launching apparatus. 3,101,149, 8-20-63, Cl. 212-20.
- Hurst, Howard L. Thermal head appliance. 3,090,045, 5-21-63, Cl. 2-7.
- Hurst, John W.: See—  
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- Hurst, Mowatt M. Automobile drying installation. 3,085,351, 4-16-63, Cl. 34-229.
- Hurst, Norman A., and W. J. Edney, to Dunlop Rubber Co. Ltd. Perforator for pneumatic tire sidewall. 3,095,773, 7-2-63, Cl. 83-2.
- Hurt, Arthur A. Method of mixing and spreading fertilizer. 3,073,606, 1-15-63, Cl. 275-8.
- Hurt, Charles N.: See—  
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- Hurt, Norman A.: See—  
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- Hurt, Percy F. Accelerometer. 3,071,975, 1-8-63, Cl. 73-517.
- Hurt, Robert H. Gear driven elevator. 3,110,393, 11-12-63, Cl. 198-158.
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- Hurtig, Carl R., to Pacific Industries, Inc. Crystal discriminator circuits. 3,108,230, 10-22-63, Cl. 329-117.
- Hurtig, Roy E., to FMC Corp. Automatic choke control for a screw press. 3,085,502, 4-16-63, Cl. 100-43.
- Hurtig, Roy E., to FMC Corp. Can track. 3,105,526, 10-1-63, Cl. 141-171.
- Hurtitt, Leon E., to Ryan Aeronautical Co. Cosine-secant multiplier. 3,086,704, 4-23-63, Cl. 235-61.
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- Hurtz, Ernst G.: See—  
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- Hurvitz, Harriet. Convertible baby carriage. 3,094,339, 6-18-63, Cl. 280-31.
- Hurvitz, Hyman. Variable scan rate spectrum analyzer. 3,110,861, 11-12-63, Cl. 324-77.
- Hurwitz, Abraham, and W. J. O'Neill, to Hypro Diving Equipment Corp. Harness pack for free diving apparatus. 3,090,205, 5-21-63, Cl. 61-70.
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- Hurwitz, Max, to Maxam, Inc. Quick detachable die and die carrier. 3,085,508, 4-16-63, Cl. 101-384.
- Hurwitz, Max, to Maxam, Inc. Leather marking machine. 3,092,023, 6-4-63, Cl. 101-297.
- Hurwitz, Melvin D.: See—  
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- Husband, William M. Turf plugger. 3,098,672, 7-23-63, Cl. 294-50.7.
- Husby, Donald E., and M. E. Keck, to Westinghouse Electric Corp. Luminaire. 3,099,405, 7-30-63, Cl. 240-106.
- Huschke, Ernst G. J., P. R. Mobley, and W. R. Blackham, to General Electric Co. Nickel-chromium-palladium brazing alloy. 3,089,769, 5-14-63, Cl. 75-171.
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- Hushley, Walter J., now by change of name W. J. Harper, to Westinghouse Electric Corp. X-ray fluorescent screen. 3,089,956, 5-14-63, Cl. 250-80.
- Huska, Paul. Motor driven rotary selector valve. 3,098,960, 7-23-63, Cl. 318-443.
- Huso, Maurice A. Toilet filtering ventilator. 3,087,168, 4-30-63, Cl. 4-213.
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- Husome, Robert G., to Barry-Wehmiller Machinery Co. Inspection circuit. 3,115,970, 12-31-63, Cl. 209-111.5.
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- Huss, Shottle L., and F. D. Lynn. Positively driven clearer roll. 3,108,309, 10-29-63, Cl. 15-256.52.
- Huss, Steven J., to Sperry Rand Corp. Magnetic field compensation means. 3,107,347, 10-15-63, Cl. 340-174.1.
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- Hustead, Ralph L. Center crank feed drill press. 3,089,355, 5-14-63, Cl. 77-6.
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- Husted, Ralph and L. M., to Gadget-of-The-Month Club, Inc. Portable foldable support. 3,076,557, 2-5-63, Cl. 211-178.
- Huston, Elmo F., and J. L. Nicholls, to The Ohio Brass Co. Electrical apparatus housing. 3,104,278, 9-17-63, Cl. 174-163.
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- Huston, John R., W. A. Webb, R. G. McGrath, and W. E. Johnson, to Westinghouse Electric Corp. Semidirect equipment maintenance. 3,090,740, 5-21-63, Cl. 204-193.2.
- Huston, Milton D., to Controls Co. of America. Combustion ring and air supply means for hydroxylating burner. 3,084,735, 4-9-63, Cl. 158-91.
- Huston, Paul O.: See—  
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- Huston, William D., to American Radiator & Standard Sanitary Corp. Electro-magnetic device. 3,091,725, 5-28-63, Cl. 317-171.
- Huston, William D., and R. A. Beisheim, to Rochester Mfg. Co., Inc. Multi-angle gauge. 3,091,966, 6-4-63, Cl. 73-362.2.
- Husum, Charles W., to Owens-Illinois Glass Co. Conveyer. 3,088,579, 5-7-63, Cl. 198-134.
- Huszar, Kalman Z. Gear. 3,108,488, 10-29-63, Cl. 74-465.
- Hutchens, Frederick L., to United States of America, Navy. Cooling device for infrared detector. 3,079,504, 2-26-63, Cl. 250-83.
- Hutchens, Morris L., and K. A. Riedel, to Kearney & Trecker Corp. Metal working machine. 3,073,024, 1-15-63, Cl. 29-568.



- Hutcherson, Eugene S. Knockdown sandbox. 3,086,773, 4-23-63, Cl. 272-1.
- Hutchings, Le Roi E., and G. W. Crosby, to The Pure Oil Co. Preparation of alkaline earth petroleum sulfonates. 3,076,841, 2-5-63, Cl. 260-504.
- Hutchings, William D. J. Individual milk yield measuring apparatus. 3,088,316, 5-7-63, Cl. 73-223.
- Hutchins, Alma A. Polisher. 3,084,364, 4-9-63, Cl. 15-97.
- Hutchins, Alma A. Work smoothing tool. 3,106,806, 10-15-63, Cl. 51-187.
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- Schmidt, Chester W., Highley, and Hutchins. 3,076,489.
- Hutchins, Loren, to The Douthitt Corp. Step and repeat photographic printer. 3,077,824, 2-19-63, Cl. 95-77.5.
- Hutchins, Loren, to The Douthitt Corp. Contact printing device. 3,106,145, 10-8-63, Cl. 95-73.
- Hutchins, Roger W., and D. F. D'Arcy, to Hunting Survey Corp. Ltd. Gravity gradient measuring device. 3,095,744, 7-2-63, Cl. 73-382.
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- Hutchinson, Terence, to Short Bros. & Harland Ltd. Apparatus for measuring the mark-space ratio of a train of pulses. 3,096,400, 7-2-63, Cl. 178-69.
- Hutchinson, William M., H. Pickett, and H. G. Cutforth, to United States of America, Air Force. Pretreatment of solid propellant grains containing ammonium nitrate. 3,072,510, 1-8-63, Cl. 149-19.
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- Hutchison, Paul T., to Bell Telephone Laboratories, Inc. Communication system using polarized waves and employing concentric waveguides to control transmitter-receiver interaction. 3,086,203, 4-16-63, Cl. 343-100.
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- Hutson, Andrew R., to Bell Telephone Laboratories, Inc. Piezoelectric devices utilizing zinc oxide. 3,091,707, 5-28-63, Cl. 310-8.
- Hutson, Andrew R., to Bell Telephone Laboratories, Inc. Piezoelectric devices utilizing cadmium sulfide. 3,093,758, 6-11-63, Cl. 310-8.
- Hutson, Thomas, Jr., to Phillips Petroleum Co. Alkylation. 3,113,987, 12-10-63, Cl. 260-683.48.
- Hutt, Philip, to General Electric Co. Pushbutton switch with mechanically actuated extended slider. 3,091,671, 5-28-63, Cl. 200-5.
- Hutt, Philip, to General Electric Co. Two circuit door switch. 3,104,300, 9-17-63, Cl. 200-159.
- Huttenlocher, Dietrich F., and W. M. Sweeney, to Texaco Inc. Urethane containing lubricant. 3,096,285, 7-2-63, Cl. 252-47.5.
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- I-T-E Circuit Breaker Co.: *See*—Continued  
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- Iaccarino, Carl J., to J-B-T Instruments, Inc. Toggle switch.  
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- Iachan, Abraham. Treatment of wool and related materials.  
3,080,208, 3-5-63, Cl. 8-128.
- Iala, Joseph A. Bolt with an O-ring seal and anti-friction  
resinous shim. 3,087,370, 4-30-63, Cl. 85-9.
- Ianuzzi, Anthony P. Force measuring device. 3,073,155,  
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- Iaquina, Dominic J. Tire. 3,078,901, 2-26-63, Cl. 152-210.
- Iaquina, Dominic J. Tire cover. 3,079,971, 3-5-63, Cl.  
152-179.
- Iaquina, Nicola: *See*—  
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- Ibague, Harry C., B. D. Schwalm, and R. E. Wallin, to Sperry  
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- Ibex, Charles J., to The Maryland Baking Co. Container  
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- Ibis Enterprises Ltd.: *See*—  
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- Ibrahim, Salim M., to E. I. du Pont de Nemours and Co.  
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- Ichikawa, Kaname, and K. Ikeda. Cigarette lighter using  
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- Ichikawa, Stanley T.: *See*—  
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- Ichinokawa, Takeo. Combined electron probe microanalyzer  
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- Ida, Edward S., to E. I. du Pont de Nemours and Co. An-  
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- Ida, Edward S., to E. I. du Pont de Nemours and Co. Elec-  
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- Ideal Corp.: *See*—  
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- Ihnacki, Joseph J., Jr., to Ford Motor Co. Disc brake. 3,077,954, 2-19-63, Cl. 188—73.
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- Illinois Milling, Inc.: *See*—  
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- Inaba, Seiemon, K. Shimizu, and H. Mori, to Fuji Tsushinki Seizo Kabushiki Kaisha. Numerical position control servo-system. 3,082,363, 3-19-63, Cl. 318-30.
- Inaba, Söhel, S. Kono, W. Iwamura, and T. Mikami. Cordless switch board. 3,090,839, 5-21-63, Cl. 179-91.
- Inaba, Yanosuke, and K. Kimoto, to Toyo Katsui Industries, Inc. Process to manufacture copolymers of omega-aminoalkyl urea with methylene radicals having different number of carbons. 3,113,935, 12-10-63, Cl. 260-77.5.
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- Indewiesen, Frank H., to J-B-T Instruments, Inc. Resonant reed frequency sensitive control apparatus. 3,093,743, 6-11-63, Cl. 250-232.
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- Ingleson, James F., to General Electric Co. Variable-clearance shroud structure for gas turbine engines. 3,085,398, 4-16-63, Cl. 60—39.32.
- Inglett, George E., to Corn Products Co. Purification and recovery of fungal amylases. 3,101,302, 8-20-63, Cl. 195—66.
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- Ingram, Derek G. W., to The General Electric Co. Ltd. Oscillator having amplitude proportional to input signal. 3,097,345, 7-9-63, Cl. 331—109.
- Ingram, Edgar W., Jr., and W. D. Johnston, to White Castle System, Inc. Attachment for facilitating the pouring of cooked foods from open mesh fry baskets. 3,107,602, 10-22-63, Cl. 99—407.
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- Iskvan, George S. Tube flaring tool. 3,103,245, 9-10-63, Cl. 253-79.
- Isler, Otto: *See*—  
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- Isler, Otto, H. Lindlar, M. Montavon, R. Ruegg, U. Schwieter, and G. Saucy, to Hoffmann-La Roche Inc. Production of acetylenic carotenoid aldehydes and acetal intermediates therefor. 3,091,631, 5-28-63, Cl. 260-476.
- Isley, John V., and R. A. Gilliam, to Burlington Industries, Inc. Low pressure, high temperature dye beck. 3,094,858, 6-25-63, Cl. 68-5.
- Isley, John V., and R. A. Gilliam, to Burlington Industries, Inc. High pressure, high temperature dye beck. 3,094,859, 6-25-63, Cl. 68-15.
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- Ison, Burton M. Framing device. 3,105,316, 10-1-63, Cl. 40-155.
- Isono, Masao, and M. Abe, to Takeda Chemical Industries, Ltd. Dehydrogenation of steroids by microorganisms of the genus flavobacterium. 3,086,919, 4-23-63, Cl. 195-51.
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- Israel, Makhtsavei: *See*—  
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- Israel, Philip, to Chemetron Corp. Closure device and fastening means therefor. 3,077,360, 2-12-63, Cl. 292—256.67.
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- Isreeli, Jack, to Technicon Instruments Corp. Pumping apparatus. 3,072,296, 1-8-63, Cl. 222—132.
- Isreeli, Jack, to Technicon Chromatography Corp. Variable gradient device. 3,088,714, 5-7-63, Cl. 259—66.
- Isreeli, Jack, to Technicon Instruments Corp. Pump. 3,101,675, 8-27-63, Cl. 103—149.
- Isreeli, Jack, and T. Bilichniaksky, to Technicon Instruments Corp. Liquid supply means with mixing device. 3,107,537, 10-22-63, Cl. 73—423.
- Isserstedt, Siegfried G. Means for the controlled dispensing of draft beer. 3,107,705, 10-22-63, Cl. 141—361.
- Issler, Jorg, to Robert Bosch, G.m.b.H. Electromagnetic clutch arrangement. 3,094,202, 6-18-63, Cl. 192—3.5.
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- Ito, Suekichi, T. Takamura, and K. Sudo. Receiving system in a superheterodyne radio receiver. 3,103,631, 9-10-63, Cl. 325—439.
- Ito, Yoshikazu, to Toyo Rayon Kabushiki Kaisha. Method of producing nitroso compounds or oximes. 3,090,739, 5-21-63, Cl. 204—162.
- Itoh, Yuko, to International Mac Gregor Organization (I.M.G.O.) Covers for closing open spaces such as shipholds, railway cars and the like. 3,095,847, 7-2-63, Cl. 114—202.
- Ittner, Edwin C. Article hanger. 3,084,802, 4-9-63, Cl. 211—4.
- Ivaldi, Tito, to Fiat Societa per Azioni. Vehicle with driven front steerable wheels and driven tandem rear wheels. 3,083,782, 4-2-63, Cl. 180—24.
- Ivanchich, Peter. Automatic transmission. 3,099,171, 7-30-63, Cl. 74—688.
- Ivanchich, Peter G., to Ford Motor Co. Power transmission control linkage. 3,106,851, 10-15-63, Cl. 74—335.
- Ivanoff, Alexander, to Hayward Tyler & Co. Ltd. Pumps. 3,103,179, 9-10-63, Cl. 103—153.
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- Ivarson, Nemo S. M., to Kooperativa Forbundet Ekonomisk Forening. Batching apparatus for liquid or plastic substances. 3,101,161, 8-20-63, Cl. 222—235.
- Ivarson, Nemo S. M., to Kooperativa Forbundet ekonomisk forening. Device for batching apparatus. 3,113,701, 12-10-63, Cl. 222—80.
- Ivarsson, Erik, to Malcus Holmquist Aktiebolaget. Combined squeezing and jolting devices for inverting moulding machines. 3,111,730, 11-26-63, Cl. 22—26.
- Ivens, Edgar, and A. I. F. Simpson, to Modern Telephones (Great Britain) Ltd. Loudspeaking telephones. 3,102,169, 8-27-63, Cl. 179—100.
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- Iversen, Richard N., to The Weatherhead Co. Pressurized hose end. 3,097,866, 7-16-63, Cl. 235—18.
- Iversen, Richard N., to The Weatherhead Co. Metal joint or seal. 3,098,662, 7-23-63, Cl. 235—18.
- Ives, Clifford E., to Tee-Pak, Inc. Shirring machine. 3,112,517, 12-3-63, Cl. 17—42.
- Ives, Frank E.: *See*—  
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- Ives, Walter J.: *See*—  
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- Ives, Walter J., J. Rywak, and J. N. Reid, to Northern Electric Co., Ltd. Apparatus for verifying the operation of a tape reperforator photoelectrically. 3,083,898, 4-2-63, Cl. 234—34.
- Ivey, Henry F., to Westinghouse Electric Corp. Frequency-dependent electroluminescent device for presenting colored images. 3,103,551, 9-10-63, Cl. 178—5.4.
- Ivey, Lee R., to Lab-Crafts, Inc. Dog cage. 3,098,465, 7-23-63, Cl. 119—15.
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- Ivins, Herbert L., to The Murray Corp. Pressure vacuum-relief closure cap for automobile radiator. 3,111,239, 11-19-63, Cl. 220—44.
- Ivory, Chester S., Jr., to J. W. Ivory, Inc. Dental matrix retainer. 3,099,088, 7-30-63, Cl. 32—63.
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- Ivy, Gerald D. Window well shield. 3,085,489, 4-16-63, Cl. 98—37.
- Ivy, Jessie T. Revolver cylinder and mounting therefor. 3,093,922, 6-18-63, Cl. 42—62.
- Iwaki, Masao, and S. Kaneko, to Japan Drive-It Co., Ltd. Stud fastening method. 3,111,045, 11-19-63, Cl. 78—46.
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- Iwanaga, Ryoji: *See*—  
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- Iwanitz, Michael. Boat safety attachment. 3,093,849, 6-18-63, Cl. 9—14.
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- Iwasaki, Hiroshi: *See*—  
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- Iwasaki, Hiroshi, to Kurashiki Rayon Co., Ltd. Papers and unwoven cloths containing fibers of polyvinyl alcohol. 3,114,670, 12-17-63, Cl. 162—146.
- Iwata, Harry M., J. D. Pollard, and W. O. Israel, to FMC Corp. Non-staining pyrethrin insecticides. 3,087,854, 4-30-63, Cl. 167—24.
- Iwata, Saburo, to Sony Corp. Semi-conductor device. 3,114,866, 12-17-63, Cl. 317—234.
- Iwatsuki, Frank, to United States of America, Air Force. Self-energized zipper seal. 3,103,051, 9-10-63, Cl. 24—205.1.
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- Izod, Donald A. W.: *See*—  
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- J. P. Co., Inc.: *See*—  
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- Jabbusch, Georg, to Brown, Boveri & Cie, Aktiengesellschaft. Arrangement for inductive soldering or welding longitudinal seams on tubes. 3,072,772, 1-8-63, Cl. 219—8.5.
- Jablonski, Francis E., and C. B. Leffert, to General Motors Corp. Nuclear device for generating electric power. 3,093,567, 6-11-63, Cl. 204—193.2.
- Jablonski, Richard J.: *See*—  
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- Jablonsky, Roy D., to Giannini Controls Corp. Step function generator. 3,090,906, 5-21-63, Cl. 323—43.5.
- Jaccard, René-Philippe, to S. J. Kaufman. Alarm wrist-watch. 3,086,352, 4-23-63, Cl. 58—57.5.
- Jachimowicz, Ludwik, to General Cable Corp. Electric cable and method of manufacture. 3,087,007, 4-23-63, Cl. 174—110.
- Jachter, Martin H., to United States of America, Army. Apparatus for calibrating radiation measuring devices. 3,107,299, 10-15-63, Cl. 250—83.
- Jack, Bill, Scientific Instrument Co.: *See*—  
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- Jack, Harry R. S., J. A. T. Jaquest, and G. Rothwell, to Pilkington Brothers Ltd. Melting of glass batch. 3,077,094, 2-12-63, Cl. 65—136.



- Jack, Robert F., R. E. Prescott, and P. R. White, to Bell Telephone Laboratories, Inc. Method of making printed wiring assemblies. 3,075,280, 1-29-63, Cl. 29—155.5.
- Jacke, Raymond E., to Reynolds Metals Co. Flexible container adapted for fluids. 3,088,646, 5-7-63, Cl. 229—14.
- Jacke, Raymond E., to Reynolds Metals Co. Lined container for liquids and liner therefor. 3,095,134, 6-25-63, Cl. 229—14.
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- Jackel, Arthur P., to Westinghouse Air Brake Co. Coordination controls for remote control systems. 3,099,815, 7-30-63, Cl. 340—163.
- Jackel, Simon S., to Vico Products Co. Flavoring composition and method of preparing the same. 3,102,033, 8-27-63, Cl. 99—90.
- Jackering, Gunther, to Altenburger Maschinen G.m.b.H. Apparatus for fine grinding. 3,071,330, 1-1-63, Cl. 241—53.
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- Jackle, Carl W., to United States of America, Navy. Marker generator. 3,077,598, 2-12-63, Cl. 343—118.
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- Jacklin, Merl E. and E. R. Can rack. 3,102,707, 9-3-63, Cl. 248—146.
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- Jackson, Clarence E., to Union Carbide Corp. Submerged melt welding process and composition. 3,078,193, 2-19-63, Cl. 148—26.
- Jackson, Curtiss E., Sr. Hermetic seal valve assemblies. 3,101,863, 8-27-63, Cl. 220—44.
- Jackson, Dale E., to E. I. du Pont de Nemours and Co. Fused homogeneous waterleaf of organic polymer fibrils and inorganic flakes, and process for preparing same. 3,080,272, 3-5-63, Cl. 162—157.
- Jackson, Donald, to Pye Ltd. Television cameras. 3,114,798, 12-17-63, Cl. 178—72.
- Jackson, Earl R. Athletic foul automatic indicator. 3,100,472, 8-13-63, Cl. 116—114.
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- Jackson, Frank R., and J. W. Wilson, to Superflexit Ltd. End fitting for a helical convoluted hose. 3,078,109, 2-19-63, Cl. 285—251.
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- Jackson, George W. Locking bracket for scaffolding brace bars. 3,091,485, 5-28-63, Cl. 287—53.5.
- Jackson, Harold. Portable lamp brackets. 3,078,367, 2-19-63, Cl. 240—52.1.
- Jackson, Harold E., to Tecalemit Ltd. Electrically operated pumps. 3,074,346, 1-22-63, Cl. 103—53.
- Jackson, Harold E., P. W. Stripp, and R. E. Farnfield, to Tecalemit Ltd. Fluid filters. 3,076,555, 2-5-63, Cl. 210—493.
- Jackson, Harold L., to E. I. du Pont de Nemours and Co. Method for preparing silane. 3,103,415, 9-10-63, Cl. 23—204.
- Jackson, Harry L., and T. E. Kraner, to C-B Southern, Inc. Gas sweetening process and apparatus. 3,087,291, 4-30-63, Cl. 55—62.
- Jackson, Haskell L. Fishing lure. 3,093,923, 6-18-63, Cl. 43—42.11.
- Jackson, Ivan U., to E. I. du Pont de Nemours and Co. Radially expansible holder for tubular packages. 3,092,342, 6-4-63, Cl. 242—46.2.
- Jackson, Ivan U., to E. I. du Pont de Nemours and Co. Transfer tall winding device. 3,097,804, 7-16-63, Cl. 242—19.
- Jackson, James M., Jr., to The V. L. Smithers Mfg. Co. Process of making flexible absorbent material. 3,101,242, 8-20-63, Cl. 18—47.5.
- Jackson, James M., Jr., to The V. L. Smithers Mfg. Co. Suction head for saturating foam blocks. 3,104,987, 9-24-63, Cl. 118—50.
- Jackson, James S., to Mayor & Coulson Ltd. Conveyor belt tension device. 3,113,662, 12-10-63, Cl. 198—208.
- Jackson, John B., to United States of America, Army. Decontaminating solution. 3,079,346, 2-26-63, Cl. 252—153.
- Jackson, John G., to Well Completions, Inc. Well drilling apparatus and method. 3,094,175, 6-18-63, Cl. 175—69.
- Jackson, John G., to Gas Drilling Services Co. Reverse circulation sub. 3,095,052, 6-25-63, Cl. 175—324.
- Jackson, John G., to Gas Drilling Services Co. Drilling apparatus for large well bores. 3,102,600, 9-3-63, Cl. 175—308.
- Jackson, John G., to Well Completions, Inc. Method and apparatus for severing casings and the like. 3,115,184, 12-24-63, Cl. 166—35.
- Jackson, John G., Jr., and A. F. Rhodes, to McEvoy Co. Apparatus for drilling and completion of inaccessible wells. 3,086,590, 4-23-63, Cl. 166—66.5.
- Jackson, John G., Jr., and A. F. Rhodes, to McEvoy Co. Valves with upstream-downstream sealing. 3,095,004, 6-25-63, Cl. 137—246.11.
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- Jackson, Joseph J. Grouping and crowding machine. 3,109,531, 11-5-63, Cl. 198—34.
- Jackson, Julius, to E. I. du Pont de Nemours and Co. Coating compositions containing water-insoluble ferric polyphosphate pigments. 3,074,895, 1-22-63, Cl. 260—22.
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- Jackson, Lloyd H. Soil conditioning composition. 3,075,836, 1-29-63, Cl. 71—24.
- Jackson Mfg. Co. Inc.: *See—*  
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- Jackson, Martin A., and J. W. Dow, to Van Zelm Associates Inc. Load limiting shock strut. 3,087,584, 4-30-63, Cl. 188—1.
- Jackson, Merlon L., P. Merlin, and J. S. Cameron, to J. F. Auer, Inc. Teaching machine. 3,106,026, 10-8-63, Cl. 35—9.
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- Jackson, Pearce E. Means for fastening and sealing yarn packages on perforated circulating pipes of dyeing machines. 3,086,381, 4-23-63, Cl. 68—198.
- Jackson, Philip, to The Bendix Corp. Transducer. 3,096,656, 7-9-63, Cl. 73—517.
- Jackson, Richard T., and D. G. Magill, Jr., to Riegel Paper Corp. Process for manufacturing paper from synthetic fibers. 3,095,345, 6-25-63, Cl. 162—146.
- Jackson, Robert C., to Monsanto Chemical Co. Bobbin chuck device. 3,093,332, 6-11-63, Cl. 242—46.6.
- Jackson, Robert D. Isolation of pheophytin from dehydrated alfalfa. 3,087,934, 4-30-63, Cl. 260—314.
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- Jackson, Robert W., and J. E. Pike, to The Upjohn Co. 6-fluoro-3,11-diketo  $\Delta^4$ , 17(20) pregnadien-21 oic acid esters. 3,114,757, 12-17-63, Cl. 260—397.1.
- Jackson, Roderick M., to Hamilton Watch Co. Electric watch having transistor controlled contact. 3,098,185, 7-16-63, Cl. 318—128.
- Jackson, Stuart P., to North Electric Co. Current supply apparatus. 3,076,925, 2-5-63, Cl. 323—22.
- Jackson, Thomas, and A. McPherson, to Associated Electrical Industries Ltd. Apparatus for use in the coating of electrically conducting members by the process of electrophoresis. 3,094,477, 6-18-63, Cl. 204—300.
- Jackson, Thomas J. Foundation column. 3,108,403, 10-29-63, Cl. 50—100.
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- Jackson, Wilbur. Automatic radio warning system. 3,102,235, 8-27-63, Cl. 325—163.
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- Jackson, William H., and C. C. Piontkowski, to The Udylite Corp. Electric power transfer mechanism for conveyor apparatus. 3,094,475, 6-18-63, Cl. 204-202.
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- Jacob, Norman B., to Keystone Ferrule & Nut Corp. Combination film can and spicer. 3,097,558, 7-16-63, Cl. 83-648.
- Jacob, Robert M., and J. G. Robert, to Societe des Usines Chimiques Rhone-Poulenc. Phenothiazine derivatives. 3,075,976, 1-29-63, Cl. 260-243.
- Jacob, Robert M., and J. C. Fouché, to Societe des Usines Chimiques Rhone-Poulenc. (1-piperidylalkyl) derivatives of 3-indole. 3,075,986, 1-29-63, Cl. 260-294.7.
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- Jacob, Robert M., and N. M. Preau, to Societe des Usines Chimiques Rhone-Poulenc. Adamant-1-yl monoesters of dibasic acids. 3,081,337, 3-12-63, Cl. 260-475.
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- Jacobaeus, Anton C.: See—
- Bergmann, Anders K., Elldin, Jacobaeus, Svala, and Velander. 3,088,998.
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- Jacobi, Walter & Sons, Inc.: See—
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- Jacobs, Henry R. Medicinal tablets. 3,113,076, 12-3-63, Cl. 167-82.
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- Jacobs, James W., to General Motors Corp. Domestic electric heating appliance. 3,115,565, 12-24-63, Cl. 219-20.
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- Jacobs, John H., to Consolidated Electrodynamics Corp. Rapid photographic developing. 3,088,824, 5-7-63, Cl. 96-63.
- Jacobs, Joseph D. Hole packing device. 3,104,584, 9-24-63, Cl. 86-20.
- Jacobs, Joseph H., to Jacobs Wind Electric Co. Cutting torch. 3,071,361, 1-1-63, Cl. 266-23.
- Jacobs, Kenneth C.: See—
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- Jacobs, Leonard: See—
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- Jacobs, Paul E.: See—
- Wallace, John W., and Jacobs. 3,089,365.
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- Jacobs, Philip F., to Flexigrip, Inc. Slider for fastener strips. 3,115,689, 12-31-63, Cl. 24-201.
- Jacobs, Ray T. Headgate apparatus. 3,091,934, 6-4-63, Cl. 61-29.
- Jacobs, Richard L.: See—
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- Jacobs, Robert L., to Industrial Nucleonics Corp. Hand wire stripper. 3,087,363, 4-30-63, Cl. 81-9.5.
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- Jacobs, William H. Sealing gasket for beverage dispensers. 3,112,114, 11-26-63, Cl. 277-205.
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- Jacobs, Joseph H. 3,071,361.
- Jacobsen, Albert E. Barometer. 3,114,265, 12-17-63, Cl. 73-385.
- Jacobsen, Alexander, to Kools Bros., Inc. Grid for disintegrating fibrous materials. 3,095,916, 7-2-63, Cl. 146-117.
- Jacobsen, Andrew B., to United States of America, Navy. Coded data decoder. 3,093,798, 6-11-63, Cl. 328-67.
- Jacobsen, Bjarne P.: See—
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- Jacobsen, John B.: See—
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- Jacobsen, Julius E., to Allis-Chalmers Mfg. Co. Tap changer motor control system with thermal time delay relay. 3,109,975, 11-5-63, Cl. 318-207.
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- Heth, Sherman C., and Agkulian. 3,106,811.
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- Price, Warren H. 3,099,123.
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- Jacobsen, Rolf. Arrangement in regulating valves for heating units. 3,099,430, 7-30-63, Cl. 251-146.
- Jacobsen, Vagn K.: See—
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- Jacobson, Benjamin B., to J. & L. Devices, Inc. Vehicle speed control device. 3,114,428, 12-17-63, Cl. 180-82.1.
- Jacobson, Carl H., to American Optical Co. Traffic safety belts. 3,089,143, 5-14-63, Cl. 2-1.
- Jacobson, Delbert G. Low crop harvesting attachment for combines. Re. 25,385, 5-14-63, Cl. 56-23.
- Jacobson, Donald, and I. Davis. Bow sight. 3,084,442, 4-9-63, Cl. 33-46.4.
- Jacobson, Earl C. Powder tamping and retrieving implement. 3,079,832, 3-5-63, Cl. 86-21.
- Jacobson, Edwin B., to Jervis Corp. Remote control structure for rearview mirrors and the like. 3,077,142, 2-12-63, Cl. 88-93.
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- Jacobson, George. Cigarette filters. 3,087,500, 4-30-63, Cl. 131-10.
- Jacobson, Irvin D., to Perfection Pipe Nipple Co. Lined nipple assembly for hot water tanks. 3,093,161, 6-11-63, Cl. 138-143.
- Jacobson, John H., Jr.: See—  
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- Jacobson, Kenneth E., to Dorr-Oliver Inc. Centrifugal machines having a nozzle type rotor structure. 3,080,108, 3-5-63, Cl. 233-14.
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- Jacobson, Robert J. Dental matrix strip. 3,082,531, 3-26-63, Cl. 32-63.
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- Jacobson, Åke L. F. Laboratory table for research work in hospitals and the like. 3,087,763, 4-30-63, Cl. 108-13.
- Jacobsson, Axel O.: See—  
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- Jacocks, Claud L., and G. E. Hinds, to Continental Oil Co. Phthalates of mixture of normal 6, 8 and 10 carbon primary alcohols and vinyl chloride polymers plasticized therewith. 3,094,503, 6-18-63, Cl. 260-31.8.
- Jacoff, Salem L., to Great Neck Saw Manufacturers, Inc. Saw blade holding mechanism. 3,114,402, 12-17-63, Cl. 145-108.
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- Jacox, Helen M.: See—  
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- Jacquemond, Jean. Mine-cars. 3,080,987, 3-12-63, Cl. 214-83.36.
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- Jacquet, Gabriel. Method of producing shoes with molded soles of rubber or plastic material. 3,109,701, 11-5-63, Cl. 18-59.
- Jacquier, Jean H., to Bell Telephone Laboratories, Inc. Diversity communication system. 3,099,716, 7-30-63, Cl. 179-15.
- Jacquot, Henri T.: See—  
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- Jacuzzi Bros., Inc.: See—  
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- Jacuzzi, Candido. 3,085,267.
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- Jaderholm, Henrik W. Fermi level calculator for semiconductors. 3,076,596, 2-5-63, Cl. 235-61.
- Jadot, Edgar, to Panmetals and Processes Inc. Method for preparing diammonium phosphate, starting from phosphoric acid produced by the wet process. 3,115,390, 12-24-63, Cl. 23-107.
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- Jaeger, Kirt S., to Midland-Ross Corp. Pipe end heating apparatus and method. 3,082,760, 3-26-63, Cl. 126-271.2.
- Jaeger, Peter, E. J. Koller, J. Wegmann, and H. Zollinger, to Ciba Ltd. Process for the production of fast dyes on polyhydroxylated materials. 3,073,662, 1-15-63, Cl. 8-54.2.
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- Jaeschke, Ralph L.: See—  
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- Jaeschke, Ralph L., to Eaton Mfg. Co. Electric coupling. 3,072,811, 1-8-63, Cl. 310-105.
- Jaeschke, Ralph L., to Eaton Mfg. Co. Multiple-clutch electromagnetic torque devices. 3,088,565, 5-7-63, Cl. 192-48.
- Jaeschke, Ralph L., to Eaton Mfg. Co. Liquid-cooled and lubricated electric machine. 3,089,046, 5-7-63, Cl. 310-105.
- Jaeschke, Ralph L., to Eaton Mfg. Co. Electrical shift control system for a transmission. 3,103,826, 9-17-63, Cl. 74-339.
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- Jaffa, Matthew L.: See—  
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- Jaffe, Arnold V., to Airkem, Inc. Dispenser having end point indicating means. 3,104,816, 9-24-63, Cl. 239-35.
- Jaffe, Benjamin, and A. Textor, to Deltown Foods, Inc. Disc washing machine. 3,093,149, 6-11-63, Cl. 134-149.
- Jaffe, David L., to Polarad Electronics Corp. Signal recognition and identification system. 3,076,932, 2-5-63, Cl. 324-77.
- Jaffe, David L., to Polarad Electronics Corp. Panoramic scanning counter. 3,115,622, 12-24-63, Cl. 340-224.
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- Jaffe, David L., and C. French, to Polarad Electronics Corp. Digital pH meter. 3,095,535, 6-25-63, Cl. 324-30.
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- Jaffe, David L., C. F. Luck, Jr., and S. Schneider, to Polarad Electronics Corp. Spectrum analyzer employing velocity modulation. 3,108,222, 10-22-63, Cl. 324-77.
- Jaffe, Donald, and E. F. Losco, to Westinghouse Electric Corp. Process for bonding zirconium and alloys thereof. 3,106,773, 10-15-63, Cl. 29-487.
- Jaffe, Fred: See—  
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- Jaffe, Fritz, and H. Kaesmacher, to Spies, Hecker and Co. Furane resin lacquers and process for preparing same. 3,071,558, 1-1-63, Cl. 260-33.4.
- Jaffe, Henry I.: See—  
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- Jaffe, Lawrence L., and G. N. Wetzel, to General Motors Corp. Mixer. 3,092,469, 6-4-63, Cl. 23-285.
- Jaffe, Max L., to American Guard, It Mfg. Co. Garment bag. 3,115,959, 12-31-63, Cl. 190-43.
- Jaffe, Myron I. Filter element. 3,092,581, 6-4-63, Cl. 210-510.
- Jaffe, Sam, to Renuzit Home Products Co. Briquette igniting and grease absorbent material. 3,089,760, 5-14-63, Cl. 44-41.
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- Jäger, Heinz, to Westfalia Dinnendahl Gruppel Aktiengesellschaft. Air-circulation classifier. 3,095,369, 6-25-63, Cl. 209-139.
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- Jaggers, George A., to Mayfair Industries, Inc. Packaged article. 3,092,251, 6-4-63, Cl. 206-63.2.
- Jahn, Alex K., to The Dow Chemical Co. Non-clumping foamable thermoplastic polymer granules and method of making. 3,086,885, 4-23-63, Cl. 117-100.
- Jahn, Carl M. Waler corner coupler. 3,108,793, 10-29-63, Cl. 269-122.
- Jahn, Charles R. Bowling target. 3,105,685, 10-1-63, Cl. 273-54.
- Jahn, Dale M., to Sperry Rand Corp. Very low frequency waveform generator. 3,085,206, 4-9-63, Cl. 328-21.
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- Jahn, Earl W., to Shell Process Inc. Method and apparatus for manufacturing resin coated core sand. 3,099,498, 7-30-63, Cl. 302-53.



- Jahn, Edward R., and A. J. Zaupa, to The Sherwin-Williams Co. Filter tube cleaner. 3,089,167, 5-14-63, Cl. 15-4.
- Jahn, Marion C., to Colborne Mfg. Co. Automatic fried pie forming machine. 3,112,713, 12-3-63, Cl. 107-1.
- Jahn, Marion C., and T. P. McNichols, to Colborne Mfg. Co. Machine for forming shells of pie crust dough. 3,109,390, 11-5-63, Cl. 107-15.
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- Jäkel, Gustav, to Siemens-Schuckertwerke Aktiengesellschaft. Contactor. 3,088,058, 4-30-63, Cl. 317-195.
- Jakeways, Frederick T., to Automotive Products Co. Ltd. Automatic adjusting device for disc brakes. 3,085,663, 4-16-63, Cl. 188-196.
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- Jakob, Franz: *See—*
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- Jakob, Franz, and K. Wagner, to Agfa Aktiengesellschaft. Camera with adjustable light meter. 3,111,072, 11-19-63, Cl. 95-10.
- Jakob, Fritz, to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft. Rectification of gases. 3,083,544, 4-2-63, Cl. 62-28.
- Jakob, Hans, to F. Zoellig. Washing and dyeing machines. 3,095,720, 7-2-63, Cl. 68-43.
- Jakob, John P.: *See—*
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- Jakobs, Karl, and F.-K. Ludwigs, to L. & C. Steinmüller Gesellschaft mit beschränkter Haftung. Filter nozzle. 3,081,877, 3-19-63, Cl. 210-293.
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- Jakobsson, S., Kungspannan: *See—*
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- Jakobsson, Stig V., to S. Jakobsson, Kungspannan. Combined hot water boiler and washing machine. 3,102,406, 9-3-63, Cl. 68-16.
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- Jakosky, John J., and J. J. Jakosky, Jr. 3,098,898.
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- James, Albert L., to National Distillers and Chemical Corp. Impregnating a roll having a deformable porous periphery with varnish. 3,113,883, 12-10-63, Cl. 117-8.
- James, Cyril H., to United Shoe Machinery Corp. Blank feeding apparatus. 3,106,392, 10-8-63, Cl. 271-44.
- James, David R., to Murray Cornex Printing Ltd. Machines for printing or decorating articles of ware. 3,094,921, 6-25-63, Cl. 101-44.
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- James, Estella T.: *See—*
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- James, George R.: *See—*
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- James, Lewis A.: *See—*
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- Jamison, Samuel J., to Chicopee Mfg. Corp. Diaper. 3,072,124, 1-8-63, Cl. 128-284.
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- Jankowski, Alfred S., to Sylvania Electric Products Inc. Lead wire inserting apparatus. 3,075,562, 1-29-63, Cl. 140-147.
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- Jans, Leonard. Explosive engine. 3,103,171, 9-10-63, Cl. 102-64.
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- Ouletta, Nicholas. 3,111,637.
- Jefferson, Glen V.: *See*—
- Garrett, Edward O., Jr., and Jefferson. 3,107,751.
- Jefferson, Melissa H. Brassiere. 3,109,431, 11-5-63, Cl. 128-472.
- Jefferson, Sidney: *See*—
- Putman, John L., Jefferson, and Owen. 3,076,894.
- Jefferys, Richard A., W. I. Pollock, and F. J. Anders, Jr., to E. I. du Pont de Nemours and Co. Columbium base alloys. 3,086,859, 4-23-63, Cl. 75-174.
- Jeffrey, David W., and V. Leonard, to Esso Research and Engineering Co. Fluid seal for a reciprocating shaft. 3,106,099, 10-8-63, Cl. 74-18.2.
- Jeffrey Gallion Mfg. Co.: *See*—
- Eberle, William R. 3,102,718.
- Kindig, Arnie J. 3,097,541.
- Moon, Sterling C. 3,074,701.
- Moon, Sterling C. 3,100,629.
- Jeffrey, George M., and W. Poole, to Courtaulds Ltd. Tow processing machines. 3,106,326, 10-8-63, Cl. 226-177.
- Jeffrey, Louis R., Jr. Ultrasonic cleaning machine. 3,073,578, 1-15-63, Cl. 259-54.
- Jeffery, Thomas H.: *See*—
- Faulkner, Alfred H., and Jeffery. 3,109,979.
- Jeffress-Dyer, Inc.: *See*—
- Jeffress, Thomas N. 3,110,131.
- Jeffress, Thomas N., to Jeffress-Dyer, Inc. Building construction. 3,110,131, 11-12-63, Cl. 50-399.
- Jeffries, Dan W., 50% to H. W. Nash. Compensating brake structure. 3,112,014, 11-26-63, Cl. 188-196.
- Jeffries, Lloyd W.: *See*—
- Bryant, Raymond W. 3,103,825.
- Jeffreys, Roy A., to Eastman Kodak Co. Photographic emulsions stabilized with 1,2-dithiacyclopent-3-enes. 3,114,637, 12-17-63, Cl. 96-109.
- Jeffreys, Roy A., A. N. Davenport, and D. G. Saunders, to Eastman Kodak Co. Method of inhibiting discoloration of color photographic layers containing dye images and resulting photographic products. 3,095,302, 6-25-63, Cl. 96-11.



- Jeffris, Bruce M., to The Parker Pen Co. Dialing tool. 3,073,285, 1-15-63, Cl. 120-1.
- Jeffs, Jeffrey W. Screw couplings. 3,073,633, 1-15-63, Cl. 287-54.
- Jeger, Oskar, to Ciba Corp.  $\Delta^4$ -pregnane-20-imino derivatives and process for their preparation. 3,072,637, 1-8-63, Cl. 260-239.5.
- Jeger, Oskar, to Ciba Corp. 18-oxygenated pregnanes and process for their manufacture. 3,098,068, 7-16-63, Cl. 260-239.5.
- Jeger, Oskar, D. Arigoni, A. Wettstein, G. Anner, K. Heusler, C. Meystre, P. Wieland, and J. Kalvoda, to Ciba Corp. 20-hydroxy steroids. 3,092,625, 6-4-63, Cl. 260-239.55.
- Jelinek, Vaclav: *See*—
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- Jellinek, Karl, T. Hegedüs, H. Ulmer, and H. Bartl, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Dyeings and prints possessing fastness to wet processing and their manufacture on cellulose materials and protein fibers. 3,097,908, 7-16-63, Cl. 8-22.
- Jelrus Technical Products Corp.: *See*—
- Kauer, George C., Jr. 3,100,504.
- Jelsch, Louis J., to Ford Motor Co. Isolated chassis frame member for a vehicle. 3,078,103, 2-19-63, Cl. 280-96.2.
- Jemison, William H.: *See*—
- Klumpp, Ferdinand, Jr., and Jemison. 3,099,046.
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- Wagner, John C. 3,093,310.
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- Geffcken, Walter, and Faulstich. 3,074,805.
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- Schröder, Hubert. 3,094,436.
- Jenckel, Ludolf. Combined mass spectrometer and gas chromatograph recording apparatus. 3,084,012, 4-2-63, Cl. 346-49.
- Jencks, Charles L., to General Electric Co. Guide means for supporting a contact cross-arm of a circuit breaker. 3,105,132, 9-24-63, Cl. 200-168.
- Jendrisak, Joseph E., to Libbey-Owens-Ford Glass Co. Glass sheet bending mold. 3,094,403, 6-18-63, Cl. 65-288.
- Jendrisak, Joseph E., to Shatterproof Glass Corp. Glass bending apparatus. 3,103,430, 9-10-63, Cl. 65-290.
- Jendrusch, Paul, to E. C. H. Will. Device for overlapping sheets of paper, press board and other material. 3,096,978, 7-9-63, Cl. 271-46.
- Jeney, Endre: *See*—
- Csermely, Gyorgy, Lugosi, Jeney, and Zsolnai. 3,102,111.
- Jenkin, William C., to Union Carbide Corp. Method for securing adhesion of gas plating. 3,086,881, 4-23-63, Cl. 117-50.
- Jenkins, Albert S., to Owens-Illinois Glass Co. Hollow container decorating apparatus. 3,089,414, 5-14-63, Cl. 101-124.
- Jenkins, Albert S., and R. A. Atkinson, to Owens-Illinois Glass Co. Flame treating apparatus. 3,089,686, 5-14-63, Cl. 263-6.
- Jenkins, Carlton H., to The Martin Co. Universally tiltable machine tool head for compound contouring. 3,084,603, 4-9-63, Cl. 90-13.
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- Woolslayer, Homer J., Jenkins, and Woolslayer. 3,083,987.
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- Close, Patrick B., Coulter, Ditmer, Fahrenbruck, Goldammer, Goodrick, Gulden, Holloran, Jenkins, Kilheffer, Kinker, Lyons, Manor, Marvin, Miller, O'Brian, Randall, Garner, Sather, Yost, and Braden. 3,112,394.
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- Jenkins, George A., to G. C. Jenkins. Reversible ratchet mechanism. 3,096,659, 7-9-63, Cl. 74-157.
- Jenkins, George C.: *See*—
- Jenkins, George A. 3,096,659.
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- Martin, William A., Easterly, Thomson, Babcock, and Jenkins. 3,106,125.
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- Jenkins, James H.: *See*—
- Crockford, Jack A., Hayes, Feurt, Jenkins, and Palmer. 3,087,196.
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- Jenkins, Lloyd T., to Monsanto Chemical Co. Homopolymerization of acrylonitrile with catalyst compositions comprising organo tin hydride and metal halide complexes. 3,088,940, 5-7-63, Cl. 260-88.7.
- Jenkins, Lloyd T. Pen. 3,094,105, 6-18-63, Cl. 120-42.16.
- Jenkins, Lois M. Miniature-type jumping stand. 3,107,091, 10-15-63, Cl. 272-59.
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- Hotard, Septime R. 3,074,102.
- Jenkins, Mervyn M., and J. R. Macy, to Owens-Illinois Glass Co. Method for cleaning corrugated partition strips. 3,104,187, 9-17-63, Cl. 134-21.
- Jenkins, Ralph E., to Core Laboratories, Inc. Hydrocarbon gas chromatography and apparatus. 3,111,835, 11-26-63, Cl. 73-23.
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- Jenkins, Robert H., to Radio Corp. of America. Pulse timing circuit. 3,073,972, 1-15-63, Cl. 307-88.5.
- Jenkins, Roy F. Log grapple. 3,102,752, 9-3-63, Cl. 294-111.
- Jenkins, Theron W., Jr., to Leeds and Northrup Co. Control system for electrical generating units. 3,109,102, 10-29-63, Cl. 290-2.
- Jenks, Thomas E.: *See*—
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- Jenkins, Vance J. Body clamp. 3,108,629, 10-29-63, Cl. 153-32.
- Jenkins, Vance J. Clamp. 3,111,159, 11-19-63, Cl. 153-32.
- Jenkins, Victor R., to The Armstrong Rubber Co. Severing apparatus. 3,072,004, 1-8-63, Cl. 83-318.
- Jenkner, Herbert, to Kali-Chemie A.G. Process for producing organolead compounds. 3,072,697, 1-8-63, Cl. 260-437.
- Jenkner, Herbert, to Kali-Chemie A.G. Preparation of silicon-hydrogen compounds. 3,100,788, 8-13-63, Cl. 260-448.2.
- Jenkner, Herbert, to Kali-Chemie A.G. Preparation of boranes. 3,103,416, 9-10-63, Cl. 23-204.
- Jenkner, Herbert, to Kali-Chemie Aktiengesellschaft. Preparation of alkyl compounds of the second to fifth group elements. 3,103,526, 9-10-63, Cl. 260-431.
- Jenkner, Herbert, to Kali-Chemie Aktiengesellschaft. Preparation of sodium hydride. 3,116,112, 12-31-63, Cl. 23-204.
- Jenks, Don M.: *See*—
- Fettig, Arthur J., Jenks, Lasdine, Maidment, and Runde. 3,089,641.
- Jenks, Glenn H., E. M. Shapiro, N. Elliott, and C. V. Cannon, to United States of America, Atomic Energy Commission. Production of tritium. 3,079,317, 2-26-63, Cl. 204-154.2.
- Jenks, William R., and R. M. Shepherd, to E. I. du Pont de Nemours and Co. Method of producing hydrogen cyanide. 3,104,945, 9-24-63, Cl. 23-151.
- Jenn-Air Products Co., Inc.: *See*—
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- Jenn, Louis J., and Morrison. 3,110,357.
- Jenn, Louis J., and W. E. Morrison, to Jenn-Air Products Co., Inc. Acoustic curb. 3,085,647, 4-16-63, Cl. 181-56.
- Jenn, Louis J., and T. R. Field, to Jenn-Air Products Co., Inc. Counter-top range exhaust apparatus. 3,102,533, 9-3-63, Cl. 126-303.
- Jenn, Louis J., and W. E. Morrison, to Jenn Air Products Co. Acoustic curb. 3,110,357, 11-12-63, Cl. 181-36.
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- Jenne, John G. Rocking toy. 3,074,731, 1-22-63, Cl. 280-1196.
- Jenney, Theodore M., and D. H. Porter, to FMC Corp. Production of hydrogen peroxide. 3,073,680, 1-15-63, Cl. 23-207.
- Jenney, Theodore M., D. H. Porter, and E. M. Zdrojewski, to FMC Corp. Method of regenerating a noble metal hydrogenation catalyst. 3,112,278, 11-26-63, Cl. 252-420.
- Jennings, Alfred P. H., and B. A. Worswick, to Bailey Meter Co. Dewpoint hygrometer. 3,083,565, 4-2-63, Cl. 73-17.
- Jennings, Burrledge, to United States of America, Navy. Velocity-locking system. 3,110,024, 11-5-63, Cl. 343-7.
- Jennings, Cecil D.: *See*—
- Schick, George B., Issacs, and Jennings. 3,093,848.
- Jennings, Charles A.: *See*—
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- Jennings, Jo E., to Jennings Radio Mfg. Corp. Relay. 3,099,726, 7-30-63, Cl. 200-37.
- Jennings, Jo E., to Jennings Radio Mfg. Corp. Tip-off for processed tubes. 3,109,968, 11-5-63, Cl. 317-244.
- Jennings, John H., and C. S. Thompson; said Thompson assor. to Jennings. Renewable wiper blade and method of making same. 3,092,866, 6-11-63, Cl. 15-250.36.
- Jennings, Lyston C., and H. C. Spooner, to The New York Air Brake Co. Hydraulic system. 3,096,619, 7-9-63, Cl. 60-53.
- Jennings, Marvin D., to International Harvester Co. Two-way disk plow. 3,101,788, 8-27-63, Cl. 172-219.
- Jennings, Marvin D., to International Harvester Co. Disk plow attachment. 3,101,789, 8-27-63, Cl. 172-219.
- Jennings, Marvin D., to International Harvester Co. Intermittent clutch. 3,101,826, 8-27-63, Cl. 192-23.
- Jennings Radio Mfg. Corp.: *See*—  
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- Jennings, Richard H. Fountain device. 3,101,173, 8-20-63, Cl. 239-23.
- Jennings, Roscoe C., Jr., and J. C. King, to Intrusion-Prepakt, Inc. Earth pile anchorage. 3,114,245, 12-17-63, Cl. 61-53.62.
- Jennings, Samuel J., to Community Gin Co. Rotary feed for cotton gin. 3,083,413, 4-2-63, Cl. 19-52.
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- Jennings, William G., to Stewart-Warner Corp. Valve. 3,095,903, 7-2-63, Cl. 137-625.25.
- Jennings, William R., and R. V. Greder, to Deere & Co. Molding machine and process. 3,077,014, 2-12-63, Cl. 22-20.
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- Jenny, Robert, to Institut Français du Pétrole, des Carburants et Lubrifiants. Alkylating catalysts and alkylation process based thereon. 3,079,448, 2-26-63, Cl. 260-671.
- Jenny, Walter, and R. Wittwer, to Ciba Ltd. Process for dyeing or printing fibrous materials of aromatic polyesters. 3,100,132, 8-6-63, Cl. 8-39.
- Jensen, Alfred P., ½ to E. H. Kime. Lumber marking machine. 3,079,963, 3-5-63, Cl. 144-3.
- Jensen, Arthur, and J. Egbert, to Combustion Engineering, Inc. Rotor arrangement for rotary regenerative heat exchanger. 3,108,632, 10-29-63, Cl. 165-9.
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- Jensen, Clifford O.: *See*—  
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- Jensen, Dennis C., and E. J. Michel. High pressure lamp. 3,098,167, 7-16-63, Cl. 313-232.
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- Jensen, Ejnar, to Ejnar Jensen og Son I/S. Device for transversely folding laundry pieces. 3,116,059, 12-31-63, Cl. 270-68.
- Jensen, Ejnar, og Son I/S.: *See*—  
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- Jensen, Emil B. Tire rasp. 3,082,506, 3-26-63, Cl. 29-79.
- Jensen, Evan A., to United Air Lines, Inc. High intensity navigation light system. 3,102,993, 9-3-63, Cl. 340-25.
- Jensen, Fred C.: *See*—  
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- Jensen, Gerald A., J. G. Kakatsakis, and A. Sciola, to Aveco Corp. Shock absorbing device. 3,082,846, 3-26-63, Cl. 188-1.
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- Jensen, Hans C. Smoking pipes. 3,079,928, 3-5-63, Cl. 131-201.
- Jensen, Henry E., to C & D Batteries, Inc. Battery charger. 3,090,904, 5-21-63, Cl. 320-22.
- Jensen, Herman G., to The Seeburg Corp. Delivery mechanism for vending machines. 3,095,115, 6-25-63, Cl. 221-129.
- Jensen, James A., to Philadelphia Valve Co. Tank loading and unloading system for tank vehicles. 3,095,894, 7-2-63, Cl. 137-267.
- Jensen, James L., to Minneapolis-Honeywell Regulator Co. Semiconductor oscillator and amplifier. 3,098,200, 7-16-63, Cl. 331-113.
- Jensen, James L., and D. E. White, to Minneapolis-Honeywell Regulator Co. Converter with active starter circuit. 3,085,211, 4-9-63, Cl. 331-52.
- Jensen, Kaj H., to Hamilton Watch Co. Clock housing. 3,090,193, 5-21-63, Cl. 58-53.
- Jensen, Kenneth L.: *See*—  
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- Jensen, Lee. Patient hoist. 3,099,842, 8-6-63, Cl. 5-84.
- Jensen, Merlin R. Root watering device. 3,109,258, 11-5-63, Cl. 47-48.5.
- Jensen, Nathan K., to Medic-Made, Inc. Low gas pressure alarm. 3,101,068, 8-20-63, Cl. 116-70.
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- Jensen, Peter W.: *See*—  
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- Jensen, Philip B., and J. H. Humiston, to Scovill Mfg. Co. Snap fasteners. 3,079,659, 3-5-63, Cl. 24-216.
- Jensen, Raymond W., to The Garrett Corp. Pneumatic remote position actuator. 3,079,898, 3-5-63, Cl. 121-41.
- Jensen, Richard J.: *See*—  
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- Jensen-Salsberg Laboratories, Inc.: *See*—  
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- Jenson, Ernest L., to New Haven Wire & Cable, Inc. Wire package and reel therefor. 3,096,951, 7-9-63, Cl. 242-137.1.
- Jenson, Kenneth S., to Preway, Inc. Ventilating hood. 3,077,825, 2-19-63, Cl. 98-115.
- Jenssen, Sverre K., and G. C. Egenwall, to Rosenblads Patentor, Aktiebolaget. Heat exchangers of the indirect plate pack type. 3,106,242, 10-8-63, Cl. 165-166.
- Jenter, Ellsworth W. Apron for use when treating small pigs. 3,095,576, 7-2-63, Cl. 2-51.
- Jentges, Thomas W.: *See*—  
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- Jentoft, Arthur P., to H. H. Robertson Co. Ventilator. 3,078,781, 2-26-63, Cl. 98-43.
- Jentzen-Miller Co.: *See*—  
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- Jentzen, Sydney W., to Jentzen-Miller Co. Modular shelving assembly. 3,096,733, 7-9-63, Cl. 108-158.
- Jephcott, John A., to Longworth Scientific Instrument Co. Ltd. Rechargeable electric battery unit. 3,089,072, 5-7-63, Cl. 320-2.
- Jepsen, Robert L.: *See*—  
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- Jepsen, Robert L., to Varian Associates. Glow discharge method and apparatus. 3,094,639, 6-18-63, Cl. 313-7.
- Jepsen, Robert L., and A. B. Francis, to Varian Associates. Sputter ion protective apparatus. 3,101,431, 8-20-63, Cl. 315-35.
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- Jepson, Ivar, to Sunbeam Corp. Steam and dry iron capable of being used with tap water. 3,078,605, 2-26-63, Cl. 38-77.
- Jepson, Ivar, to Sunbeam Corp. Hair clipper. 3,079,687, 3-5-63, Cl. 30-210.
- Jepson, Ivar, to Sunbeam Corp. Spray device and method of dispensing liquids. 3,083,871, 4-2-63, Cl. 222-41.
- Jepson, Ivar, to Sunbeam Corp. Electric dry shaver. 3,090,119, 5-21-63, Cl. 30-41.
- Jepson, Ivar, to Sunbeam Corp. Combined engine shroud and fuel reservoir. 3,091,226, 5-28-63, Cl. 123-41.65.
- Jepson, Ivar, to Sunbeam Corp. Lightweight composite sole plate and method of making the same. 3,096,566, 7-9-63, Cl. 29-155.5.
- Jepson, Ivar, to Sunbeam Corp. Electric power unit for hand held food mixer. 3,097,318, 7-9-63, Cl. 310-68.
- Jepson, Ivar, to Sunbeam Corp. Composite electrically heated devices. 3,098,921, 7-23-63, Cl. 219-25.
- Jepson, Ivar, to Sunbeam Corp. Pressing iron. 3,104,482, 9-24-63, Cl. 38-77.
- Jepson, Ivar, to Sunbeam Corp. Lawn sprinkler. 3,105,639, 10-1-63, Cl. 239-242.
- Jepson, Ivar, A. F. Ernstberger, and G. R. Wolter, to Sunbeam Corp. Cleaning attachment. 3,071,799, 1-8-63, Cl. 15-354.
- Jepson, Ivar, and S. R. Kukulski, to Sunbeam Corp. Electrically operated hand iron clipping and shaving device. 3,072,809, 1-8-63, Cl. 310-29.
- Jepson, Ivar, and W. L. Chambers, to Sunbeam Corp. Electric mixer. 3,077,340, 2-12-63, Cl. 259-1.
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- Jepson, Malcolm D.: *See*—  
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- Jepson, Michael D., to The Spooner Dryer & Engineering Co. Ltd. Gaseous restraint of conveyed articles. 3,096,162, 7-2-63, Cl. 34-33.
- Jerabek, Robert D., to Archer-Daniels-Midland Co. Preparation of water-soluble oil-resin vehicles. 3,098,834, 7-23-63, Cl. 260-23.7.
- Jerchel, Dietrich: *See*—  
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- Jered Industries, Inc.: *See*—  
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- Jerger, Joseph J. Constant pressure shrouded propeller. 3,112,610, 12-3-63, Cl. 60-35.5.
- Jergitsch, Friedrich. Position signalling spacer for motor vehicles. 3,102,507, 9-3-63, Cl. 116-28.
- Jermar, Frantisek. Panel gate and segment weirs. 3,071,931, 1-8-63, Cl. 61-22.
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- Jermyn, Chester S. Rotating toys. 3,076,287, 2-5-63, Cl. 46-60.
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- Jernberg, Evert H., and R. K. Bergquist, to Electric Machinery and Mfg. Co. Collector ring assembly with field winding discharge air gap. 3,091,714, 5-28-63, Cl. 310-232.
- Jernigan, Howard M., to Goodman Mfg. Co. Fully resilient troughing idler assembly for low rope conveyor. 3,078,980, 2-26-63, Cl. 198-192.
- Jernigan, Thomas L.: *See*—  
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- Jerome, Keith L.: *See*—  
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- Jerore, Daniel G. Universally adjustable work holder. 3,112,104, 11-26-63, Cl. 269-75.
- Jerrold Electronics Corp.: *See*—  
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- Jerrylee Mfg. Corp.: *See*—  
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- Jersey Production Research Co.: *See*—  
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Beeson, Donald M. 3,100,524.  
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Gaskell, Merwin H., Lindley, and Perkins. 3,083,764.  
Gaskell, Merwin H., Lindley, and Perkins. 3,104,702.  
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Graham, John W. 3,087,552.  
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- Jervis, Max W., to A.E.I.-John Thompson Nuclear Energy Co. Ltd. Flux scanning equipment for nuclear reactors. 3,073,959, 1-15-63, Cl. 250-83.6.
- Jervis, Thomas W. V.: *See*—  
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- Jeschke, Richard R., and E. H. Du Bois, to A. B. Dick Co. Plate cylinder clamps for printing presses or the like. 3,110,255, 11-12-63, Cl. 101-415.1.
- Jeske, Bernard G., to Formax Mfg. Corp. Sanding pad assembly. 3,082,582, 3-26-63, Cl. 51-195.
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- Jessen, Frederic A., Jr., to Philco Corp. Combined radar and infra-red conical scanning antenna. 3,114,149, 12-10-63, Cl. 343-720.
- Jessen, Jorgen G.: *See*—  
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- Jetton, Joe. Driving range. 3,104,879, 9-24-63, Cl. 273—176.
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- Jewell, Ralph F., to Moeller Mfg. Co., Inc. Multiple stopper unit. 3,098,721, 7-23-63, Cl. 23—259.
- Jewell, Raymond L., to American Sterilizer Co. Bed pan washer. 3,083,375, 4-2-63, Cl. 4—7.
- Jewell, Robert A., to Great Dane Trailers, Inc. Fluid pressure spring with resilient partitions. 3,087,717, 4-30-63, Cl. 267—35.
- Jewett, Eugene L.: *See*—  
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- Jilek, Ronald F., to Valley Iron Works Corp. Paper machine reel. 3,103,321, 9-10-63, Cl. 242—65.
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- Jimerson, Le Roy S., Jr., and R. A. Watson, to International Business Machines Corp. Acceleration measuring means. 3,078,725, 2-26-63, Cl. 73—517.
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- Jirou, Marcel, and J.-M. Frey, to Compagnie Francaise des Matieres Colorantes. New aromatic amines and processes for their preparation. 3,096,356, 7-2-63, Cl. 260—397.7.
- Jiskra, Jaroslav, to Maschinenfabrik Buckau R. Wolf Aktien-gesellschaft. Centrifugal separator. 3,114,655, 12-17-63, Cl. 127—19.
- Jiu, James, and G. P. Mueller, to G. D. Searle & Co. N-substituted 3-amino-1,2,4-benzotriazine-1-oxides. 3,079,390, 2-26-63, Cl. 260—249.5.
- Jiu, Richard, to Thompson Ramo Wooldridge Inc. Cryogenic switching devices utilizing Meissner effect to control superconductivity. 3,094,628, 6-18-63, Cl. 307—88.5.
- Joa, Curt G., to Falls Paper & Power Co. Method and apparatus for producing fibrous batts. 3,086,253, 4-23-63, Cl. 19—156.
- Joa, Curt G. Embosser-knife unit. 3,114,994, 12-24-63, Cl. 53—182.
- Joannou, Kyriacos, to Minneapolis-Honeywell Regulator Co. Combined read-write and erase head assembly. 3,105,965, 10-1-63, Cl. 340—174.1.
- Jobard, Michel A., to Compagnie de Saint Gobain. Polymerization by gamma rays and novel products produced thereby. 3,102,087, 8-27-63, Cl. 204—163.
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- Jochems, Pieter J. W., to North American Philips Co., Inc. Method of manufacturing semi-conductive electrode systems. 3,080,640, 3-12-63, Cl. 29—155.5.
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- Jochems, Pieter J. W., J. J. A. P. van Amstel, and H. Rinia, to North American Philips Co., Inc. Method of producing semi-conductor electrode systems. 3,072,514, 1-8-63, Cl. 156—8.
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- Joesting, Frederick D., to Minneapolis-Honeywell Regulator Co. Two-stage fluid oscillator. 3,098,504, 7-23-63, Cl. 137—624.14.
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- Joffe, Boris B., and F. A. Lundgren, to Twin City Testing Corp. Measuring table for use in coating thickness measuring. 3,115,577, 12-24-63, Cl. 250—58.
- Joffe, Edward J., to Park Plastics Co. Film reel. 3,104,848, 9-24-63, Cl. 242—71.8.
- Johann, Eldon A. Combination snow blower-snow thrower. 3,115,714, 12-31-63, Cl. 37—43.
- Johannes, Erich H. L., to Campbell Soup Co. Spaghettini blanching machine. 3,107,704, 10-22-63, Cl. 141—103.
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- Johannessen, Harry de F. B. Cleaning devices for removing marine growth from ships' hulls. 3,088,429, 5-7-63, Cl. 114—222.
- Johanningmeier, Charles E., to International Minerals & Chemical Corp. Coarse screening dry particulate materials. 3,073,449, 1-15-63, Cl. 209—288.
- Johanningmeier, Charles E., to International Minerals & Chemical Corp. Screw conveyor apparatus. 3,115,276, 12-24-63, Cl. 222—49.
- Johannisson, Dag, and H. Linderholm, to Svenska Aktiebolaget Gasaccumulator. Arrangement in a breathing device. 3,071,131, 1-1-63, Cl. 128—29.
- Johannsen, Hans W., and G. Bast, to Voigtlander A.G. Slide projector with remotely controlled objective focusing means. 3,093,029, 6-11-63, Cl. 88—24.
- Johannsen, Richard D. Marching drum holder. 3,106,123, 10-8-63, Cl. 84—421.
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- Johansen, John V., and P. P. Stanley, to Reichel & Drews, Inc. Apparatus for conveying and stacking articles. 3,080,043, 3-5-63, Cl. 198—35.
- Johansing, Harry G.: *See*—  
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- Johansing, Paul G.: *See*—  
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- Johansson, Axel G., to Atlas Copco Aktiebolag. Dental engines. 3,076,266, 2-5-63, Cl. 32—23.
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- Johansson, Erik R., to Moinlycke Vafveri Aktiebolag. Machine for forming securing loops on sanitary napkins. 3,092,952, 6-11-63, Cl. 57—34.
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- Johansson, Ingemar K. E. Head rests. 3,084,978, 4-9-63, Cl. 297—397.
- Johansson, Karl S., and B. G. Rapp, to Bolidens Gruvaktiebolag. Raise driving apparatus. 3,085,794, 4-16-63, Cl. 262—5.
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- Jöhl, Albert J. H., and W. G. Stoll, to Geigy Chemical Corp. Process for the production of derivatives of hypoglycine A. 3,091,608, 5-28-63, Cl. 260—112.
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- Johmann, Frank T. Instruments having a retractable member at both ends of said instrument. 3,079,894, 3-5-63, Cl. 120—42.1.
- Johmann, Frank T. Clip for writing instruments and the like. 3,101,075, 8-20-63, Cl. 120—42.3.
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- John, George S.: *See*—  
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- John, Harold F., and J. W. Faust, Jr., to Westinghouse Electric Corp. Semiconductor dendritic crystals. 3,093,520, 6-11-63, Cl. 148-33.
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- Beasley, Robert M., and Johns. 3,110,545.
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- Johns, Iral B., and H. R. Di Pietro, to Monsanto Research Corp. Aromatic partial ethers of tris(2-hydroxyphenyl) triazine. 3,113,940, 12-10-63, Cl. 260-248.
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- Johns, James F., to Curtiss-Wright Corp. Ultrasonic soldering system. 3,084,650, 4-9-63, Cl. 113-126.
- Johns, James N. Healing mattress. 3,082,768, 3-26-63, Cl. 128-172.
- Johns, Kenneth H. Top sleeper. 3,080,575, 3-12-63, Cl. 5-119.
- Johns, Lee, deceased (G. Peebles, executor), and S. W. Whitney, to M. B. Johns. Spherical ball rotary liquid sealed internal combustion engine. 3,105,473, 10-1-63, Cl. 123-44.
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- Benton, Louis A. 3,090,602.
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- Dean, Harry N. 3,073,136.
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- Finger, Joseph S., and Hutchison. 3,071,180.
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- Labino, Dominick, and Gagin. 3,085,887.
- Rees, Vernon C. 3,091,018.
- White, Gerald L. 3,072,518.
- Johns-Manville Perlite Corp.: *See*—  
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- Johns, Minnie B.: *See*—  
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- Johns, William A. Surgical wash-up basin. 3,083,376, 4-2-63, Cl. 4-185.
- Johns, William F., to G. D. Searle & Co. 3,5-cyclo-10-hydroxy-19-norandrostan-17-ones and intermediate. 3,087,943, 4-30-63, Cl. 260-397.4.
- Johns, William F., to G. D. Searle & Co. 17-oxygenated estra-1,3,5(10)-trien-4-ols and intermediates. 3,098,852, 7-23-63, Cl. 260-239.55.
- Johnsen, Henrik S., to United-Carr Fastener Corp. Driven fastener nut. 3,092,162, 6-4-63, Cl. 151-41.73.
- Johnsen & Jorgensen Ltd.: *See*—  
Ashford, Ernest. 3,105,753.
- Johnsen, Odd F. Water supply system pump and pressure control means. 3,100,505, 8-13-63, Cl. 137-565.
- Johnsen, Odd F. Pressure operated valve, especially for water supply systems. 3,106,894, 10-15-63, Cl. 103-25.
- Johnson, Aaron W. Beam type weighing scale. 3,111,180, 11-19-63, Cl. 177-248.
- Johnson, Agnar, deceased; by O. Nelson, administrator, to Atwood Vacuum Machine Co. Door hinge with friction type hold-open means. 3,111,704, 11-26-63, Cl. 16-138.
- Johnson, Albert O. Boat bumper. 3,077,175, 2-12-63, Cl. 114-219.
- Johnson, Albert R.: *See*—  
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- Johnson, Albert T.: *See*—  
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- Johnson, Alf A. H.: *See*—  
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- Johnson, Alfred, to William Asquith, Ltd. Speed and feed indicator for machine tools. 3,090,348, 5-21-63, Cl. 116-124.
- Johnson, Alfred H., to International Business Machines Corp. Contact element forming and inserting apparatus and method therefor. 3,077,023, 2-12-63, Cl. 29-33.
- Johnson, Alfred L., Jr., and R. B. Wister, to The Garrett Corp. Apparatus for local hypothermia. 3,091,242, 5-28-63, Cl. 128-402.
- Johnson, Algot T. Hand tools of the nature of screw drivers, socket wrenches and the like. 3,114,401, 12-17-63, Cl. 145-50.
- Johnson, Alpha J., and J. A. Moore, to Kaiser Aluminum & Chemical Corp. Cooking and Baking Utensil. 3,098,597, 7-23-63, Cl. 229-2.5.
- Johnson, Andy A., to M & T Chemicals, Inc. Process and composition for chromium plating. 3,108,933, 10-29-63, Cl. 204-51.
- Johnson, Anton M., and W. T. Harpster, to United States of America, Army. Luneburg lens system. 3,116,486, 12-31-63, Cl. 343-755.
- Johnson, Armigene R. Garment sleeve. 3,112,495, 12-3-63, Cl. 2-270.
- Johnson, Arnold E.: *See*—  
Kravig, Robert S., and Johnson. 3,112,240.
- Johnson, Arnold E. W., to International Harvester Co. Vehicle with hydrostatic transmission propelled by free piston engine hydraulic pump. 3,088,413, 5-7-63, Cl. 103-54.
- Johnson, Arnold E. W., J. F. Swift, and E. A. Kariba, to International Harvester Co. Starting and operating control system for free piston engine hydraulic pump as a power plant of a hydrostatic driven vehicle. 3,110,152, 11-12-63, Cl. 60-14.
- Johnson, Arthur F., to Olin Mathieson Chemical Corp. Metal fabrication. 3,088,193, 5-7-63, Cl. 29-157.3.
- Johnson, Arthur F., to Strategic Materials Corp. Metallurgical process. 3,091,524, 5-28-63, Cl. 75-24.
- Johnson, Arthur L. Dusting and seeding attachment for rotary power mowers. 3,082,007, 3-19-63, Cl. 275-2.
- Johnson, Arthur L., to Wisconsin Alumni Research Foundation. Snap bolt having resiliently flexible shank portion. 3,115,804, 12-31-63, Cl. 85-4.
- Johnson, Ava J., to Shell Oil Co. Oxidation of olefine to unsaturated aldehydes and ketones. 3,102,147, 8-27-63, Cl. 260-604.
- Johnson, Benjamin M., to United States of America, Atomic Energy Commission. Spray calcination reactor. 3,101,258, 8-20-63, Cl. 23-277.
- Johnson, Bernard R.: *See*—  
Silliman, Sheldon D., and Johnson. 3,099,724.
- Johnson, Caldwell C., Jr.: *See*—  
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- Johnson, Carl A. Vascular recording apparatus. 3,083,705, 4-2-63, Cl. 128-2.05.
- Johnson, Carl E., to Nalco Chemical Co. New composition of matter and method involving the use of said composition of matter. 3,081,190, 3-12-63, Cl. 117-62.
- Johnson, Carl E. Vine remover for potato diggers. 3,112,753, 12-3-63, Cl. 130-30.
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- Johnson, Carl T., to United States of America, Navy. Warm-up contactor for missile-booster type weapon. 3,080,792, 3-12-63, Cl. 89-1.7.
- Johnson, Carl T., J. S. Scheurich, and P. G. Wermager, to United States of America, Navy. Floating tracks. 3,086,480, 4-23-63, Cl. 104-172.
- Johnson, Carl T., and P. G. Wermager, to United States of America, Navy. Retractable rails. 3,096,726, 7-9-63, Cl. 104-107.
- Johnson, Carl T., and I. E. Smith, to Radio Corp. of America. Wire winding machine. 3,104,841, 9-24-63, Cl. 242-9.
- Johnson, Carl T., and P. G. Wermager, to United States of America, Navy. Loader pawl positioner. 3,111,911, 11-26-63, Cl. 104-172.
- Johnson, Cecil M., to Fisher Governor Co. Valve stem connection. 3,101,210, 8-20-63, Cl. 287-125.
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- Johnson, Charles E., to Double A Products Co. Fixed displacement variable discharge pump. 3,106,897, 10-15-63, Cl. 103-120.
- Johnson, Charles F., to McEvoy Co. Pipe anchor. 3,095,627, 7-2-63, Cl. 24-263.
- Johnson, Charles F. Pipe anchor. 3,096,554, 7-9-63, Cl. 24-263.
- Johnson, Charles G., and K. E. Sager, to Kimberly-Clark Corp. Apparatus for smoothing coating material on a paper web. 3,113,890, 12-10-63, Cl. 118-126.
- Johnson, Charles M., to Johnson Mfg. Co. Earth-moving machine. 3,108,388, 10-29-63, Cl. 37-126.



- Johnson, Charles Y., to United States of America, Navy. Direct method of measuring neutral gas temperatures. 3,080,754, 3-12-63, Cl. 73—339.
- Johnson, Christopher L.: See—  
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- Johnson, Christopher L., to Rolls-Royce Ltd. Gas turbine engine fuel system. 3,076,311, 2-5-63, Cl. 60—39.28.
- Johnson, Clarence A.: See—  
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- Johnson, Clarence E., Grass cutter bar. 3,097,468, 7-16-63, Cl. 56—295.
- Johnson, Clark E., Jr. Defrosting system for refrigeration apparatus. 3,077,747, 2-19-63, Cl. 62—140.
- Johnson, Clas E., and F. C. Klingelhofer. Pivotaly connected and sectionalized fire chute arrangement. 3,088,542, 5-7-63, Cl. 182—48.
- Johnson, Clifford N. Writing instrument. 3,076,437, 2-5-63, Cl. 120—22.
- Johnson, Clifford N. Writing instrument. 3,076,438, 2-5-63, Cl. 120—22.
- Johnson, Cornell A., to The Norwich Pharmacal Co. Anticoccidial compositions comprising 5-nitro-2-furaldehyde cyanooethyl- or dichloroacetyl-hydrazone. 3,075,877, 1-29-63, Cl. 167—53.1.
- Johnson, Cornell A., to The Norwich Pharmacal Co. Anticoccidial compositions comprising 5-nitrofurfuryl lidene carbazates and method of using same. 3,110,649, 11-12-63, Cl. 167—53.1.
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- Johnson, Dean W., to Addressograph Multigraph Corp. Data input preparation. 3,113,516, 12-10-63, Cl. 101—426.
- Johnson, Dee L., and R. F. Reithel, to Eastman Kodak Co. Single step direct image forming electrolytic developer for photoconductive processing. 3,072,542, 1-8-63, Cl. 204—18.
- Johnson, Dee L., and D. L. Fields, to Eastman Kodak Co. Process for preparing ethylene monothiolcarbonate. 3,072,676, 1-8-63, Cl. 260—327.
- Johnson, Delbert H. Precast block and wall construction. 3,100,953, 8-20-63, Cl. 50—424.
- Johnson, Delbert H., to Hexcel Products Inc. Method of and means for making honeycomb utilizing helical printing roller. 3,114,666, 12-17-63, Cl. 156—197.
- Johnson, Donald E., to The Astatic Corp. Apparatus for balancing the outputs of a stereophonic phonograph pickup cartridge. 3,088,741, 5-7-63, Cl. 274—23.
- Johnson, Donald E., and J. L. Owens, to Western Electric Co., Inc. Method of and apparatus for making deposited carbon resistors. 3,105,288, 10-1-63, Cl. 29—155.62.
- Johnson, Donald W., to Thexton Mfg. Co. Engine attachment for valve gear lubrication. 3,096,851, 7-9-63, Cl. 184—6.
- Johnson, Douglas O.: See—  
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- Johnson, Earl B. Automatic water supply control. 3,083,724, 4-2-63, Cl. 137—404.
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- Johnson, Edward E. Surveyor's pin and pin pickup. 3,077,669, 2-19-63, Cl. 33—137.
- Johnson, Edward E., Inc.: See—  
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- Johnson, Edward P., and C. H. Reeder, to St. Regis Paper Co. Bank-by-mail envelope. 3,104,800, 9-24-63, Cl. 229—70.
- Johnson, Edward R., to Lever Bros Machine Corp. Apparatus for slitting rolls of cloth. 3,086,415, 4-23-63, Cl. 82—49.
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- Johnson, Eldon A., to ACF Industries, Inc. Fuel supply system for internal combustion engines. 3,085,620, 4-16-63, Cl. 158—36.4.
- Johnson, Elmer C., and F. V. Bookout, to The Vendo Co. Universal vending machine. 3,102,762, 9-3-63, Cl. 312—97.1.
- Johnson, Elmer G. Solar powered vehicle. 3,089,670, 5-14-63, Cl. 244—74.
- Johnson, Elmer S., to United States Gypsum Co. Process for calcination of gypsum. 3,081,152, 3-12-63, Cl. 23—122.
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- Johnson, Ernest, to Lionel-Pacific, Inc. Lock for fluid pressure actuator. 3,072,105, 1-8-63, Cl. 121—40.
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- Johnson, Ernest H., R. O. Bremigan, and A. E. Kihert, to Andrew Corp. Flexible waveguide. 3,090,019, 5-14-63, Cl. 333—95.
- Johnson, Ernest K. Urinal. 3,099,840, 8-6-63, Cl. 4—110.
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- Johnson, Erwin R., to Sta-Rite Products, Inc. Automatic release mechanism for a milking apparatus. 3,092,074, 6-4-63, Cl. 119—14.08.
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- Johnson, Francis, to The Dow Chemical Co. Process for preparation of glutarimide compounds. 3,076,809, 2-5-63, Cl. 260—281.
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- Johnson, Francis, to The Dow Chemical Co. Synthesis of benzo[c]cinnolines. 3,087,929, 4-30-63, Cl. 260—250.
- Johnson, Francis, to The Dow Chemical Co. Process for the preparation of amino-halogenpyridine. 3,096,337, 7-2-63, Cl. 260—296.
- Johnson, Frank F., to Schlumberger Well Surveying Corp. Well logging apparatus. 3,089,954, 5-14-63, Cl. 250—71.5.
- Johnson, Frederic R., to General Electric Co. Tip-off oven. 3,100,251, 8-6-63, Cl. 219—19.
- Johnson, Frederick W.: See—  
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- Johnson, Frederick W., to Collins Radio Co. Mechanical release. 3,078,726, 2-26-63, Cl. 74—2.
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- Johnson, George S., to Cannon Electric Co. Contact extraction and insertion tool. 3,110,093, 11-12-63, Cl. 29—203.
- Johnson, George T.: See—  
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- Johnson, Glenn D., to Shell Oil Co. Underwater wellhead apparatus and method. 3,099,316, 7-30-63, Cl. 166—46.
- Johnson, Gordon B., and H. Y. Lew, to California Research Corp. Unsaturated resin compositions suitable for making self-supporting film based on C<sub>6</sub>-C<sub>8</sub> alkenyl succinic acid. 3,076,787, 2-5-63, Cl. 260—75.
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- Zebarth, Ralph S., and Crawford. 3,103,695.
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- Johnson, Gordon H., and G. T. O'Leary. Material handling containers. 3,107,024, 10-15-63, Cl. 220—15.
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- Johnson, Grady. Portable fencing. 3,072,385, 1-8-63, Cl. 256—25.
- Johnson, Grady L. Electric hair singeing device. 3,093,724, 6-11-63, Cl. 219—29.
- Johnson, Gustof O. Fish gaff. 3,085,824, 4-16-63, Cl. 294—26.
- Johnson, Harold D. and R. W., to General Implement Corp. Thermal aerosol dispenser. 3,074,199, 1-22-63, Cl. 43—129.
- Johnson, Harold E.: See—  
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- Johnson, Henry J. Crystalline vitamin D composition and method of preparing same. 3,072,533, 1-8-63, Cl. 167—81.
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- Johnson, Herbert G., to Raybestos-Manhattan, Inc. Lined ball valve. 3,073,336, 1-15-63, Cl. 137—375.
- Johnson, Herbert G. Method and apparatus for forming corrugated tubes, especially for making gaskets, and the product thereof. 3,076,228, 2-5-63, Cl. 18—19.
- Johnson, Herbert G. Apparatus and method for forming corrugated tubes. 3,105,539, 10-1-63, Cl. 153—73.
- Johnson, Howard L.: See—  
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- Johnson, James R., to Minnesota Mining and Mfg. Co. Thermally resistant articles and method for their fabrication. 3,079,273, 2-26-63, Cl. 117-46.
- Johnson, James R., to Minnesota Mining and Mfg. Co. Thermally resistant articles and method for their fabrication. 3,079,316, 2-26-63, Cl. 204-154.2.
- Johnson, James R., and W. E. Rowe, to Minnesota Mining and Mfg. Co. Fuel element recovery process. 3,087,779, 4-30-63, Cl. 23-14.5.
- Johnson, Jay. Resin roller. 3,082,459, 3-26-63, Cl. 15-230.
- Johnson, Jesse E. Archery draw and release device. 3,072-115, 1-8-63, Cl. 124-35.
- Johnson, John. Irrigation system device. 3,093,312, 6-11-63, Cl. 239-185.
- Johnson, John A. Multi-stage parallel flow turbo-fan. 3,091,922, 6-4-63, Cl. 60-35.6.
- Johnson, John E., H. H. Yeager, and J. Beeler, to Kelsey-Hayes Co. Edge rolling attachment for rim rolling machine. 3,077,130, 2-12-63, Cl. 80-5.
- Johnson, John R., to Owens-Illinois Glass Co. Gear drive for dewatering apparatus. 3,108,492, 10-29-63, Cl. 74-660.
- Johnson, John R., E. B. Voss, and F. S. Wright, to Owens-Illinois Glass Co. Oven for treating articles. 3,089,254, 5-14-63, Cl. 34-207.
- Johnson, John V.: *See*—  
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- Johnson, John V., to Cargill, Inc. Process of producing a welded structure. 3,082,315, 3-19-63, Cl. 219-91.
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- Johnson, Joseph E., to Viking Fire Protection Co. Fire sprinkler control system. 3,100,017, 8-6-63, Cl. 169-17.
- Johnson, Kenneth D., R. T. Talton, Jr., and N. F. Spraggins, to Atlantic Research Corp. Mixer. 3,091,437, 5-28-63, Cl. 259-104.
- Johnson, Kenneth M., and W. J. MacFarlane, to The Stanley Works. Door mounting assembly. 3,102,307, 9-3-63, Cl. 20-16.
- Johnson, Kenneth R.: *See*—  
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- Johnson, Kenneth V., and E. G. Burkhardt, to Koehring Co. Hydraulic back hoe. 3,094,229, 6-18-63, Cl. 214-138.
- Johnson, Kirby R., to G. Miller. Doughnut cutters. 3,101,021, 8-20-63, Cl. 83-99.
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- Johnson, Leonard R. Apparatus for moving fowl. 3,095,963, 7-2-63, Cl. 198-148.
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- Johnson, Lloyd F., to Baxter & Cicero, Inc. Sail draft control. 3,084,656, 4-9-63, Cl. 114-105.
- Johnson, Louis W. Screen deck construction. 3,101,314, 8-20-63, Cl. 209-319.
- Johnson, Louis W. Hydraulic device for removing tight bearings. 3,108,839, 10-29-63, Cl. 308-187.
- Johnson, Lowell E., to The Babcock & Wilcox Co. Apparatus for mixing fluids. 3,090,603, 5-21-63, Cl. 259-4.
- Johnson, Major A., to General Electric Co. Tunable filter arrangement. 3,086,172, 4-16-63, Cl. 328-22.
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- Johnson, Marvin M., and A. C. Pitchford, to Phillips Petroleum Co. Process for concurrent upgrading of iron ore and heavy crude oils. 3,097,156, 7-9-63, Cl. 208-124.
- Johnson, Marvin M., and W. L. Streets, to Phillips Petroleum Co. Method of operating turbojet and ramjet engines. 3,103,781, 9-17-63, Cl. 60-35.4.
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- Johnson, Milton R.: *See*—  
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- Johnson, Milton W. Cement mixer. 3,090,607, 5-21-63, Cl. 259-175.
- Johnson, Myron L., to The International Steel Wool Corp. Padding. 3,105,313, 10-1-63, Cl. 38-66.
- Johnson, Oliver W., Jr.: *See*—  
French, Walter K., and Johnson. 3,104,284.
- Johnson, Patrick W.: *See*—  
Birkenbeul, Robert M., and Johnson. 3,106,395.
- Johnson, Paul B., to L. S. Taylor, a partnership composed of L. S. Taylor, individually and L. S. Taylor, as trustee for D. C. Taylor and L. E. Taylor. Support for table for projectors or the like. 3,115,849, 12-31-63, Cl. 108-4.
- Johnson, Paul C., to Union Carbide Corp. Manufacture of carbon articles. 3,112,208, 11-26-63, Cl. 106-56.
- Johnson, Paul D., T. E. Popin, and J. O. Koers, to The Glidden Co. Brazing pastes. 3,073,270, 1-15-63, Cl. 113-110.
- Johnson, Paul H.: *See*—  
Street, Frederick A. 3,104,882.
- Johnson, Paul H., to Phillips Petroleum Co. Defluorination of HF alkylation reactor product. 3,073,878, 1-15-63, Cl. 260-683.48.
- Johnson, Paul H., 50% to J. R. Head. Automatic shut-off device for pumping wells. 3,105,443, 10-1-63, Cl. 103-12.
- Johnson, Paul R.: *See*—  
Warner, Edmund M., and Johnson. 3,095,570.
- Johnson, Paul R., to E. I. du Pont de Nemours and Co. Process for isolating chlorosulfonated or chlorinated polyolefin elastomers from solutions in carbon tetrachloride. 3,110,550, 11-12-63, Cl. 18-57.
- Johnson, Paul W., to The Johnson Gage Co. Comparator gage for serrations as in blade wedge. 3,070,890, 1-1-63, Cl. 33-174.
- Johnson, Peter D.: *See*—  
Carpenter, Harry W., and Johnson. 3,084,055.
- Johnson, Peter W. R.: *See*—  
Trautmann, John H., and Johnson. 3,082,712.
- Johnson, Philip C., to F. and F. Koenigkramer Co. Telescoping means having indexing, braking and inter-locking means. 3,096,059, 7-2-63, Cl. 248-162.
- Johnson, Philip C., to F. and F. Koenigkramer Co. Safety side rail for patient support or the like. 3,104,402, 9-24-63, Cl. 5-331.



- Johnson, Philip L. Adjustable boring head. 3,097,548, 7-16-63, Cl. 77-58.
- Johnson, Philmore E.: See—
- Snowdon, Arthur E., Johnson, Madsen, and Page. 3,087,132.
- Johnson, Philmore E., to The Superior Electric Co. Electrical terminal. 3,093,435, 6-11-63, Cl. 339-276.
- Johnson Products, Inc.: See—
- Bergmann, Paul F. 3,111,119.
- Bergmann, Paul F., Humphreys, and Dadd. 3,115,128.
- Humphreys, John W. 3,079,903.
- Humphreys, John W. 3,105,475.
- Humphreys, John W. 3,108,581.
- Humphreys, John W., and Dadd. 3,111,138.
- Kueny, Kenneth E. 3,089,473.
- Johnson, Ralph, to Tamar Electronics, Inc. Position sensor. 3,089,990, 5-14-63, Cl. 318-29.
- Johnson, Ralph E., to The Singer Mfg. Co. Needle bar gate mechanism for zigzag sewing machines. 3,084,646, 4-9-63, Cl. 112-158.
- Johnson, Ralph E., to The Singer Mfg. Co. Lock stitch sewing machine with bobbin replenishing means. 3,096,736, 7-9-63, Cl. 112-181.
- Johnson, Ralph E., to The Singer Co. Thread take-up mechanisms for sewing machines. 3,103,191, 9-10-63, Cl. 112-241.
- Johnson, Ralph E., and E. Kohlmeier, to The Singer Mfg. Co. Zigzag mechanism for sewing machines. 3,074,364, 1-22-63, Cl. 112-158.
- Johnson, Ralph E., and F. J. Bartosz, to The Singer Co. Bobbin thread replenishing mechanism for lock stitch sewing machine. 3,099,972, 8-6-63, Cl. 112-181.
- Johnson, Ralph S., to General Motors Corp. Catalyst feed control device for catalytic converters. 3,090,676, 5-21-63, Cl. 23-288.
- Johnson, Ralph S., to General Motors Corp. Catalytic converter. 3,097,074, 7-9-63, Cl. 23-288.
- Johnson, Reuben N. Mug holder. 3,113,677, 12-10-63, Cl. 211-88.
- Johnson, Reynold B., to International Business Machines Corp. Decoding device. 3,079,594, 2-26-63, Cl. 340-174.1.
- Johnson, Reynold B., to International Business Machines Corp. Facsimile apparatus for enlarging images in color. 3,092,686, 6-4-63, Cl. 178-5.2.
- Johnson, Richard, F. L. Horn, and G. Strickland, to United States of America, Atomic Energy Commission. Dissolution of uranium fuels by mono- or difluorophosphoric acid. 3,088,800, 5-7-63, Cl. 23-14.5.
- Johnson, Richard H., to The Upjohn Co. Process for the purification of Acth. 3,105,796, 10-1-63, Cl. 167-74.
- Johnson, Richard L., to Shell Oil Co. Substituted diphenyl. 3,081,355, 3-12-63, Cl. 260-613.
- Johnson, Richard O., to Hexacon Electric Co. Method of producing soldering tips for electric soldering irons. 3,109,231, 11-5-63, Cl. 29-411.
- Johnson, Richard S. Buffing wheel. 3,099,545, 7-30-63, Cl. 51-298.
- Johnson, Richard S., and R. J. Brehm, to International Harvester Co. Intake manifold construction for compression ignition type internal combustion engines. 3,111,937, 11-26-63, Cl. 123-55.
- Johnson, Robert A.: See—
- Scarnato, Thomas J., and Johnson. 3,092,947.
- Johnson, Robert A., to Collins Radio Co. Center clamped torsional resonator having bearing supported ends. 3,080,538, 3-5-63, Cl. 333-71.
- Johnson, Robert A., and P. T. Anderson, to Food Techniques, Inc. Process for oleaginous seed. 3,084,046, 4-2-63, Cl. 99-2.
- Johnson, Robert B.: See—
- Galli, Joseph R., and Johnson. 3,108,902.
- Galli, Joseph R., Wheeler, and Johnson. 3,098,987.
- Johnson, Robert D., and M. L. Kent, to The New York Air Brake Co. Gearing means. 3,077,796, 2-19-63, Cl. 74-810.
- Johnson, Robert E., and R. L. Konopa, to General Motors Corp. Windshield wiper mechanism. 3,082,461, 3-26-63, Cl. 15-250.17.
- Johnson, Robert F.: See—
- Rambo, William H., and Johnson. 3,084,090.
- Johnson, Robert G. R.: See—
- McHugh, James P., Lubell, Johnson, and Brown. 3,073,883.
- Johnson, Robert L.: See—
- Buckley, Donald H., and Johnson. 3,072,574.
- Moyle, Clarence L., and Johnson. 3,081,221.
- Johnson, Robert L., to The Dow Chemical Co. Aqueous colloidal dispersions containing halogenated acetylenic alcohols. 3,075,938, 1-29-63, Cl. 260-29.7.
- Johnson, Robert R., to General Electric Co. Data processing system. 3,077,984, 2-19-63, Cl. 209-111.5.
- Johnson, Robert R., R. J. Stahl, and G. A. Walters, to Textron Inc. Non-magnetic electro-hydraulic pump. 3,107,630, 10-22-63, Cl. 103-152.
- Johnson, Robert S., to The Adjusto Equipment Co. Transversely movable hinge. 3,073,648, 1-15-63, Cl. 297-142.
- Johnson, Robert W.: See—
- Johnson, Harold D. and R. W. 3,074,199.
- Johnson, Roger T.: See—
- Kehe, Henry J., Johnson, Driscoll, and Bloor. 3,071,619.
- Johnson, Ronald D., and K. F. Soliman; said Soliman assor. to said Johnson. Tank truck assembly. 3,080,173, 3-5-63, Cl. 280-5.
- Johnson, Ronald J., to Crown Zellerbach Corp. Crate and handle therefor. 3,074,615, 1-22-63, Cl. 229-52.
- Johnson, Ronald V., to Waldorf Paper Products Co. Siding package. 3,086,649, 4-23-63, Cl. 206-60.
- Johnson, Ronald V., to Waldorf Paper Products Co. Container divider. 3,092,300, 6-4-63, Cl. 229-42.
- Johnson, Rowland E., and E. W. Mehal, to Texas Instruments Inc. Method of producing gallium or aluminum arsenides and phosphides. 3,094,388, 6-18-63, Cl. 23-204.
- Johnson, Roy D., to H. E. Crawford Co., Inc. Salvage for hosiery and method of making same. 3,078,697, 2-26-63, Cl. 66-9.
- Johnson, Roy E., to General Motors Corp. Means for securing convertible top fabric. 3,090,646, 5-21-63, Cl. 296-107.
- Johnson, Roy J., to Futurama Mfg. Co., Inc. Variable flow livestock feeder. Re. 25,336, 2-19-63, Cl. 119-52.
- Johnson, Roy W., and D. R. Vaughn, to Col-Cube, Inc. Machine and method for pelletizing field cured hay. 3,090,182, 5-21-63, Cl. 56-1.
- Johnson, Rulon E., Jr.: See—
- Hurdlow, William R., Boecker, and Johnson. 3,091,967.
- Johnson, S. C., & Son, Inc.: See—
- Berres, Clifford R., Tabet, and Wilder. 3,088,928.
- Greenlee, Sylvan O., and Pearce. 3,112,284.
- Greenlee, Sylvan O., and Pearce. 3,113,932.
- Leeds, Harry R. 3,101,668.
- Luedtke, Warren J. 3,113,702.
- Johnson, Samuel G., to International Harvester Co. Emergency releasing means for vehicle brakes. 3,110,523, 11-12-63, Cl. 303-71.
- Johnson, Scott R., to Continental Can Co., Inc. Solder wiping apparatus. 3,086,488, 4-23-63, Cl. 113-97.
- Johnson Service Co.: See—
- Chapman, William P. 3,115,039.
- Ehlke, Edward C. 3,103,107.
- Johnson, Sigurd W., to Radio Corp. of America. Electrostatic printing. 3,105,821, 10-1-63, Cl. 252-62.1.
- Johnson, Stanley R. Container with interior rotary dispenser. 3,099,365, 7-30-63, Cl. 221-263.
- Johnson, Theodore B.: See—
- McCallum, John, Johnson, Ditmars, and McGraw. 3,093,512.
- McCallum, John, Johnson, Ditmars, and McGraw. 3,093,513.
- McCallum, John, Johnson, Ditmars, and McGraw. 3,093,514.
- Johnson, Thomas H., and G. D. Hayball, to Santa Barbara Research Center. Radiation shielding for infrared detectors. 3,103,585, 9-10-63, Cl. 250-83.
- Johnson, Thomas W.: See—
- Whitlock, Robert A., and Johnson. 3,109,454.
- Johnson, Velmo S., to Spencer Safford Loadcraft, Inc. Dump vehicle. 3,099,489, 7-30-63, Cl. 298-14.
- Johnson, Vendell J., to Alven Enterprises, Inc. Staging bracket. 3,082,027, 3-19-63, Cl. 287-54.
- Johnson, Waldo O.: See—
- Eskridge, Harold E., and Johnson. 3,087,193.
- Johnson, Waldo O., to Weather-Seal, Inc. Interlocked sash construction. 3,113,354, 12-10-63, Cl. 20-56.
- Johnson, Wallace C., to Arcos Corp. Process for welding by fusing a metal strip and article produced. 3,073,948, 1-15-63, Cl. 219-137.
- Johnson, Wallace C., to Arcos Corp. Weld strip. 3,078,363, 2-19-63, Cl. 219-146.
- Johnson, Wallace C., to Olin Mathieson Chemical Corp. Hollow articles. 3,111,747, 11-26-63, Cl. 29-157.3.
- Johnson, Wallace J. S., R. E. Fisher, and A. J. McEwing, to Up-Right, Inc. Single screw lock connection for structural members. 3,107,932, 10-22-63, Cl. 287-54.
- Johnson, Walter B., to H. S. Watson Co. Lift gate control system. 3,084,815, 4-9-63, Cl. 214-77.
- Johnson, Walter J.: See—
- Cox, Arthur, and Johnson. 3,074,317.
- Johnson, Walter R., to The Borg-Erickson Corp. Weighing scale. 3,097,712, 7-16-63, Cl. 177-126.
- Johnson, Walter R., to The Borg-Erickson Corp. Weighing scale. 3,106,976, 10-15-63, Cl. 177-159.
- Johnson, Warren H., and R. E. Fitzgerald, to United-Carr Fastener Corp. Dust-proof lamp sockets. 3,072,875, 1-8-63, Cl. 339-101.
- Johnson, Wayne R., to Minnesota Mining and Mfg. Co. Transducer for magnetically recorded signals. 3,086,087, 4-16-63, Cl. 179-100.2.
- Johnson, Wayne R., to Minnesota Mining and Mfg. Co. Transformer coupling system effective over a wide frequency range. 3,106,688, 10-8-63, Cl. 333-28.
- Johnson, Wayne R., to Winston Research Corp. Magnetic tape control system. 3,112,052, 11-26-63, Cl. 226-42.
- Johnson, Wayne R., and C. C. Shaw, to Minnesota Mining and Mfg. Co. Transducing system. 3,082,293, 3-19-63, Cl. 178-6.6.
- Johnson Welding & Equipment Co., Inc.: See—
- Quinn, John N. 3,073,536.
- Johnson, Wilbert E.: See—
- Possis, Zinon C., Johnson, Straub, and Franke. 3,108,922.
- Johnson, William E.: See—
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- Johnson, William H. Hinge pintle ejector. 3,087,237, 4-30-63, Cl. 29-267.
- Johnson, William R., to Associated Spring Corp. Pouring spout closure. 3,105,606, 10-1-63, Cl. 220-24.
- Johnson, Woodrow E.: See—  
Webb, William A., Huston, Haass, and Johnson. 3,113,915.
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- Johnson City Foundry and Machine Works, Inc.: See—  
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- Johnston, Alan R., to California Institute Research Foundation. Accelerometer. 3,091,972, 6-4-63, Cl. 73-517.
- Johnston, Archibald P. Wire straightening apparatus. 3,100,519, 8-13-63, Cl. 153-94.
- Johnston, Arthur C. Three-D viewer. 3,079,959, 3-5-63, Cl. 141-21.
- Johnston, Charles R. Nailable metal flooring. 3,102,613, 9-3-63, Cl. 189-34.
- Johnston, Curtis D. Apparatus for pumping fluids. 3,088,417, 5-7-63, Cl. 103-208.
- Johnston, Donald L.: See—  
Cronin, Edward F., Johnston, and Delisle. 3,101,386.
- Johnston, Douglas, to John Blue Co., Inc. Manually operable implement for injecting anhydrous ammonia and other liquid fertilizers into the soil. 3,107,638, 10-22-63, Cl. 111-7.1.
- Johnston, Dwight A., to International Basic Economy Corp. Rotating fluid cylinders. 3,079,896, 3-5-63, Cl. 121-38.
- Johnston, Edward J.: See—  
Clendenin, Wilbur H., and Johnston. 3,104,509.
- Johnston, Edward J., to International Harvester Co. Tire carcass disk rolls with retaining washers. 3,088,189, 5-7-63, Cl. 29-125.
- Johnston, Edward J., to International Harvester Co. Parallel bars side delivery rake with self adjusting mounting means. 3,092,950, 6-11-63, Cl. 56-377.
- Johnston, Edward J., to International Harvester Co. Parallel bar side delivery rake with time bar adjusting means. 3,093,954, 6-18-63, Cl. 56-377.
- Johnston, Edward J., to International Harvester Co. Hay conditioning roller mounting. 3,101,578, 8-27-63, Cl. 56-1.
- Johnston, Ernest F. Pupillometer. 3,115,713, 12-31-63, Cl. 33-200.
- Johnston, Harlow H. Lug wrench support. 3,097,550, 7-16-63, Cl. 81-53.
- Johnston, Henry P., to Callery Chemical Co. Purification of alkali metal borohydrides. 3,107,157, 10-15-63, Cl. 23-312.
- Johnston, Herrick L., and J. G. Pierce, to Herrick L. Johnston Inc. Zero load pump flange connection. 3,095,220, 6-25-63, Cl. 285-114.
- Johnston, Herrick L., Inc.: See—  
Johnston, Herrick L., and Pierce. 3,095,220.
- Johnston, Howard T., Jr., to International Business Machines Corp. Thermoscope. 3,107,529, 10-22-63, Cl. 73-339.
- Johnston, J. Ford: See—  
Culver, Irven H., Danielson, and Johnston. 3,106,964.
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- Johnston, James D., to Chas. Pfizer & Co., Inc. 5-nitro-furfural azines. 3,099,663, 7-30-63, Cl. 260-347.5.
- Johnston, James D., H. Shapiro, and A. P. Giraitis, to Ethyl Corp. Stable lead alkyl compositions and a method for preparing the same. 3,097,222, 7-9-63, Cl. 260-437.
- Johnston, James E., to Minnesota Mining and Mfg. Co. Heat shielding, drapable curtain material. 3,114,840, 12-17-63, Cl. 250-108.
- Johnston, James L., to Johnston Testers, Inc. Well completion tool. Re. 25,323, 1-15-63, Cl. 166-128.
- Johnston, James R. Connector. 3,081,508, 3-19-63, Cl. 24-211.
- Johnston, John R., to General Motors Corp. Timer apparatus for masking machine. 3,076,107, 1-29-63, Cl. 307-141.4.
- Johnston, Joseph L., and A. G. Petterson, to United States of America, Army. Feeding mechanism for drum-type firearm. 3,101,029, 8-20-63, Cl. 89-33.
- Johnston, Kenneth F., A. L. Quinlan, and B. L. Wright, to Western Electric Co., Inc. Apparatus for forming and welding. 3,081,396, 3-12-63, Cl. 218-79.
- Johnston, Lawton L., and W. H. T. Carpenter, to Graniteville Co. Fabric fluid treating apparatus. 3,079,782, 3-5-63, Cl. 68-22.
- Johnston, Lowell B., to Owens-Corning Fiberglas Corp. Acoustical panel. 3,077,426, 2-12-63, Cl. 154-45.9.
- Johnston, Lowell B., to Owens-Corning Fiberglas Corp. Cushioning structure of fibrous glass. 3,113,788, 12-10-63, Cl. 280-150.
- Johnston, Loyal L., to Herman Pneumatic Machine Co. Flask manipulating and mold forming method. 3,094,750, 6-25-63, Cl. 22-193.
- Johnston, Loyal L., to Herman Pneumatic Machine Co. Flask manipulating and mold forming apparatus. 3,110,940, 11-19-63, Cl. 22-17.
- Johnston, Marvin, to J. M. Huber Corp. Pump shaker. 3,089,428, 5-14-63, Cl. 103-179.
- Johnston, Nelson G.: See—  
Monroe, Roger F., Kucera, Oakes, and Johnston. 3,077,454.
- Johnston, Ransford J., to Clevite Corp. Reversible counter with single input the polarity of which determines direction of count. 3,105,912, 10-1-63, Cl. 307-88.5.
- Johnston, Robert W.: See—  
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- Johnston, Rodney M.: See—  
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- Johnston, Rufus B., to Wilson Supply Co. Valve. 3,077,329, 2-12-63, Cl. 251-62.
- Johnston, Rufus B., to Wilson Supply Co. Valve. 3,093,152, 6-11-63, Cl. 137-87.
- Johnston, Rufus B. Hydraulic pumping system. 3,094,842, 6-25-63, Cl. 60-52.
- Johnston Testers, Inc.: See—  
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- Johnston, Verle S., R. E. Maples, and E. Heal, to Victor Adding Machine Co. Sales registering and recording device. 3,107,849, 10-22-63, Cl. 235-60.38.
- Johnston, William D.: See—  
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- Johnston, William D., and A. L. Barach. Cooling unit for beverages. 3,077,085, 2-12-63, Cl. 62-293.
- Johnston, William R.: See—  
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- Rosenberg, Milton, and Johnston. 3,096,509.
- Johnston, William R., to Ampex Corp. Sensing circuit employing two tunnel diodes to provide proper current distribution upon one being switched. 3,106,649, 10-8-63, Cl. 307-88.5.
- Johnstone, Ben B.: See—  
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- Johnstone, Charles W.: See—  
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- Johnstone, George B. Trolleys, bogies and the like for facilitating the handling and movement of articles and particularly heavy articles. 3,091,477, 5-28-63, Cl. 280-46.
- Johnstone, James O.: See—  
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- Johnstone, Norman J., to General Dynamics Corp. Overload control system for transistor amplifiers. 3,102,241, 8-27-63, Cl. 330-22.
- Johnstone, Theodore H., to General Motors Corp. Coincidental door locking system. 3,096,112, 7-2-63, Cl. 292-3.
- Joiner, Edgar E., and F. B. and P. R. Perri, to Fred W. Mears Heel Co., Inc. Machines for forming cores of dowels used in the reinforcing of heels. 3,086,566, 4-23-63, Cl. 142-17.
- Joiner, Edgar E., and J. P. Szumski, to Fred W. Mears Heel Co., Inc. Methods of making lightweight heels. 3,100,678, 8-13-63, Cl. 18-59.
- Joists Inc.: See—  
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- Jokela, Veikko J., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,095,487, 6-25-63, Cl. 200-140.
- Jokela, Veikko J., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,107,499, 10-22-63, Cl. 62-140.
- Jokelson, Sonia: See—  
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- Joline, Everett S., to Sperry Rand Corp. Fuel control system for gas turbine engines. 3,098,356, 7-23-63, Cl. 60-39.28.
- Joline, Everett S., and R. C. Sauer, to Sperry Rand Corp. Flight path computer. 3,077,557, 2-12-63, Cl. 318-489.
- Joltitz, William L., F. E. Satchell, and F. W. Berry, to Brunswick Corp. Bowling pin and base. 3,104,105, 9-17-63, Cl. 278-82.
- Jolles, Zvi E., and E. V. Caldwell. Manufacture of diphenylmercury. 3,106,572, 10-8-63, Cl. 260-433.
- Jolley, Gordon B.: See—  
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- Jolly, Donald: See—  
Metcalfe, Kenneth A., Wright, and McNeil. 3,102,026.
- Jolly, Richard N., to Jersey Production Research Co. Seismic profiling system. 3,105,568, 10-1-63, Cl. 181-5.
- Jolly, Samuel E.: See—  
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- Joly, Gabriel. Mould stripping machine. 3,103,044, 9-10-63, Cl. 22-34.
- Joly, Robert, J. Warnant, and B. Goffinet, to Roussel-UCLAF, S.A. Novel 9 $\alpha$ -fluoro- $\Delta^1$ -corticosteroids and preparation thereof. 3,099,654, 7-30-63, Cl. 260-239.55.
- Joly, Robert, and R. Bucourt, to Roussel-UCLAF, Societe Anonyme. Process for preparing 3-methylchromone. 3,100,782, 8-13-63, Cl. 260-345.2.
- Joly, Robert, J. Warnant, and B. Goffinet, to Roussel-UCLAF, S.A. 16 $\alpha$ -methyl-5 $\beta$ -pregnane-11,20-diones and derivatives thereof. 3,104,245, 9-17-63, Cl. 260-397.45.
- Jonaitis, Charles W.: See—  
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- Baarson, Robert E., Treweek, Jonaitis, and Ray. 3,098,817.
- Jonard, Karl. Method of producing water-insoluble mineral salts. 3,092,554, 6-4-63, Cl. 167-85.
- Jonas, George A.: See—  
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- Jonas, Heinz: *See*—  
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- Jonas, John J., to Ransome & Marles Bearing Co. Ltd. Magnetic rotating apparatus. 3,103,592, 9-10-63, Cl. 250-224.
- Jonas, Walter M., to Sobel Metal Products, Inc. Garment having adjustable plastic buckle. 3,112,750, 12-3-63, Cl. 128-510.
- Jonassen, Jonas. Automatic releasing fishing float. 3,106,034, 10-8-63, Cl. 43-43.11.
- Jonasson, Axel V., to Reed Mfg. Co. Pipe cutter. 3,100,934, 8-20-63, Cl. 30-102.
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- Jones, Addis T., and G. S. Ellis, to Thomas Holst Co. Extensible and contractible joist. 3,088,562, 5-7-63, Cl. 189-37.
- Jones, Alan R., and F. Brech, to Jarrell-Ash Co. Apparatus for counting discrete microscopic particles. 3,076,600, 2-5-63, Cl. 235-92.
- Jones, Albert C.: *See*—  
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Briggs, Walton E., and Jones. 3,085,198.
- Jones, Albert C., F. J. Lingel, and P. B. Troup, to General Electric Co. Tuning fork. 3,085,168, 4-9-63, Cl. 310-25.
- Jones, Alex. Grading shingle cutter guide device. 3,073,364, 1-15-63, Cl. 144-216.
- Jones, Arthur B., Jr., and E. H. Lubner; said Jones assor. to Farnir Bearing Co., and said Lubner assor. to Sperry Rand Corp. Antifriction support mechanism. 3,082,629, 3-26-63, Cl. 74-54.
- Jones, Arthur L., and E. J. Neal, Jr., to The Pelton & Crane Co. Dental aspirator with splash baffle. 3,078,579, 2-26-63, Cl. 32-33.
- Jones, Arthur L., H. A. Strecker, and R. F. Firestone, to The Standard Oil Co. Method of producing a permanently active catalyst utilizing neutron irradiation. 3,092,588, 6-4-63, Cl. 252-432.
- Jones, Augustus, and F. J. Haskins, to General Dynamics Corp. Method of etching copper with rejuvenation and recycling. 3,083,129, 3-26-63, Cl. 156-19.
- Jones, Bernard E.,  $\frac{1}{2}$  to G. B. Jones, and  $\frac{1}{2}$  A. M. Packman. Combination bench router fixture. 3,109,466, 11-5-63, Cl. 144-144.
- Jones, Charles: *See*—  
Bentele, Max, Jones, and Raye. 3,098,605.  
Bentele, Max, Jones, and Raye. 3,111,261.  
Bentele, Max, Pierce, and Jones. 3,102,492.
- Jones, Charles W. Short circuiting cutout switch for tractors. 3,083,275, 3-26-63, Cl. 200-61.5.
- Jones, Clarence L., to Westinghouse Electric Corp. Electrical control apparatus. 3,110,853, 11-12-63, Cl. 318-312.
- Jones, Clarence S.: *See*—  
Kleist, Robert A., and Jones. 3,072,899.
- Jones, Clarence S., to General Precision, Inc. Bridge feedback modulator. 3,100,286, 8-6-63, Cl. 332-37.
- Jones, Clarence S. Proximity responsive switching system. 3,103,655, 9-10-63, Cl. 340-258.
- Jones, Cleo: *See*—  
Klein, Vernon W., and Jones. 3,090,038.
- Jones, Cleve D., to Ford Motor Co. Gear ratio changing structure. 3,079,806, 3-5-63, Cl. 74-335.
- Jones, Cleve D., to Ford Motor Co. Synchronizer clutch mechanism. 3,110,382, 11-12-63, Cl. 192-53.
- Jones, Clifford: *See*—  
Lang, John L., Jones, and Roche. 3,080,348.
- Jones, Clifford E. Applicator for liquid weed-killer. 3,096,534, 7-9-63, Cl. 15-244.
- Jones, Coy V., Sr.: *See*—  
Andersen, Charles J., and Jones. 3,101,585.  
Kennedy, Harry R., Andersen, and Jones. 3,074,224.
- Jones, Coy V., Sr., to Southern Machinery Co. Resilient shaft coupling. 3,074,254, 1-22-63, Cl. 64-11.
- Jones, Don P.: *See*—  
Stroup, Earl L., and Jones. 3,090,427.
- Jones, Donald M., to Del Mar Engineering Laboratories. Means to decelerate a towline reel. 3,085,769, 4-16-63, Cl. 244-3.
- Jones, Donald W.: *See*—  
Mustonen, Reino H., Heintz, and Jones. 3,103,145.
- Jones, Donald W., to Abbott Coin Counter Co. Inc. Combined coin sorter and counting machine. 3,090,390, 5-21-63, Cl. 133-8.
- Jones, Dwight V., to General Electric Co. Variable pulse width parallel inverters. 3,075,136, 1-22-63, Cl. 321-45.
- Jones, E. D. Corp.: *See*—  
Meyer, Fritz O. W. G. 3,100,810.
- Jones, Edmund L., Jr. Traction device for automobile wheels. 3,093,180, 6-11-63, Cl. 152-216.
- Jones, Edward M., to The Baldwin Piano Co. Photoelectric chorus effect generator. 3,086,122, 4-16-63, Cl. 250-220.
- Jones, Edward N. Well treating apparatus and method. 3,076,503, 2-5-63, Cl. 166-1.
- Jones, Edward W., to Elastic Fabric Co., Inc. Alkaline shrinkage of cotton fabric on vibratory conveyor. 3,090,666, 5-21-63, Cl. 8-125.
- Jones, Edwin C., Jr.: *See*—  
Klein, Vernon W., and Jones. 3,090,038.
- Jones, Evan, to Henry Valve Co. Drier fitting and assembly. 3,080,977, 3-12-63, Cl. 210-232.
- Jones, Evan, to Henry Valve Co. Moisture-liquid indication devices. 3,088,811, 5-7-63, Cl. 23-253.
- Jones, Evan, to Henry Valve Co. Liquid indicator with moisture indication means. 3,100,691, 8-13-63, Cl. 23-253.
- Jones, Eynon, O. H. Tracy, and C. B. Deffenbaugh,  $\frac{1}{4}$  to said E. Jones,  $\frac{1}{4}$  to said O. H. Tracy,  $\frac{1}{4}$  to Roberts Dairy Co., and  $\frac{1}{4}$  to L. R. Dunham, and  $\frac{1}{4}$  to E. Johnson. Egg products and processes for preparing same. 3,093,487, 6-11-63, Cl. 99-161.
- Jones, Eynon, and A. R. Johnson, to Prep Foods, Inc. Method of treating shelled eggs. 3,113,872, 12-10-63, Cl. 99-161.
- Jones, Frank B.: *See*—  
Masheter, Lawrence E., Jones, and Udall. 3,107,715.
- Jones, Frank D.: *See*—  
Morrison, Charles S., Jones, and Wilkins. 3,112,752.  
Wilkins, James D., and Jones. 3,091,070.
- Jones, Frank E. D. Playground ride. 3,073,595, 1-15-63, Cl. 272-33.
- Jones, Geoffrey B.: *See*—  
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- Jones, George M.: *See*—  
Dorius, Carl B., Jones, and Morse. 3,074,807.
- Jones, George M., to American Gilsonite Co. Creep reduction in asphaltic paving. 3,093,500, 6-11-63, Cl. 106-273.
- Jones, George S.: *See*—  
Wenthe, Stephen J., and Jones. 3,085,505.
- Jones, Glyn C. W., and A. L. Tickner. Face driving lathe centers. 3,071,998, 1-8-63, Cl. 82-40.
- Jones, Grafton V. Battery booster. 3,105,909, 10-1-63, Cl. 307-10.
- Jones, Gwilym T.: *See*—  
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- Jones, Hal J.: *See*—  
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- Jones, Harold A.: *See*—  
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- Jones, Harold L., to International Paper Co. Treating a wood pulp slurry with a water-soluble acid prior to addition of sizing materials thereto. 3,112,242, 11-26-63, Cl. 162-179.
- Jones, Harold V. Apparatus facilitating accurate reproduction of eyeglass lenses. 3,082,669, 3-26-63, Cl. 95-1.1.
- Jones, Harry S., to United States of America, Navy. Multiple element infrared detector. 3,073,957, 1-15-63, Cl. 250-83.3.
- Jones, Horace H. Portable toilet. 3,070,810, 1-1-63, Cl. 4-114.
- Jones, Hugh W.: *See*—  
Criswell, Billie K., and Jones. 3,096,830.
- Jones, Ira M.: *See*—  
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- Jones, Iradell T.: *See*—  
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- Jones, Jack: *See*—  
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- Jones, Jack W.: *See*—  
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- Jones, James B., to Aeroprojects Inc. Vibrating roll and method. 3,096,672, 7-9-63, Cl. 80-60.
- Jones, James B., and W. C. Potthoff, to Sonobond Corp. Sandwich construction incorporated discrete metal core elements and method of fabrication thereof. 3,071,216, 1-1-63, Cl. 189-34.
- Jones, James B., and K. H. Yocom, to Aeroprojects Inc. Method and apparatus for generating aerosols. 3,084,874, 4-9-63, Cl. 239-424.
- Jones, James B., and N. Maropis, to Aeroprojects Inc. Support for workpiece to be subjected to vibratory energy. 3,106,856, 10-15-63, Cl. 78-82.
- Jones, James D.: *See*—  
Laing, David H., and Jones. 3,095,892.
- Jones, James L., to Applied Research Laboratories, Inc. Mechanical motion and spectrographic device including it. 3,116,415, 12-31-63, Cl. 250-51.5.
- Jones, James M., Jr. Surgical drainage appliance. 3,084,690, 4-9-63, Cl. 128-275.
- Jones, James O.: *See*—  
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- Jones, James O., D. W. Bernard, and J. M. Colagrossi, to Sperry Rand Corp. Typewriter tape punch with program control. 3,107,049, 10-15-63, Cl. 234-15.
- Jones, James R., and R. F. Fogle, Jr., to Olin Mathieson Chemical Corp. Stabilization of sulfur trioxide and high strength oleums. 3,093,455, 6-11-63, Cl. 23-167.
- Jones, James R., and R. F. Fogle, Jr., to Olin Mathieson Chemical Corp. Stabilization of sulfur trioxide and high strength oleums. 3,098,713, 7-23-63, Cl. 23-174.
- Jones, Jean K.: *See*—  
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Purtell, Rufus J. 3,087,680.  
Purtell, Rufus J. 3,094,282.
- Jones, Jefferson F. Miter table for use with masonry saw. 3,089,478, 5-14-63, Cl. 125-35.
- Jones, Jefferson F. Masonry corner guide. 3,114,975, 12-24-63, Cl. 33-85.
- Jones, Jennings H.: *See*—  
Fenske, Merrell R., and Jones. 3,085,106.  
Fenske, Merrell R., and Jones. 3,086,852.
- Jones, John B., Jr.: *See*—  
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- Jones, John E.: *See*—  
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Williams, Sam B., and Jones. 3,079,068.
- Jones, John E., to Oklahoma Electronics Industries, Inc. Electronic and thermodynamic apparatus for processing grains. 3,111,398, 11-19-63, Cl. 34—1.
- Jones, John I., G. C. Noll, J. D. Nielson, G. B. Klos, and E. C. Brekelbaum, to The Thew Shovel Co. Crane. 3,083,837, 4-2-63, Cl. 212—46.
- Jones, John L. Citrily trigluconic acid and salts thereof and process of making the same. 3,072,711, 1-8-63, Cl. 260—484.
- Jones, John L. Fastener and label. 3,074,133, 1-22-63, Cl. 24—67.
- Jones, John L. Label device. 3,077,683, 2-19-63, Cl. 40—2.
- Jones, John L. Integral vaginal applicator. 3,079,918, 3-5-63, Cl. 128—261.
- Jones, John L., to Armour Pharmaceutical Co. Process of preparing aluminum chlorhydroxides and aluminum hydroxide. 3,113,911, 12-10-63, Cl. 204—94.
- Jones, John F., Jr., to Navigation Computer Corp. Sound transducer system. 3,076,870, 2-5-63, Cl. 179—1.
- Jones, John W., to E. I. du Pont de Nemours and Co. Process for preparing oriented polymeric linear terephthalate film with a deglossed writable surface. 3,083,173, 5-7-63, Cl. 18—48.
- Jones, John W. Rotary broom sweeper. 3,114,923, 12-24-63, Cl. 15—82.
- Jones, Keith C., to Minneapolis-Honeywell Regulator Co. Solid propellant pressurizing device. 3,077,077, 2-12-63, Cl. 60—39.47.
- Jones, Kenneth,  $\frac{1}{2}$  to Attwood Statistics Ltd. Audience preference analysis system utilizing continuously interrogated responder stations. 3,093,795, 6-11-63, Cl. 325—31.
- Jones, Kenneth, to Burndept Ltd. Inert voltaic batteries. 3,102,058, 8-27-63, Cl. 136—90.
- Jones, Kenneth W., to The Lord Baltimore Press Inc. Machine for forming and assembling paperboard carriers. 3,111,064, 11-19-63, Cl. 93—45.
- Jones and Lamson Machine Co.: *See*—  
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- Jones & Laughlin Steel Corp.: *See*—  
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- Jones, Leon: *See*—  
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- Jones, Le Roy E. Tire chain applicator and retainer. 3,073,369, 1-15-63, Cl. 152—213.
- Jones, Leslie R., and H. B. Barr, to The Empire Corp. Sample container. 3,077,979, 2-19-63, Cl. 206—46.
- Jones, Llewellyn, to Strongcraft Products, Inc. Merchandise display rack. 3,085,694, 4-16-63, Cl. 211—134.
- Jones, Lloyd E., to Texas Instruments Inc. Solar cell. 3,078,328, 2-19-63, Cl. 136—89.
- Jones, Lloyd E., to Industrial Brush Co. Brush cleaning device for generally vertical surfaces. 3,108,301, 10-29-63, Cl. 15—77.
- Jones, Logan L. Lifting tool. 3,101,211, 8-20-63, Cl. 294—16.
- Jones, Louis F., to United States of America, Navy. Detection of metallic objects on an ocean floor. 3,108,246, 10-22-63, Cl. 340—4.
- Jones, Lyman L., deceased; A. J. Barger, executrix. Can body and method of forming the same. 3,099,238, 7-30-63, Cl. 113—120.
- Jones, Mack M.: *See*—  
Kolthoff, C. Paul, Jr., and Jones. 3,083,762.
- Jones, Martin L., and J. M. Horner, to Westinghouse Electric Corp. Magnetic modulator with time jitter compensation for generated pulses. 3,099,754, 7-30-63, Cl. 307—88.5.
- Jones, Marvin L.: *See*—  
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- Jones, Marvin R.: *See*—  
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- Jones, Marvin R., to Cameron Iron Works, Inc. Drilling pressure control assembly tester. 3,093,996, 6-18-63, Cl. 73—46.
- Jones, Max E., to Crane Co. Analogue to digital converter and counter. 3,099,831, 7-30-63, Cl. 340—347.
- Jones Metal Products Co., The: *See*—  
Buker, Harvey A. 3,108,491.
- Jones, Milton E. Electrical conduit wire puller. 3,072,382, 1-8-63, Cl. 254—134.3.
- Jones, Morris C., Jr., to Baker Perkins Inc. Grouping and loading apparatus for bakery equipment and the like. 3,100,038, 8-6-63, Cl. 198—30.
- Jones, Morton E.: *See*—  
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- Jones, Morton E., and E. W. Mehal, to Texas Instruments Inc. Method of making degeneratively doped group III-V compound semiconductor material. 3,092,591, 6-4-63, Cl. 252—518.
- Jones, Myrton N.: *See*—  
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- Jones, Paul F.: *See*—  
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- Jones, Preston A.,  $\frac{1}{2}$  to W. D. Runswick. Recessed lighting fixture. 3,087,053, 4-23-63, Cl. 240—78.
- Jones, Preston A.,  $\frac{1}{2}$  to W. D. Runswick. Protective cage construction for light fixtures. 3,087,054, 4-23-63, Cl. 240—102.
- Jones Products Co.: *See*—  
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- Jones, R. A., and Co., Inc.: *See*—  
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- Jones, Raymond C., and F. R. Woodward, to The Taylor-Winfield Corp. Strip welding apparatus. 3,102,189, 8-27-63, Cl. 219—82.
- Jones, Richard De Forest. Liquid transferring apparatus. 3,091,252, 5-28-63, Cl. 137—392.
- Jones, Robert C., to United States of America, Navy. Method of fabrication of air-backed thermistor bolometer. 3,098,288, 7-23-63, Cl. 29—155.69.
- Jones, Robert E.: *See*—  
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- Jones, Robert H., to Beckman Instruments, Inc. Method and apparatus for mercaptan analysis. 3,114,609, 12-17-63, Cl. 23—230.
- Jones, Robert J. Holding fixture for Buick dynaflo trans-missions. 3,083,003, 3-26-63, Cl. 269—47.
- Jones, Robert L., to Phillips Petroleum Co. Stripping rich absorption oil. 3,116,235, 12-31-63, Cl. 208—341.
- Jones, Robert T., to Jones Products Co. Method of imparting a permanent form to resin-impregnated webbing. 3,091,547, 5-28-63, Cl. 117—65.2.
- Jones, Robert W. Gunsight. 3,112,566, 12-3-63, Cl. 33—47.
- Jones, Ronald E.: *See*—  
Crocker, Clark F., Schwab, and Jones. 3,083,907.
- Jones, Ronald M., to Belle Jardiniere. Measuring corset assembly for tailors' shops. 3,091,861, 6-4-63, Cl. 33—15.
- Jones, Samuel E., to W. P. Frankenstein. Carton or tray. 3,073,440, 1-15-63, Cl. 206—65.
- Jones, Stephen E. Certificate filing and mailing piece. 3,107,043, 10-15-63, Cl. 229—92.3.
- Jones, Sterling B., to Monogram Precision Industries, Inc. Sheet clamp having a one eared spreader bar. 3,096,679, 7-9-63, Cl. 85—6.
- Jones, Thomas C. Animated sign. 3,073,047, 1-15-63, Cl. 40—39.
- Jones, Thomas G., Jr., and F. E. Null, to United States of America, Air Force. Photosensitive ground target seeker. 3,088,034, 4-30-63, Cl. 250—203.
- Jones, Thomas M., and L. E. Robinson, to Mitchell Engineering Ltd. Sterilising or preserving apparatus. 3,072,239, 1-8-63, Cl. 198—24.
- Jones, Tom: *See*—  
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- Jones, Trevor E.: *See*—  
Williams, David W., Jones, and Crouch. 3,092,565.
- Jones, Vincent W.: *See*—  
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- Jones, Viron V., to Bell & Howell Co. Xerographic plate made by cast coating. 3,077,398, 2-12-63, Cl. 96—1.
- Jones, Walter A., to E. Kendall. Closure operator and radio control apparatus. 3,076,935, 2-5-63, Cl. 325—141.
- Jones, Walter C., and W. K. Brown, to Continental Can Co., Inc. Bundle inverting means. 3,071,257, 1-1-63, Cl. 214—1.
- Jones, Walter I., to United-Carr Fastener Corp. Plastic side wing molding fastener. 3,110,069, 11-12-63, Cl. 24—73.
- Jones, Walter L., to E. I. du Pont de Nemours and Co. Compensated bridge circuit. 3,080,745, 3-12-63, Cl. 73—27.
- Jones, Walter O., to The Wean Engineering Co., Inc. Means and method for classifying and piling sheets. 3,104,006, 9-17-63, Cl. 198—31.
- Jones, Warren K., to Continental Oil Co. Method for installation of sealing rings. 3,115,701, 12-31-63, Cl. 29—453.
- Jones, Weston C.: *See*—  
Smith, Harry V., Haag, and Jones. 3,080,606.
- Jones, Wickliffe, and W. J. Rece, Jr., to R. A. Jones and Co., Inc. Box forming machine. 3,111,065, 11-19-63, Cl. 93—49.
- Jones, Wilford D., R. H. Cahill, and J. C. Lukman, to Celanese Corp. of America. Process for polymerizing vinyl ester in aqueous emulsion containing water-soluble colloidal emulsifying agent and water-immiscible non-ionic surface active agents. 3,112,282, 11-26-63, Cl. 260—17.
- Jones, William A., to Northrop Corp. Bearing preload tester. 3,100,989, 8-20-63, Cl. 73—140.
- Jones, William A., and E. W. Johnson, to Northrop Corp. Compensated pre-loaded bearing. 3,071,421, 1-1-63, Cl. 308—178.
- Jones, William A., R. L. Wales, J. F. Leonard, and P. W. Dalrymple, to Northrop Corp. Fluid-sealing self-aligning shaft bearing. 3,097,024, 7-9-63, Cl. 308—36.3.
- Jones, William B., to Adolph Gottscho, Inc. Marking device. 3,072,044, 1-8-63, Cl. 101—35.
- Jones, William B., and P. F. McWalters, to United States of America, Atomic Energy Commission. Beam splitter. 3,072,786, 1-8-63, Cl. 250—41.9.
- Jones, William C. Respiration testing apparatus. 3,086,515, 4-23-63, Cl. 128—208.
- Jones, William C., Jr., to Esso Research and Engineering Co. Separation of hydrocarbon mixtures. 3,074,881, 1-22-63, Cl. 208—308.



- Jones, William E., and H. F. Hilscher. Sliding and pivoting window. 3,105,576, 10-1-63, Cl. 189-65.
- Jones, William F.: *See*—
- Dison, James R., Johnson, and Jones. 3,081,097.
- Jones, William G.: *See*—
- Walsh, Alan, and Jones. 3,089,054.
- Jones, William H., to General Electric Co. Synchronous detection multiplex system. 3,108,158, 10-22-63, Cl. 179-15.
- Jones, William T.: *See*—
- Smith, Alfred P., Smith, and Jones. 3,094,939.
- Smith, Alfred P., Smith, and Jones. 3,095,125.
- Jones-Hinton, James: *See*—
- Gray, Thomas E. H., and Jones-Hinton. 3,103,662.
- Jonker Business Machines, Inc.: *See*—
- Jonker, Frederick. 3,092,114.
- Jonker, Frederick, to Jonker Business Machines, Inc. Selection method and apparatus for indexing documents and the like with extreme rapidity. 3,092,114, 6-4-63, Cl. 129-16.1.
- Jonker, Frederick. Superimposable card search and data storage system. 3,100,296, 8-6-63, Cl. 340-174.1.
- Jonker, Gerard H.: *See*—
- Gorter, Evert W., Lotgering, Jonker, Wijn, and Kooy. 3,072,575.
- Jonkey, Joseph S.: *See*—
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- Jonkopings Mekaniska Werkstads AB: *See*—
- Wall, Karl B. 3,115,096.
- Jonson, Wayne C.: *See*—
- Carson, Robert E., and Jonson. 3,095,540.
- Jönsson, Alfred. Method of heating ship walls and a device for carrying out the method. 3,092,066, 6-4-63, Cl. 114-221.
- Joonase, Paul: *See*—
- Bracey, Frederick J., Joonase, and Mason. 3,094,825.
- Joos, Eric. Foldable tables. 3,074,770, 1-22-63, Cl. 311-90.
- Jopp, Walter, to Skrebba-Werk, Kommandit-Gesellschaft, Firma. Stapler. 3,076,195, 2-5-63, Cl. 1-3.
- Jorch, William F.: *See*—
- Clauss, Raymond E., Humbert, and Jorch. 3,081,629.
- Jordan, Arthur H., to Minneapolis-Honeywell Regulator Co. Controller. 3,073,074, 2-26-63, Cl. 235-61.
- Jordan, Ben B., to Western Electric Co., Inc. Decimal to binary number translating device. 3,084,860, 4-9-63, Cl. 235-155.
- Jordan, Bertram L.: *See*—
- Harrington, Joseph J., Mitchell, and Jordan. 3,098,340.
- Jordan, Charles B., to United States of America, Army. Soluble borax inhibitor. 3,087,959, 4-30-63, Cl. 260-462.
- Jordan, Charles M., and J. W. Yee, to General Motors Corp. Combination tail lamp and back-up lamp. 3,109,159, 10-29-63, Cl. 340-67.
- Jordan-Edwards Co., Inc.: *See*—
- Segel, Joseph M. 3,104,289.
- Jordan, Ernst. Split self-locking washer. 3,097,679, 7-16-63, Cl. 151-36.
- Jordan, Eugene L., and D. J. Donahue, to Radio Corp. of America. Semiconductor devices and methods of making them. 3,089,793, 5-14-63, Cl. 148-1.5.
- Jordan, Friedrich, to Gwerkschaft Eisenhütte Westfalia. Conveyor belt guide assembly. 3,107,778, 10-22-63, Cl. 198-201.
- Jordan, Gerhard P. W. Artificial gland. 3,093,831, 6-18-63, Cl. 3-1.
- Jordan, Hans, to Waste King Corp. Garbage disposal device. 3,076,611, 2-5-63, Cl. 241-46.
- Jordan, Henry L., Jr. Metallic receptacle. 3,109,664, 11-5-63, Cl. 280-12.
- Jordan Industries, Inc.: *See*—
- Topf, Sam B. 3,094,892.
- Jordan, John P., and D. Firth, to Dodge Mfg. Corp. Hub and shaft with formed setscrew collar. 3,082,048, 3-19-63, Cl. 308-326.
- Jordan, Joseph J., and R. Palermo. Anti-slip device for boots. 3,099,885, 8-6-63, Cl. 36-59.
- Jordan, Leslie H.: *See*—
- Davis, Harold C., Jordan, and Arden. 3,109,505.
- Jordan, Merrill E.: *See*—
- Cole, Harvey M., Burbine, Jordan, and Petterson. 3,107,980.
- Hall, Joseph P., Jr., Hardy, and Jordan. 3,075,844.
- Jordan, Merrill E., to Cabot Corp. Process for incorporating a polymer-coated acidic pigment in polyethylene. 3,085,989, 4-16-63, Cl. 260-41.
- Jordan, Merrill E., H. M. Cole, W. G. Burbine, and D. L. Petterson, to Cabot Corp. Carbon black process. 3,088,806, 5-7-63, Cl. 23-209.8.
- Jordan, Richard H.: *See*—
- Mertler, Charles S., and Jordan. 3,088,016.
- Jordan, Richard H., to Austin J. Smith & Son. Coin operated lock. 3,113,657, 12-10-63, Cl. 194-65.
- Jordan, Robert A., to Laboratory For Electronics, Inc. Microwave phase shifter. 3,114,121, 12-10-63, Cl. 333-29.
- Jordan, Robert H.: *See*—
- Burk, Emmett H., Jr., Korelitz, and Jordan. 3,116,340.
- Jordan, Roy D. Safety device for automatic poultry feeders. 3,077,182, 2-12-62, Cl. 119-52.
- Jordan, Roy E., Jr., H. D. Mays, and K. M. Claus, to The Mosaic Tile Co. Acoustical panel. 3,084,402, 4-9-63, Cl. 20-4.
- Jordan, Terence B.: *See*—
- Benge, Bill L., and Jordan. 3,108,963.
- Jordan, Terence B., and H. A. Kirsch, to Texaco Inc. Calcium base greases containing chlorinated bicycloheptene compounds. 3,072,571, 1-8-63, Cl. 252-40.7.
- Jordan, Thomas F.: *See*—
- Bohres, William C., Fields, and Jordan. 3,103,409.
- Jordan, Wesley A., to General Mills, Inc. Gum sols of improved heat stability. 3,084,057, 4-2-63, Cl. 106-205.
- Jordan, Willard C.: *See*—
- Gibson, Gordon, Jordan, and Lauer. 3,085,173.
- Jordan, William E.: *See*—
- Keller, Herbert H., and Jordan. 3,084,097.
- Jordansson, Lars E.: *See*—
- Brauns, Otto L. J., and Jordansson. 3,093,535.
- Jore, Bjorn, R. G. D'Ascoli, and J. W. Olson, to Anaconda Wire and Cable Co. Leak-detecting telephone cable. 3,098,116, 7-16-63, Cl. 174-115.
- Jorfeldt, Gustav: *See*—
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- Jorgensen, Chester N.: *See*—
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- Jorgensen, Otto A., to General Dynamics Corp. Wafer parametron. 3,087,096, 4-23-63, Cl. 317-101.
- Jorgensen, Otto A., to General Dynamics Corp. Circuitry utilizing parametrically excited harmonic oscillators. 3,099,801, 7-30-63, Cl. 330-10.
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- Wellford, Walker L., Jr., and Jorgensen. 3,091,350.
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- Holby, James C., and Jorgenson. 3,105,481.
- Jorgenson, Irving N., to The Wiremold Co. Collapsible tubing with integral clamp. 3,101,209, 8-20-63, Cl. 285-403.
- Joris, George G., and Z. Oser, to Allied Chemical Corp. Purification of p,p'-isopropylidenediphenol crystalline product. 3,111,544, 11-19-63, Cl. 260-619.
- Joris, Louis: *See*—
- Ruosch, Samuel, and Joris. 3,112,215.
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- Joseph, Hazel V.: *See*—
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- Josephs, Melvin, to The Dow Chemical Co. Method for controlling the growth of undesirable vegetation. 3,072,472, 1-8-63, Cl. 71-2.3.
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- Josephs, Melvin J., to The Dow Chemical Co. Herbicidal composition and method employing allyl hydrazine. 3,084,036, 4-2-63, Cl. 71-2.7.
- Josephson, Robert H.: *See*—
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- Josephson, Vernal, to Space Technology Laboratories, Inc. Apparatus for the generation and confinement of high kinetic energy gases. 3,113,088, 12-3-63, Cl. 204-193.2.
- Josey, Alden D., to E. I. du Pont de Nemours and Co. Organosubstituted monofluoromalononitriles and their preparation. 3,114,763, 12-17-63, Cl. 260-465.
- Joslin, Carlos E. Safety device for mowers. 3,084,494, 4-9-63, Cl. 56-25.4.
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- June, Ronald K., and J. C. Rapean, to Shell Oil Co. Glycidyl esters. 3,075,999, 1-29-63, Cl. 260-348.6.
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- Jung, Melvin A., to Invincible Metal Furniture Co. Desk with interchangeable panels. 3,105,726, 10-1-63, Cl. 312-195.
- Jung, Robert C., to Westinghouse Electric Corp. Refrigeration apparatus. 3,075,366, 1-29-63, Cl. 62-382.
- Jung, Robert C., and J. H. Tupper, to Westinghouse Electric Corp. Refrigeration air flow arrangement. 3,077,749, 2-19-63, Cl. 62-419.
- Jung, Werner, and G. M. Pavell. Method and apparatus for preserving and transporting live fish. 3,076,432, 2-5-63, Cl. 119-3.
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- Junger, Miguel C., to Acoustica Associates, Inc. Pulse-echo gauging system. 3,100,994, 8-20-63, Cl. 73-290.
- Junger, Miguel C., to Acoustica Associates, Inc. Low frequency resonant transducers. 3,111,595, 11-19-63, Cl. 310-8.2.
- Jungersen, Thøger G., Jr.: *See*—  
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- Jungersen, Thøger G., to Thøger G. Jungersen, Jr. Release apparatus. 3,081,122, 3-12-63, Cl. 294-83.
- Jungerwirth, Bernard R. Display constructions. 3,094,800, 6-25-63, Cl. 40-33.
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- Jurelt, John C., and Automated Building Components, Inc. Concrete press. 3,079,607, 3-5-63, Cl. 1-149.
- Jurgeleit, Herbert F., to United States Rubber Co. Injection molding machine. 3,070,843, 1-1-63, Cl. 18-20.
- Jurgeleit, Herbert F., to United States Rubber Co. Process of baling particulate material. 3,098,695, 7-23-63, Cl. 18-48.
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- Jurs, Peter C., A. R. Champion, and B. A. Thule, to Shand and Jurs Co. Cover construction. 3,074,590, 1-22-63, Cl. 220-46.
- Jury, Harold R., to Metal Research and Development Ltd. Manufacture of tubular articles. 3,080,650, 3-12-63, Cl. 29-534.
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- Just, Richard, to Specialty Engineering & Electronics Co. Radiation dosimeter reader. 3,093,734, 6-11-63, Cl. 250-71.5.
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- Justice, Donald S., to The Justice Co. Solar still. 3,088,882, 5-7-63, Cl. 202-205.
- Justis, Charles E. Mobile drafting apparatus with replaceable units. 3,106,783, 10-15-63, Cl. 33-80.
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- Justus, Edgar J., to Beloit Iron Works. Tension regulator. 3,071,300, 1-1-63, Cl. 226-38.
- Justus, Edgar J., to Beloit Iron Works. Automatic control and drive for mills. 3,074,300, 1-22-63, Cl. 80-54.
- Justus, Edgar J., to Beloit Iron Works. Web coating and doctoring apparatus. 3,080,847, 3-12-63, Cl. 118-126.
- Justus, Edgar J., to Beloit Iron Works. Roll structure. 3,082,683, 3-26-63, Cl. 100-93.
- Justus, Edgar J., to Beloit Iron Works. Stock screen. 3,082,874, 3-26-63, Cl. 210-333.
- Justus, Edgar J., to Beloit Iron Works. Web breaking control in drying apparatus. 3,085,347, 4-16-63, Cl. 34-49.
- Justus, Edgar J., to Beloit Iron Works. Anti-deflection roll. 3,097,590, 7-16-63, Cl. 100-155.
- Justus, Edgar J., to Beloit Iron Works. Anti-deflection roll. 3,097,591, 7-16-63, Cl. 100-155.
- Justus, Edgar J., to Beloit Iron Works. Web forming method and apparatus. 3,102,066, 8-27-63, Cl. 162-209.
- Justus, Edgar J., to Beloit Iron Works. Method and means for dispensing fibrous slurries. 3,103,463, 9-10-63, Cl. 162-341.
- Justus, Edgar J., to Beloit Iron Works. Porous belt drying apparatus. 3,110,575, 11-12-63, Cl. 34-111.
- Justus, Edgar J., and D. C. Cronin, to Beloit Iron Works. Belt guiding means for suction boxes. 3,082,819, 3-26-63, Cl. 162-349.
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- K & H Equipment Ltd.: *See*—  
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- Kamborian, Albert, to International Shoe Machinery Corp. Last. 3,089,166, 5-14-63, Cl. 12—141.
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- Vornberger, Walter A. 3,082,447.
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- Böhm, Siegfried, Hahn, Hennig, Hintze, and Weise. 3,072,031.
- Hahn, Erich. 3,072,032.
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- Wiessner, Manfred. 3,072,034.
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- Kamide, Harris P., to General Electric Co. Electronic cooking apparatus. 3,083,284, 3-26-63, Cl. 219—10.55.
- Kamienski, Conrad W., and D. H. Lewis, to Lithium Corp. of America, Inc. Preparation of stable non-pyrophoric alkyl lithium compositions. 3,087,896, 4-30-63, Cl. 252—192.
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- Kaminski, Richard K., to Bell Aerospace Corp. Acoustical vibration test device. 3,104,543, 9-24-63, Cl. 73—69.
- Kaminsky, Otto A. Calculator. 3,081,559, 3-19-63, Cl. 35—29.
- Kaminsky, Stanley J. Means for heat sealing synthetic materials. 3,111,447, 11-19-63, Cl. 156—497.
- Kamlet, Edna Y.: *See—*
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- Kamm, Gilbert G., to American Can Co. Method for improving acid tin plate quality. 3,087,871, 4-30-63, Cl. 204—36.
- Kammerer, Archer W., % to said A. W. Kammerer, % to J. K. Lamphere, and % to A. W. Kammerer, Jr. Retrievable drilling apparatus for bore holes. 3,074,494, 1-22-63, Cl. 175—260.
- Kammerer, Archer W. Method and apparatus for conditioning bore holes. 3,083,765, 4-2-63, Cl. 166—21.
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- Kammerer, Archer W. Liner hanger and liner milling tool. 3,114,416, 12-17-63, Cl. 166—55.7.
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- Kammerer, Edwin G., to Storrac, Inc. Receptacle filling apparatus. 3,091,903, 6-4-63, Cl. 53—260.
- Kamp, Earl A., and H. E. Moore. Electric control device for welding instruments. 3,111,618, 11-19-63, Cl. 323—60.
- Kamp, Ewald A., to The Englander Co., Inc. Corner bed structure. 3,106,724, 10-15-63, Cl. 5—8.
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- Kampmeier, Frederick J., to The Ingersoll Milling Machine Co. Machine tool. 3,097,568, 7-16-63, Cl. 90—11.
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- Kanaga, Amos R., Portion control holding bag or container. 3,077,410, 2-12-63, Cl. 99—171.
- Kanai, Masakuni, Method for culturing pearls. 3,113,554, 12-10-63, Cl. 119—4.
- Kanamuller, Franz X., to Sperry Rand Corp. Magnetic head positioning system. 3,105,964, 10-1-63, Cl. 340—174.1.
- Kanarek, Jesse J., Waterproof electrical connector adapter. 3,096,134, 7-2-63, Cl. 339—150.
- Kanarek, Joseph S., to Ziff-Davis Publishing Co. Spraying mechanism. 3,074,650, 1-22-63, Cl. 239—215.
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- Kane, Daniel E., to Fibreboard Paper Products Corp. Paper-board corrugating medium treatment. 3,103,459, 9-10-63, Cl. 156—342.
- Kane, Ernest M., Mixing device. 3,104,867, 9-24-63, Cl. 259—30.
- Kane, Frank A., Jr.,  $\frac{1}{4}$  to G. F. Oberrender,  $\frac{1}{4}$  to E. R. Postnack, and  $\frac{1}{4}$  to the estate of F. A. Kane. Device for controlling the admission of fuel into an internal combustion engine. 3,080,858, 3-12-63, Cl. 123—102.
- Kane, Gale L., 50% to E. P. Huff. Planter. 3,099,355, 7-30-63, Cl. 211—75.
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- Kane, James R.: See—  
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- Kane, John J.: See—  
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- Kane, Robert J., Means for introducing chlorine into water. 3,096,780, 7-9-63, Cl. 137—209.
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- Kaneko, Kazuo, C. Hisatsune, T. Kuwako, and T. Kobayashi, to Kobe Steel Works, Ltd., Hisatsune, C., and The Yokohama Rubber Co., Ltd. Method of die-casting screws by using screw coils. 3,112,540, 12-3-63, Cl. 22—203.
- Kaneko, Saburo: See—  
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- Kaneko, Yuichiro, to Kabushiki Kaisha Tokai Rika Denki Seisakusho. Watertight dimmer switch. 3,093,715, 6-11-63, Cl. 200—67.
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- Kanes, Murray, to The Bendix Corp. Pressure-responsive device. 3,083,576, 4-2-63, Cl. 73—409.
- Kang, Bun P., to Anaconda Wire and Cable Co. Power cables. 3,077,514, 2-12-63, Cl. 174—120.
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- Kano, Hideo, I. Kikkawa, Y. Makisumi, S. Takahashi, and M. Ogata, to Shionogi & Co. Ltd. Novel process for preparing 3-aminoisoxazole. 3,073,839, 1-15-63, Cl. 260—307.
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- Kantar, Raymond G., to General Motors Corp. Gear assembly. 3,103,800, 9-17-63, Cl. 64—27.
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- Kanter, Jerome J., to Crane Co. Flexible metal pipe. 3,086,556, 4-23-63, Cl. 138—131.
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- Kantrowitz, Louise A., now by change of name L. A. Kay. Talking book. 3,086,297, 4-23-63, Cl. 35—35.
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- Kanzelberger, Claude G., to Hamilton Mfg. Co. Folding table and bench constructions. 3,101,062, 8-20-63, Cl. 108—37.
- Kanzelberger, Claude G., and R. E. Kanitz, to Hamilton Mfg. Co. Folding table construction. 3,101,064, 8-20-63, Cl. 108—113.
- Kao, John Y. L., to F. D. Farnam Co. Process for preparing cork and fiber compositions. 3,082,145, 3-19-63, Cl. 162—158.
- Kao, Paul W., and C. H. Brannen, to Cen-Vi-Ro Pipe Corp. Annular track member for a spinning cylindrical pipe core during interior lining operation. 3,098,764, 7-23-63, Cl. 118—55.
- Kapanowski, Edward C. Safety handgrip. 3,084,938, 4-9-63, Cl. 273—72.
- Kapany, Narinder S., and D. F. Capellaro, to American Optical Co. Apparatus for drawing fibers. 3,088,297, 5-7-63, Cl. 65—13.
- Kapeker, Martin. Automatic refrigeration and defrost system. 3,071,935, 1-8-63, Cl. 62—155.
- Kapell, Sidney M.: See—  
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- Kapilow, Marvin. Motion picture viewer. 3,074,311, 1-22-63, Cl. 88—17.
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- Kaplan, Allan L.: See—  
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- Kaplan, David. Body support garment. 3,115,879, 12-31-63, Cl. 128—541.
- Kaplan, David H., to Convertawings, Inc. Differential gear transmission mechanism. 3,076,354, 2-5-63, Cl. 74—675.
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- Kaplan, Leo I., to Poby Industries, Inc. Clamp having stamped hook bolt. 3,079,660, 3-5-63, Cl. 24—279.
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- Kaplan, Louis G., to Cullen-Friestedt Co. Control mechanism for electrically operated lifters. 3,097,875, 7-16-63, Cl. 294—67.
- Kaplan, Louis G., and D. J. Moro, to Cullen-Friestedt Co. Lifter mechanism with horizontally extensible jaw-supporting arms. 3,076,673, 2-5-63, Cl. 294—85.
- Kaplan, Martin,  $\frac{1}{4}$  to L. S. Singer and  $\frac{1}{4}$  to B. R. Lewis. Room spray deodorizer. 3,093,835, 6-18-63, Cl. 4—228.
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- Kaplan, Sam H., to The Rauland Corp. Color reproducing cathode-ray tube. 3,109,117, 10-29-63, Cl. 313—92.
- Kaplan, Sam H. Color image reproducer. 3,114,065, 12-10-63, Cl. 313—92.
- Kaplan, Seymour. Carrier for boxed tissues. 3,089,597, 5-14-63, Cl. 211—88.
- Kaplan, Seymour. Extrusion cross-head for plastic material. 3,111,718, 11-26-63, Cl. 18—14.
- Kaplan, Yale, deceased, by F. Kaplan, executrix, and W. Jaquiere, to Monsanto Chemical Co. Bag forming and sealing machine. 3,115,072, 12-24-63, Cl. 93—8.
- Kaplany, Narinder S., to Optics Technology, Inc. Photorefractometer. 3,103,546, 9-10-63, Cl. 88—14.



- Kappel, Henry C., to Uni Valve Corp. Dispenser valve. 3,114,483, 12-17-63, Cl. 222-394.
- Kappeler, Heini: *See*—
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- Kappen, John W. Lifting unit. 3,096,895, 7-9-63, Cl. 214-674.
- Kappen, John W. Material handling mechanism. 3,104,910, 9-24-63, Cl. 296-51.
- Kaprellian, Edward K. Electrophotographic printers. 3,100,426, 8-13-63, Cl. 95-1.7.
- Kaprellian, Edward K. Offset electrophotography. 3,115,814, 12-31-63, Cl. 95-1.7.
- Kapur, Kishen N., to International Business Machines Corp. Recording and printing apparatus. 3,106,881, 10-15-63, Cl. 95-4.5.
- Karabinos, Joseph V., and R. B. Colaric, to Olin Mathieson Chemical Corp. Preparation of pentaerythritol polyglycols. 3,082,257, 3-19-63, Cl. 260-615.
- Karabinos, Joseph V., and E. J. Quinn, to Olin Mathieson Chemical Corp. Inhibited alkaline detergent solutions. 3,105,822, 10-1-63, Cl. 252-156.
- Karabinos, Joseph V., and A. T. Ballun, to Olin Mathieson Chemical Corp. Chlorinated trisodium phosphate. 3,110,677, 11-12-63, Cl. 252-99.
- Karacsonyi, Paul: *See*—
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- Karapinka, George L., and W. L. Carrick, to Union Carbide Corp. Aluminum-free alkyl titanium trihalides and process for producing same. 3,072,692, 1-8-63, Cl. 260-429.5.
- Karaseh, Morris S., and W. Nudenberg, to Shell Oil Co. Production of halo-substituted carbonylic compounds. 3,090,808, 5-21-63, Cl. 260-539.
- Karasinski, Edward S. Steering means for space vehicles, missiles and high altitude flying craft. 3,096,049, 7-2-63, Cl. 244-52.
- Karcher, John C., and C. L. Canfield, to Concho Petroleum Co. Method of forming a granular ammonium humate fertilizer. 3,111,404, 11-19-63, Cl. 71-24.
- Kardash, Walter A., and M. F. Nathan, to The M. W. Kellogg Co. Desulfurization process. 3,077,448, 2-12-63, Cl. 208-210.
- Kardorff, Leon, and C. M. Gold, to Yardney International Corp. Fluid-discharge device. 3,075,035, 1-22-63, Cl. 136-90.
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- Kariss, John, and H. L. Newmark, to Hoffmann-La Roche Inc. Oleaginous systems. 3,116,203, 12-31-63, Cl. 167-65.
- Karkoska, Frank D. Method and apparatus for transversely slitting sheet material. 3,071,175, 1-1-63, Cl. 153-2.
- Karl, Clarence O., to United Shoe Machinery Corp. Fiber containers. 3,106,327, 10-8-63, Cl. 229-4.5.
- Karl, Clarence O., to United Shoe Machinery Corp. Burst open containers. 3,109,576, 11-5-63, Cl. 229-51.
- Karlan, Sidney I.: *See*—
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- Karlgaard, Wayne A., to General Motors Corp. Shock absorber with sleeved piston. 3,088,555, 5-7-63, Cl. 188-88.
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- Kateley, Francis W., to Rockwell-Standard Corp. Service and emergency brake. 3,112,959, 12-3-63, Cl. 303-6.
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- Kathrein, Henry R., to Grain Processing Corp. Production of carotenoid pigments. 3,108,402, 10-29-63, Cl. 47-58.
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- Katzenberger, Ralph H., to Schwitzer Corp. Tuned friction damper. 3,077,123, 2-12-63, Cl. 74-574.
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- Kaufeld, Don B., to Foils Packaging Corp. Box structure. 3,107,839, 10-22-63, Cl. 229-17.
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- Kauffman, Robert S., R. E. Baarson, and H. B. Treweek, to Armour and Co. Ore flotation collector and ore flotation process. 3,114,704, 12-17-63, Cl. 209-166.
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- Kauffmann, William M., M. C. Metzger, and D. E. Schultz, to Worthington Corp. Control system for multi-fuel engine. 3,114,358, 12-17-63, Cl. 123-120.
- Kaufman, Alvin B. Temperature compensated transistor sensing circuit. 3,106,645, 10-8-63, Cl. 307-88.5.
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- Kaufman, George, to Carter Products, Inc. Deodorant device. 3,111,703, 11-26-63, Cl. 15-572.
- Kaufman, Harold B., Jr.: *See*—
- Fries, Edward W., and Kaufman. 3,097,967.
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- Kaufman, Herman S., to Minnesota Mining and Mfg. Co. Extrudable blend of fluorinated polymer compositions and wire coated therewith. 3,105,827, 10-1-63, Cl. 260-45.5.
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- Kaufmann, John J., Jr. Textile bobbin. 3,076,620, 2-5-63, Cl. 242-118.3.
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- Keith, Willis C., to Sinclair Research, Inc. Process for producing olefin polymers. 3,098,884, 7-23-63, Cl. 260-683.15.
- Keith, Willis C., and S. M. Cotton, to Sinclair Refining Co. Oxidation of alkylbenzene carboxylic acids. 3,075,009, 1-22-63, Cl. 260-524.
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- Kempf, Clayton A., to Foremost Dairies, Inc. Centrifugal atomizer and method. 3,103,311, 9-10-63, Cl. 239-7.
- Kempf, Oskar, to A. Belz. Flat purl knitting machine. 3,102,403, 9-3-63, Cl. 66-63.
- Kempf, Willi, to Gelenkwellenbau G.m.b.H. Pipe connection, especially for universal joint shafts and the like. 3,100,660, 8-13-63, Cl. 287-53.
- Kempthorne, James L. Process for making concrete for application by spray gun. 3,096,968, 7-9-63, Cl. 259-147.
- Ken, Lee G.: *See*—  
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- Kenaga, Duane L., to The Dow Chemical Co. Stabilization of wood and wood products with acrylic-like compounds. 3,077,417, 2-12-63, Cl. 117-59.
- Kenaga, Duane L., to The Dow Chemical Co. Stabilization of wood and wood products with styrene acrylonitrile, bis-(2-chloroethyl) vinyl phosphonate. 3,077,418, 2-12-63, Cl. 117-59.
- Kenaga, Duane L., to The Dow Chemical Co. Stabilization of wood and wood products with vinyl compounds. 3,077,419, 2-12-63, Cl. 117-59.
- Kenaga, Duane L., to The Dow Chemical Co. Stabilization of wood and wood products with epoxy compounds. 3,077,420, 2-12-63, Cl. 117-59.
- Kenaga, Eugene E., to The Dow Chemical Co. Insect repellent composition and method. 3,090,720, 5-21-63, Cl. 167-31.
- Keud, David, to Park Electrochemical Corp. Decorative covering for tubular casing. 3,108,707, 10-29-63, Cl. 220-9.
- Kendall Co., The: *See*—  
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- Beck, Robert B. 3,100,074.
- Gelpke, Karl A. 3,104,998.
- Laakso, Perttu V. 3,113,675.
- Marshall, Preston F. 3,076,307.
- Marshall, Preston F. 3,078,653.
- Marshall, Preston F. 3,078,654.
- Marshall, Preston F. 3,079,290.
- Marshall, Preston F. 3,082,591.
- Olson, Arthur R. 3,085,309.
- Olson, Arthur R. 3,092,519.
- Schaar, Charles H. 3,073,303.
- Schaar, Charles H. 3,073,304.
- Schaar, Charles H. 3,088,843.
- Schaar, Charles H. 3,092,276.
- Seltzer, Norman L. Re. 25,332.
- Seltzer, Norman L. 3,104,684.
- Tritsch, Ludwig. 3,072,249.
- Tritsch, Ludwig. 3,088,848.
- Kendall, Delvin E., Jr., R. C. Mack, and R. R. Wellock, to Kaman Aircraft Corp. Remote control of robot aircraft. 3,096,046, 7-2-63, Cl. 244-17.13.
- Kendall, Earl W., to Rohr Corp. Process and composition for cleaning and polishing aluminum and its alloys. 3,106,499, 10-8-63, Cl. 156-21.
- Kendall, Edward R., to Simoniz Co. Polishing composition. 3,074,799, 1-22-63, Cl. 106-10.
- Kendall, Edythe: *See*—  
Jones, Walter A. 3,076,935.
- Kendall, Frances. Orthopedic appliance for restoring normal foot posture. 3,094,985, 6-25-63, Cl. 128-81.
- Kendall, Hugh C., to General Signal Corp. Vehicle performance monitoring system. 3,099,817, 7-30-63, Cl. 340-172.5.
- Kendall, Hugh C., and J. H. Auer, Jr., to General Railway Signal Co. Electronic speed measuring apparatus. 3,085,261, 4-9-63, Cl. 325-16.
- Kendall, Hugh C., J. H. Auer, Jr., N. A. Bolton, and K. H. Frielinghaus, to General Signal Corp. Vehicle detection apparatus. 3,110,008, 11-5-63, Cl. 340-38.
- Kendall, Paul D.: *See*—  
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- Kendall Refining Co.: *See*—  
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- Kendall, William L.: *See*—  
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- Kende, Andrew S.: *See*—  
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- Kendrick, Carl W. Debarking machine. 3,098,512, 7-23-63, Cl. 144-208.
- Kendrick, Carl W. Rotatable drum assembly for debarking machine. 3,108,622, 10-29-63, Cl. 144-208.
- Kendrick, Edward A., Jr. Box spring hanger assembly. 3,075,206, 1-29-63, Cl. 5-207.
- Kendrick, John, to Spek Instrument Co. Reading means for instruments. 3,085,475, 4-16-63, Cl. 88-74.
- Kendrick, Robert E. Printing cylinder and ink supply therefor. 3,094,066, 6-18-63, Cl. 101-216.
- Kendrick, Robert W.: *See*—  
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- Kendt, Norman L., to General Electric Co. Slide out mechanism. 3,096,125, 7-2-63, Cl. 308-3.8.
- Kendzia, Norbert A. Apparatus for compacting refuse. 3,105,435, 10-1-63, Cl. 100-171.
- Kendziorek, Wolfgang M., and J. W. Clements, to Westinghouse Electric Corp. Attitude detector. 3,092,916, 6-11-63, Cl. 33-215.
- Kendziorek, Wolfgang M., and S. J. Garrett, to Westinghouse Electric Corp. Auctioneering circuitry. 3,103,594, 9-10-63, Cl. 307-88.
- Kenedi, Peter G., and R. T. Gore, to M & T Chemicals Inc. Plating on aluminum. 3,108,006, 10-22-63, Cl. 106-1.
- Ken-Lab, Inc.: *See*—  
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- Kenmar Mfg. Co., The: *See*—  
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- Kenmore, Jack M., to Safety Aids Co. Traffic flag. 3,091,215, 5-28-63, Cl. 116-173.
- Kennard, Dwight C., Jr., and C. W. Gerhardt, to United States of America, Air Force. Evacuation chamber. 3,111,074, 11-19-63, Cl. 98-29.
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- Stout, Allison B., Jr. 3,111,392.
- Zimmerley, Stuart R. 3,102,806.
- Zimmerley, Stuart R., Back, Beck, and Pick. 3,096,172.
- Kennedy, John W., and J. L. Rike, to Jersey Production Research Co. Well perforating apparatus. 3,104,709, 9-24-63, Cl. 166-55.1.
- Kennedy, Alonzo. Magnetic work guide. 3,082,799, 3-26-63, Cl. 143-168.
- Kennedy, Arthur M. Retractable wheels for boats. 3,085,261, 4-16-63, Cl. 9-1.
- Kennedy, Betty: *See*—  
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- Kennedy, Buford K., to Minneapolis-Honeywell Regulator Co. Tape feeding device. 3,099,376, 7-30-63, Cl. 226-108.
- Kennedy, Douglas J., and N. B. Shine, to Shawinigan Chemicals Ltd. Production of hydrogen cyanide. 3,097,921, 7-16-63, Cl. 23-151.
- Kennedy, Everett P., to Ford Motor Co. Synchronized transmission mechanism. 3,080,028, 3-5-63, Cl. 192-53.
- Kennedy, Garth P., C. M. Corken, and E. D. Heim, to Corken's Inc. Pump. 3,072,066, 1-8-63, Cl. 103-136.
- Kennedy, Harry E., to Union Carbide Corp. Gas shielded metal arc welding torch. 3,083,290, 3-26-63, Cl. 219-130.
- Kennedy, Harry M., to The Superior Equipment Co. Winch unit. 3,092,370, 6-4-63, Cl. 254-185.
- Kennedy, Harry R., C. J. Anderson, and C. V. Jones, Sr., to Southern Machinery Co. Automatic tip bunch building mechanism for spinning frames. 3,074,224, 1-22-63, Cl. 57-54.
- Kennedy, Harry R., and C. J. Andersen, to Southern Machinery Co. Ring rail lowering mechanism for textile spinning frames. 3,080,701, 3-12-63, Cl. 57-54.
- Kennedy, James M., Jr., to Revere Copper and Brass, Inc. Induction welding of tubes. 3,072,771, 1-8-63, Cl. 219-8.5.
- Kennedy, James M., Jr., to Revere Copper and Brass Inc. High frequency inductor. 3,077,528, 2-12-63, Cl. 219-10.79.
- Kennedy, John H., to E. I. du Pont de Nemours and Co. Process for separating niobium and tantalum. 3,092,448, 6-4-63, Cl. 23-15.
- Kennedy, John R.: *See—*  
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- Kennedy, Joseph B., to Sperry Rand Corp. Helix assembly for traveling wave tubes. 3,107,312, 10-15-63, Cl. 315-3.5.
- Kennedy, Merritt T., Jr. Pipe coupling with intermeshing teeth and combined camming and locking key. 3,104,896, 9-24-63, Cl. 285-18.
- Kennedy, Richard R.: *See—*  
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- Kennedy, Richard T., to Ekco Products Co. Knife assembly. 3,114,973, 12-24-63, Cl. 30-342.
- Kennedy, Robert, to B. Kennedy d.b.a. Sevilla Co. Pants hanger. 3,077,291, 2-12-63, Cl. 223-88.
- Kennedy, Robert M.: *See—*  
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- Kennedy, Robert W.: *See—*  
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- Kennedy, S. F. New Products, Inc.: *See—*  
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- Kennedy, Truman H., to United States Steel Corp. Method for making steel by oxygen blowing. 3,096,173, 7-2-63, Cl. 75-60.
- Kennedy, Vernal K., to Lockheed Aircraft Corp. Pressure and thermal material forming device. 3,080,473, 3-5-63, Cl. 219-149.
- Kennedy, Walter V., to Fram Corp. Manufacture of metal spools. 3,083,752, 4-2-63, Cl. 153-13.
- Kennedy, Walter W., to Barber-Colman Co. Air conditioning apparatus. 3,114,505, 12-17-63, Cl. 236-13.
- Kennedy, William P. Adjustable pattern sprinkler. 3,081,037, 3-12-63, Cl. 239-97.
- Kennedy, William P. Adjustable pattern impulse sprinkler. 3,081,039, 3-12-63, Cl. 239-230.
- Kennedy, William P. Adjustable pattern sprinkler. 3,091,399, 5-28-63, Cl. 239-231.
- Kennedy, William P. Plural switch combination control for entrance light and bell having pneumatic delay means for opening the entrance light switch. 3,101,396, 8-20-63, Cl. 200-34.
- Kennedy, Wilson R., and R. E. Spencer, to Westinghouse Electric Corp. Sequentially energized plural motor control system. 3,099,778, 7-30-63, Cl. 318-102.
- Kennel, Hans F., to United States of America, Army. Torque compensation device. 3,074,682, 1-22-63, Cl. 248-415.
- Kennepohl, Kenneth K. Liquid level indicator for L. P. gas tanks. 3,098,386, 7-23-63, Cl. 73-297.
- Kenner, Conrad: *See—*  
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Anderson, Roy N. 3,108,440.
- Kenner, Irvin J.: *See—*  
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- Kenner Products Co.: *See—*  
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- Kennerly, George W., D. S. Hoffenberg, and J. S. Noland, to American Cyanamid Co. Polymerization of acetylenic compound with alkali-metal borohydride and Ni or Co salt. 3,092,613, 6-4-63, Cl. 260-94.1.
- Kennerly, George W., D. S. Hoffenberg, and G. C. Gleckler, to American Cyanamid Co. Polymerization of acetylene compounds. 3,097,195, 7-9-63, Cl. 260-94.1.
- Kenney, Albert M. Apparatus for the guiding of trim strips from box making machines or the like. 3,080,780, 3-12-63, Cl. 83-105.
- Kenney, Christopher N., to Imperial Chemical Industries Ltd. Process for preparing polymers of vinyl phosphorus monomeric compounds. 3,083,995, 4-16-63, Cl. 260-80.
- Kenney, Emil J., to The Craftint Mfg. Co. Sketching device. 3,096,587, 7-9-63, Cl. 33-64.
- Kenney, Harold E.: *See—*  
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- Kenney, James T., and C. J. O'Loughlin, 33 $\frac{1}{2}$ % to J. E. Becker. Arithmetical teaching aid game. 3,104,106, 9-17-63, Cl. 273-134.
- Kenney, Malcolm E. and R. D. Joyner. Germanium phthalocyanines. 3,094,535, 6-18-63, Cl. 260-314.5.
- Kenney, Malcolm E., and R. D. Joyner. Silicon phthalocyanines. 3,094,536, 6-18-63, Cl. 260-314.5.
- Kenney, Philip J. Can and reclosure lid and tape seal therefor. 3,096,905, 7-9-63, Cl. 220-53.
- Kenney, Robert W., to A. O. Smith Corp. Releasable balanced fluid coupling. 3,092,140, 6-4-63, Cl. 137-594.
- Kenney, William D., to Lilliston Implement Co. Tandem disc harrow. 3,106,255, 10-8-63, Cl. 172-568.
- Kenney, William D., and W. O. Vernon, to Columbus Iron Works Co. Disc harrow. 3,098,530, 7-23-63, Cl. 172-591.
- Kennis, Mathews J., to Blikman & Sartorius N.V. Apparatus for processing decimal numbers. 3,072,331, 1-8-63, Cl. 235-146.
- Kennison, Robert E.: *See—*  
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- Kennon, John B.,  $\frac{1}{2}$  to C. E. Wright. Light responsive device for producing sounds. 3,110,814, 11-12-63, Cl. 250-214.
- Kenny, Charles R.: *See—*  
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- Kenny, Charles R., and J. Reed, to General Precision, Inc. Transistor power supply circuit. 3,102,225, 8-27-63, Cl. 323-22.
- Kenny, James P., and J. J. Grant, to Power Spray Co., Inc. Liquid dispensing device for floor machines. 3,094,152, 6-18-63, Cl. 141-19.
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- Kenrich, Richard R., to Whirlpool Corp. Method and apparatus for shaking a garment and applying cleaning liquid and drying fluid thereto. 3,114,919, 12-24-63, Cl. 8-147.
- Kenrich, Chester M.: *See—*  
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- Kenshol, Kenneth W., to Metalizing Co. of America, Inc. Molten material spray gun with laterally deflecting air cap. 3,085,750, 4-16-63, Cl. 239-84.
- Kent, Allen H., to Frary & Clark. Energy storing means. 3,080,017, 3-5-63, Cl. 185-40.
- Kent, Allen H., to Landers, Frary & Clark. Pencil sharpener blade changing means. 3,083,691, 4-2-63, Cl. 120-93.
- Kent, Allen H., to Landers, Frary & Clark. Floating mounting for pencil sharpener blade. 3,104,535, 9-24-63, Cl. 64-15.
- Kent, Francis J., and G. W. Sibley, to Baldwin-Lima-Hamilton Corp. Tool assembly for a metal working press. 3,074,549, 1-22-63, Cl. 207-19.
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- Denison, George H., Bolt, Kent, Christiansen, and Carroll. 3,115,467.
- Kent, John A.: *See—*  
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- Kent-Moore Organization, Inc.: *See—*  
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- Kent, Nelson H.: *See—*  
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- Kent, Nelson H., and S. F. Smith, to Rolls-Royce Ltd. Gas turbine engine with gas starter. 3,085,396, 4-16-63, Cl. 60-39.14.
- Kent, Nelson H., R. D. Beale, and R. V. Blackburn, to Rolls-Royce Ltd. Annular valve device. 3,094,270, 6-18-63, Cl. 230-114.
- Kent, Nelson H., and G. O. Eccles, to Rolls-Royce Ltd. Turbine and compressor blades. 3,112,557, 12-3-63, Cl. 29-156.8.
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- Kent, Ray W., Jr., and F. H. Bolton, to The Dow Chemical Co. Graft copolymer of monovinyl aromatic hydrocarbon and a copolymer of butadiene and isoprenylbiphenyl or vinylbiphenyl. 3,097,186, 7-9-63, Cl. 260-45.5.
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- Kent, Stephen D., and S. P. Crane. Making a dishd polish-ing buff. 3,086,821, 4-23-63, Cl. 300-21.



- Kentes, Frances M. Portable baby's bath and cabinet unit. 3,094,711, 6-25-63, Cl. 4-176.
- Kentfield, John A. C., to Power Jets (Research & Development) Ltd. Aircraft systems incorporating pressure exchangers. 3,106,073, 10-3-63, Cl. 62-402.
- Kentfield, John A. C., to Power Jets (Research & Development) Ltd. Pressure exchangers. 3,109,580, 11-5-63, Cl. 230-69.
- Kentor, William E. Meat cubing machine. 3,077,215, 2-12-63, Cl. 146-78.
- Kenwood Mfg. (Woking) Ltd.: See—
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- Kenyon, Harold F., to Metropolitan-Vickers Electrical Co. Ltd. Electrical connections between relatively rotating electrical conductors. 3,078,432, 2-19-63, Cl. 339-8.
- Kenyon, Ralph W., and D. A. Regan. Pallet superstructure. 3,091,195, 5-28-63, Cl. 108-53.
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- Hammond, Wayne S., Defries, and Kenyon. 3,101,689.
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- Keogh, Howard G., Jr., to Daystrom, Inc. Control circuit. 3,087,066, 4-23-63, Cl. 250-206.
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- Grayson, Martin, and Keough. 3,116,317.
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- Kepkay, Leslie L., to Massey-Ferguson Ltd. Auxiliary re-thresher for a combine. 3,115,142, 12-24-63, Cl. 130-27.
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- Kerley, James J., Jr., to Kerley Engineering, Inc. Protective enclosure shock and vibration type isolator mount. 3,074,681, 1-22-63, Cl. 248-358.
- Kerley, James J., Jr., to Kerley Engineering, Inc. Mechanical impulse filter type shock mount. 3,086,600, 4-23-63, Cl. 175-155.
- Kerley, James J., Jr., to Kerley Engineering, Inc. Isolator type shaft coupling devices. 3,087,313, 4-30-63, Cl. 64-12.
- Kerlin, John H., to North American Aviation, Inc. Multiple land seal. 3,104,884, 9-24-63, Cl. 277-206.
- Kerman, Mark. Positioning hinge mechanism for rotatably and pivotally mounted barriers. 3,089,184, 5-14-63, Cl. 16-141.
- Kerman, Nathan. Window lock. 3,082,617, 3-26-63, Cl. 70-90.
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- Kern, Fritz, to Ciba Ltd. Process for the electrolytic deposition of niobium or tantalum. 3,093,554, 6-11-63, Cl. 204-64.
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- Kern, Werner K., to United States of America, Air Force. Wind tunnel droplet dispenser. 3,087,332, 4-30-63, Cl. 73-147.
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- Kerns, Homer. Laminated panel means and electrical conduit systems therefor. 3,108,750, 10-29-63, Cl. 240-51.11.
- Kerns, Homer. Bellows pump for blood transfusions. 3,111,145, 11-19-63, Cl. 141-26.
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- Kero, Arthur L., to Boeing Airplane Co. Axonometric computer and process. 3,074,630, 1-22-63, Cl. 235-61.
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- Frilette, Vincent J., and Kerr. 3,071,434.
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- Kerr, Paul F., to Texaco Inc. Recovering hydrocarbons from subsurface formations. 3,091,292, 5-28-63, Cl. 166-11.
- Kerr, Ralph O.: See—
- Bowman, William G., and Kerr. 3,094,539.
- Kerr, Ralph O., W. R. Decker, and C. M. Dorsett, to Pittsburgh Plate Glass Co. Method of preparing maleic anhydride. 3,074,969, 1-22-63, Cl. 260-346.8.
- Kerr, Ralph O., and W. G. Bowman, to Petro-Tex Chemical Corp. Preparation of cis-4-cyclohexene-1,2-dicarboxylic acid anhydride. 3,085,096, 4-9-63, Cl. 260-346.6.
- Kerr, Ralph W., to Corn Products Co. Sulfation of cellulose. 3,077,373, 2-12-63, Cl. 8-120.
- Kerr, Ralph W. Car top trunk luggage carrier. 3,095,129, 6-25-63, Cl. 224-42.1.
- Kerr, Robert A., W. L. Richardson, and W. R. H. Springford, to Northern Electric Co., Ltd. Excessive extrusion pressure prevention apparatus. 3,091,806, 6-4-63, Cl. 18-13.
- Kerr, Robert E.: See—
- Madak, Paul D., Cuthbert, and Kerr. 3,083,700.
- Kerr, Walter C. Dowel pin. 3,102,746, 9-3-63, Cl. 287-127.
- Kerr, William J., to Chicago Lock Co. Lock assembly for a refrigerated cabinet or the like. 3,089,329, 5-14-63, Cl. 70-135.
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- Kerr, William J., to Chicago Lock Co. Quick-release means for securing lock assemblies in fitted door openings. 3,095,727, 7-2-63, Cl. 70-451.
- Kerrill, Richard C. Reusable coin wrapper. 3,092,304, 6-4-63, Cl. 229-87.2.
- Kerridge, Norman E., to Stothert & Pitt, Ltd. Fluid operated ram. 3,082,746, 3-26-63, Cl. 121-46.
- Kerridge, Norman E., to Stothert & Pitt, Ltd. Tubular jib crane structure. 3,106,298, 10-8-63, Cl. 212-13.
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- Kerrigan, James E., and R. Grikis, to Chicago Printed String Co. Hank forming machine and method. 3,097,771, 7-16-63, Cl. 223-46.
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- Kerrison, Oscar C., and K. Senior, to The Paterson Engineering Co. Ltd. Filters for liquids. 3,104,224, 9-17-63, Cl. 210-497.1.



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- Kerschner, Paul M., and B. W. Greenwald, to Cities Service Research and Development Co. Polyesters. 3,074,988, 1-22-63, Cl. 260-448.2.
- Kerschner, Paul M., and B. W. Greenwald, to Cities Service Research and Development Co. Method of preparing complex diesters of a dibasic acid with a dish and an excess of a monohydric alcohol. 3,086,044, 4-16-63, Cl. 260-485.
- Kerschner, Rex R. Tool box. 3,092,428, 6-4-63, Cl. 312-218.
- Kershaw, John K., to Jackson Mfg. Co. Inc. Automatic bagging machine. 3,094,181, 6-18-63, Cl. 177-1.
- Kershaw, Peter L.: *See*—  
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- Kershaw, Royce G. Apparatus for tamping ballast on a railroad track. 3,096,724, 7-9-63, Cl. 104-12.
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- Kershner, Osborn A., to Lambert Brake Corp. Friction device. 3,094,194, 6-18-63, Cl. 188-72.
- Kershner, Osborn A., to Lambert Brake Corp. Disc brake. 3,106,990, 10-15-63, Cl. 188-72.
- Kershner, Osborn A., and V. A. Matrau, to Lambert Brake Corp. Disc brake. 3,088,553, 5-7-63, Cl. 188-72.
- Kershner, Richard B., and T. W. Sheppard, to United States of America, Navy. Radar antenna positioning device. 3,107,543, 10-22-63, Cl. 74-99.
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- Kerst, Herman, to Dearborn Chemical Co. Zinc-sodium polyphosphate, sodium polyphosphate, chelating agent corrosion inhibiting composition. 3,116,105, 12-31-63, Cl. 21-27.
- Kerstn, Heinz-Ulrich, to Werner Kammann, Maschinen-Fabrik. Screen stencil printing machine. 3,078,792, 2-26-63, Cl. 101-126.
- Kerstn, Bruno W., to M. S. Pump. Dispensing device. 3,100,068, 8-6-63, Cl. 222-207.
- Kersten, Donald J. Chemical toilet structure. 3,074,076, 1-22-63, Cl. 4-115.
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- Kersting, George A. Record holding file. 3,114,459, 12-17-63, Cl. 211-40.
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- Kerti, Jozsef. Recovering metals from aqueous sulfate solutions. 3,111,468, 11-19-63, Cl. 204-112.
- Kerver, John K.: *See*—  
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- Kerver, John K., to Jersey Production Research Co. Injection of fluids into earth formations. 3,087,551, 4-30-63, Cl. 166-224.
- Kerver, John K., to Jersey Production Research Co. Hydraulic fracturing process. 3,097,694, 7-16-63, Cl. 166-42.
- Kerver, John K., W. E. Holland, and W. O. Winsauer, to Jersey Production Research Co. Method for consolidating incompetent formations. 3,090,435, 5-21-63, Cl. 166-29.
- Kervin, Willis D., to Carbonic Development Corp. Combustion burner. 3,096,812, 7-9-63, Cl. 158-108.
- Kerwin, Daniel: *See*—  
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- Kerwin, Edward M., Jr., to Bolt Beranek and Newman Inc. Apparatus for damping. 3,087,565, 4-30-63, Cl. 181-33.
- Kerwin, Edward M., Jr., to Bolt Beranek and Newman Inc. Apparatus for damping. 3,087,571, 4-30-63, Cl. 181-33.
- Kerwin, James F., to Smith Kline & French Laboratories. B-norsteroid derivatives. 3,072,681, 1-8-63, Cl. 260-343.2.
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- Kesel, Thomas A., F. A. Hodgson, and A. E. Flemming, to Chrysler Corp. Flexible strip installation device. 3,081,532, 3-19-63, Cl. 29-235.
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- Keskkula, Henno, to The Dow Chemical Co. Compositions of copolymers of vinyl aromatic hydrocarbons and methacrylic acid and rubbery copolymers containing vinylpyridine. 3,072,598, 1-8-63, Cl. 260-45.5.
- Kesling, Harold D. Pin and spring for light wire bracket. 3,093,903, 6-18-63, Cl. 32-14.
- Kesling, Keith K., to General Motors Corp. Refrigerating apparatus. 3,077,644, 2-19-63, Cl. 20-69.
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- Kesling, Paul, to Bell Aerospace Corp. Helicopter engine failure warning system. 3,104,721, 9-24-63, Cl. 170-160.22.
- Kesling, Peter C. Orthodontic lock pin and bracket appliance. 3,085,335, 4-16-63, Cl. 32-14.
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- Kessler, Claus, and G. Moltgen, to Siemens-Schuckertwerke Aktiengesellschaft. Means for controlling valve-action rectifiers. 3,099,785, 7-30-63, Cl. 321-18.
- Kessler, Edwin, III. Meteorological display system. 3,116,482, 12-31-63, Cl. 343-5.
- Kessler, George W.: *See*—  
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- Kessler, Harry S. and S. A. Cabinet construction. 3,074,772, 1-22-63, Cl. 312-204.
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- Kessler, Milton. Plastic spring. 3,081,992, 3-19-63, Cl. 267-1.
- Kessler, Richard P., to West Virginia Pulp and Paper Co. Closure for bags. 3,079,065, 2-26-63, Cl. 229-57.
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- Kessling, Thomas B., to Canning Equipment Co. Fruit preparation machine. 3,086,638, 4-23-63, Cl. 198-33.
- Kessman, Maurice. Disposable film splicing package. 3,082,866, 3-26-63, Cl. 206-46.
- Kestel, Heinrich, to H. and P. Wacker. Swing system for a motor-driven and manually-guided working device. 3,090,286, 5-21-63, Cl. 94-49.
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- Kester, Melvin E., to Package Products Co. Inc. Linen display package. 3,087,605, 4-30-63, Cl. 206-45.33.
- Kester, William H., to United States Steel Corp. Spreader beam and weigh scale for teeming ladles. 3,081,833, 3-19-63, Cl. 177-147.
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- Kestner, William N., to Esso Research and Engineering Co. Partial hydrogenation of C<sub>4</sub> acetylenes prior to CAA prewash. 3,091,654, 5-28-63, Cl. 260-681.5.
- Keszler, Ernest. Slide calipers. 3,113,384, 12-10-63, Cl. 33-143.
- Keszler, Hugo, and J. Bernreiter, to Chirana Praha, narodni podnik. Automatic resuscitating pressure apparatus. 3,099,278, 7-30-63, Cl. 137-64.
- Ketcham, Harry L., Jr.: *See*—  
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- Ketchledge, Raymond W., to Bell Telephone Laboratories, Inc. Coincident flux memory device. 3,078,447, 2-19-63, Cl. 340-174.
- Ketchledge, Raymond W., to Bell Telephone Laboratories, Inc. Optical storage system. 3,099,820, 7-30-63, Cl. 340-173.
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- Ketterer, Stanley J., to The Singer Mfg. Co. Lubricating devices for sewing machine loop taker. 3,084,648, 4-9-63, Cl. 112-256.
- Ketterer, Stanley J., to The Singer Co. Control mechanism for lock stitch sewing machines. 3,103,189, 9-10-63, Cl. 112-184.
- Ketterer, Stanley J., to The Singer Co. Bobbin thread wiping device for lock stitch sewing machines. 3,105,451, 10-1-63, Cl. 112-186.
- Ketterer, Stanley J., to The Singer Co. Control mechanism for sewing machine thread tension device. 3,113,539, 12-10-63, Cl. 112-255.
- Ketterer, Stanley J., to The Singer Co. Lock stitch sewing machine with locking thread replenishing means. 3,115,110, 12-24-63, Cl. 112-181.
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- Kevelin, Bruce E., to General Motors Corp. Method of dielectrically embossing a metallic element to a thermoplastic. 3,107,190, 10-15-63, Cl. 156-219.
- Kevorkian, Jack. Algesimeter. 3,074,395, 1-22-63, Cl. 128-2.



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- Kewaunee Mfg. Co.: *See*—  
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- Key, Gilbert R. Heating system. 3,106,914, 10-15-63, Cl. 126-93.
- Key, Lawrence M., Jr. Portable oil heating unit. 3,106,915, 10-15-63, Cl. 126-343.5.
- Key, Lawrence M., Jr. Metallic building structures. 3,113,648, 12-10-63, Cl. 189-1.
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- Keyser, Johann J. Bobbin holder for spinning machines and the like. 3,074,667, 1-22-63, Cl. 242-131.
- Keyser, Johann J. Spindle belt drive. 3,086,349, 4-23-63, Cl. 57-104.
- Keyser, Johann J. Balloon separator for spinning or twisting machine. 3,086,350, 4-23-63, Cl. 57-108.
- Keyser, Johann J. Lubricating holder for spinning and twisting rings. 3,095,689, 7-2-63, Cl. 57-120.
- Keyser, Johann J. Spinning or twisting machine. 3,103,095, 9-10-63, Cl. 57-1.
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- Keyser, John G. Method of sealing a porous formation traversed by a well bore. 3,114,418, 12-17-63, Cl. 166-29.
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- Khanbegian, Harry N., to United States of America, Army. Hood over-all. 3,100,896, 8-20-63, Cl. 2-5.
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- Khawam, Antoine, and M. Koenigsberg. Method of molding a reinforced foam article. 3,082,486, 3-26-63, Cl. 18-59.
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- Khoury Bros., Inc.: *See*—  
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- Khoury, Henri A., and R. K. Wilmer, to International Business Machines Corp. Pneumatically operated document sensing station. 3,103,850, 9-17-63, Cl. 88-24.
- Kiang, John C. K. Stencil printer. 3,099,207, 7-30-63, Cl. 101-124.
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- Kibler, Charles J., M. B. Knowles, and J. W. Tamblin, to Eastman Kodak Co. Dibenzoylresorcinol stabilizer in cellulose esters. 3,075,850, 1-29-63, Cl. 106-187.
- Kibler, Charles J., and J. W. Tamblin, to Eastman Kodak Co. Ultraviolet light stabilized cellulose ester plastic composition. 3,100,716, 8-13-63, Cl. 106-187.
- Kibler, Lynden U., to Bell Telephone Laboratories, Inc. Solid state diode surface wave traveling wave amplifier. 3,094,664, 6-18-63, Cl. 325-373.
- Kibsgaard, John. Grain cleaner. 3,111,483, 11-19-63, Cl. 209-10.
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Fouse, Frederick Z., and Kidwell. 3,098,565.
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- Kiefer, Harry J., G. E. Pekarek, and A. Zier, to The Glidden Co. Metal coating composition, method for preparing same and coated metal sheet. 3,080,246, 3-5-63, Cl. 106-285.
- Kiefer, Howard H. Sun hat. 3,089,145, 5-14-63, Cl. 2-177.
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- Kiefer, Otto. Plastic wheels or runners. 3,095,822, 7-2-63, Cl. 103-114.
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- Kiekhaefer, Elmer C., to Kiekhaefer Corp. Suspension system for outboard motors. 3,084,657, 4-9-63, Cl. 115-18.
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- Kiekhaefer, Elmer C., to Kiekhaefer Corp. Two-cycle internal-combustion engine. 3,105,474, 10-1-63, Cl. 123-59.
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- Kiernan, Bruce E. Cutting tool. 3,078,546, 2-26-63, Cl. 29-95.
- Kieronski, John P., to Leesona Corp. Textile apparatus. 3,074,606, 1-22-63, Cl. 226-11.
- Kies, Elliott J.: *See—*  
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- Kies, Elliott J., to The Massillon-Cleveland-Akron Sign Co. Wind operated sign. 3,088,235, 5-7-63, Cl. 40-37.
- Kies, Elliott J., to The Massillon-Cleveland-Akron Sign Co. Banner mounting construction. 3,102,353, 9-3-63, Cl. 40-128.
- Kiesel, Karl, to Escher Wyss G.m.b.H. Reel starter for winding of webs. 3,094,294, 6-18-63, Cl. 242-65.
- Kiesel, Kenneth A., to Westinghouse Electric Corp. X-ray apparatus. 3,075,082, 1-22-63, Cl. 250-95.
- Kiesel, Kenneth A., E. L. Webb, D. V. Smith, and Z. L. Collins, to Westinghouse Electric Corp. Radio fluid detector. 3,076,093, 1-29-63, Cl. 250-71.5.
- Kieselbach, Richard, to E. I. du Pont de Nemours and Co. Shielded resistor. 3,106,088, 10-8-63, Cl. 73-27.
- Kiesler, Allan J.: *See—*  
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- Kiesling, John D.: *See—*  
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- Kiesow, Lothar: *See—*  
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- Kiesslich, Klaus: *See—*  
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- Kiessling, Hans-Joachim, and H. Unruh, to Deutsche Solvay-Werke G.m.b.H. Polybenzyl derivatives and process for the production thereof. 3,076,785, 2-5-63, Cl. 260-61.
- Kietz, Hans, and H. G. Schloen, to Atlas-Werke Aktiengesellschaft. Non-linear recording amplifier. 3,094,681, 6-18-63, Cl. 340-3.
- Kiewitt, Gustel R.: *See—*  
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- Kiff, Ben W.: *See—*  
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- Kihara, Nobutoshi, to Sony Corp. Signal amplifying device. 3,112,365, 11-26-63, Cl. 179-1.
- Kiheri, Allen E.: *See—*  
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- Kihlberg, Josef: *See—*  
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- Kihn, Harry: *See—*  
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- Kihn, Harry, and W. E. Barnette, to Radio Corp. of America. Decoder circuits. 3,082,404, 3-19-63, Cl. 340-164.
- Kihn, Harry, and W. E. Barnette, to Radio Corp. of America. Decoder circuits. 3,114,047, 12-10-63, Cl. 307-88.
- Kikas, Leonhard. Beauty beach kit. 3,115,638, 12-31-63, Cl. 2-48.
- Kikas, Leonhard. Adjustable mop head. 3,115,657, 12-31-63, Cl. 15-150.
- Kikendall, Ralph E. Snap acting safety valve. 3,074,425, 1-22-63, Cl. 137-477.
- Kiker, Charles W., Jr. Teaching and testing machine. 3,082,545, 3-26-63, Cl. 35-9.
- Kikkawa, Ikuo: *See—*  
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- Kikta, John M., to Grayhill, Inc. Test clip. 3,116,101, 12-31-63, Cl. 339-238.
- Kikuchi, Akio. Size-adjustable rake. 3,073,103, 1-15-63, Cl. 56-400.18.
- Kikuna Electric Co., Ltd.: *See—*  
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- Kilayko, Enrique L., to Precision Chemical Pump Corp. Dual seating ball check valve. 3,091,254, 5-28-63, Cl. 137-516.29.
- Kilboy, Lambert J., Jr.: *See—*  
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- Kilburg, James, to Perini Electronic Corp. Support and drive means for adjustable tapes. 3,081,047, 3-12-63, Cl. 242-55.
- Kilburn, John E., and F. Morrone, to International Tool & Research, Inc. Adjustable head welding torch. 3,109,916, 11-5-63, Cl. 219-75.
- Kilburn, William C., and W. P. Somers, to General Electric Co. Electric heating pad. 3,114,825, 12-17-63, Cl. 219-46.
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- Kilby, Jack S., to Texas Instruments Inc. Miniature semiconductor integrated circuit. 3,115,581, 12-24-63, Cl. 307-88.5.
- Kilby, William, and C. Hitchen, to Standfast Dyers & Printers Ltd. Dyeing of cellulose material with vat dyestuffs. 3,077,370, 2-12-63, Cl. 8-34.
- Kilcup, Dillon K. Intermittent motion mechanism. 3,095,749, 7-2-63, Cl. 74-84.
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- Kilduff, Timothy J., and A. A. Benderly, to United States of America, Army. Polytetrafluoroethylene waveguide window construction. 3,095,550, 6-25-63, Cl. 333-98.
- Kile, Otho, and B. J. Golbeck, to R. R. Donnelly & Sons Co. Method of and apparatus for cutting and feeding wrappers for magazines. 3,101,164, 8-20-63, Cl. 225-2.
- Kilheffer, Lawrence D.: *See—*  
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- Killian, Georg, and F. Mainz, to Libbey-Owens-Ford Glass Co. Apparatus for producing double sheet glazing units. 3,100,148, 8-6-63, Cl. 65-152.
- Killark Electric Mfg. Co.: *See—*  
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- Kille, Leonard A., and W. D. Teague, to Polaroid Corp. Camera construction. 3,077,152, 2-12-63, Cl. 95-40.
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- Killen, Duncan C. Wide frame folding easel. 3,095,666, 7-2-63, Cl. 45-129.
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- Killen, William R.: *See—*  
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- Killinger, George. Animal trap. 3,114,985, 12-24-63, Cl. 43-83.5.
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- Kilner, George, to Filper Corp. Device for cutting around pits in drupes; coring and segmenting fruit bodies. 3,108,624, 10-29-63, Cl. 146-52.
- Kilness, Luther E. Ratchet mechanism. 3,078,973, 2-26-63, Cl. 192-43.2.
- Kilpatrick, David G., to Cenco Instruments Corp. Cardiac electrode means. 3,087,486, 4-30-63, Cl. 128-2.1.
- Kilroy, Henry P., and J. O. McDonough, to Giddings & Lewis Machine Tool Co. Phase-responsive servosystem control of a variable condition having positive or negative values. 3,078,400, 2-19-63, Cl. 318-28.
- Kilsheimer, John R., and H. H. Moorefield, to Union Carbide Corp. Dihydronaphthyl N-methyl-carbamates. 3,081,340, 3-12-63, Cl. 260-479.
- Kilsheimer, John R., and H. H. Moorefield, to Union Carbide Corp. 5-lower acylamino 1-naphthyl N-methylcarbamates. 3,099,681, 7-30-63, Cl. 260-479.
- Kim, Alfred M. H. Venetian blind. 3,100,113, 8-20-63, Cl. 160-168.
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- Kimball, A.: *See—*  
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- Kimball, Donald G., to General Electric Co. Rocker-operated switch. 3,071,659, 1-1-63, Cl. 200-5.
- Kimball, Eugene C. Telescoping column structure. 3,087,626, 4-30-63, Cl. 212-34.
- Kimball, George R., and N. L. Etten, deceased (by E. Etten, executrix), to Chamberlain Corp. Metal shelf construction. 3,105,595, 10-1-63, Cl. 211-153.
- Kimball, Harold W. Combustion engine valve. 3,090,370, 5-21-63, Cl. 123-188.
- Kimball, Richard H., and E. Leon, to Hooker Chemical Corp. Stabilization of 6,7,8,9,10,10-hexachloro-1,5,6,6,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3-oxide with water. 3,105,081, 9-24-63, Cl. 260-327.
- Kimball, Richard H., and G. W. Darling, to Hooker Chemical Corp. Process for the manufacture and recovery of a chlorine-containing carboxylic acid. 3,112,339, 11-26-63, Cl. 260-514.
- Kimball, Rollow C.: *See—*  
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- Kimball, Rollow D., and R. C. Control for fluid dispensers. 3,079,045, 2-26-63, Cl. 222-20.
- Kimball, Marion J., and C. V. Fields, to Westinghouse Electric Corp. Temperature responsive resistance device. 3,113,458, 12-10-63, Cl. 73-362.
- Kimber, Ray L., Jr., to Corning Glass Works. Handle-band assembly. 3,105,714, 10-1-63, Cl. 294-31.2.
- Kimberlin, Charles N., Jr.: *See—*  
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- Kimberlin, Charles N., Jr., W. J. Mattox, and C. E. Adams, to Esso Research and Engineering Co. Treatment of petroleum residua with sodium alloys. 3,093,575, 6-11-63, Cl. 208-208.



- Kimberlin, Charles N., Jr. and W. F. Arey, to Esso Research and Engineering Co. Universal caustic regeneration process. 3,104,157, 9-17-63, Cl. 23-184.
- Kimberlin, Charles N., Jr., and W. J. Mattox, to Esso Research and Engineering Co. Hydrocarbon separation process. 3,106,591, 10-8-63, Cl. 260-676.
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- Bletzinger, John C. 3,110,609.
- Day, Winterton U., Donnelly, and Rohs. 3,096,228.
- Dickens, William A. 3,077,675.
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- Grobe, Ralph E., and Allen. 3,077,629.
- Harwood, Kenneth J. 3,072,511.
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- Kellett, William R. 3,091,241.
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- Kuhnel, Paul T. 3,088,842.
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- Lincoln, David, Rightor, and Wilson. 3,072,051.
- Malmstrom, Homer E., and Donaldson. 3,099,543.
- Martinek, Richard W. 3,097,107.
- Minarik, Rudolf G. 3,086,416.
- Nobbe, Bernard. 3,074,324.
- Perkins, Fred D., Jr. 3,071,962.
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- Stanczak, Frank J., and Wolterding. 3,075,260.
- Tretheway, Donald G., and Hansen. 3,089,409.
- Waters, John W. 3,074,303.
- Zabel, Lowell W., Eastwood, and Moen. 3,114,791.
- Kimble, Creighton B., to Lockheed Aircraft Corp. Latch. 3,111,338, 11-19-63, Cl. 292-111.
- Kimble Glass Co.: *See*—
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- Kozak, John, and Souhier. 3,078,695.
- Torok, Julius J. 3,078,696.
- Kimble, Kenneth G., and C. W. Ferguson, to Libby-Owens-Ford Glass Co. Method and apparatus for handling sheets or plates. 3,075,327, 1-29-63, Cl. 53-36.
- Kimbleton, Cecil, to Curtiss-Wright Corp. Capacitance tuning circuit for variable speed alternator current control. 3,089,997, 5-14-63, Cl. 322-95.
- Kimbleton, Cecil, to Curtiss-Wright Corp. Voltage regulating system. 3,099,783, 7-30-63, Cl. 320-40.
- Kimble, Hershel E. Practice device. 3,105,683, 10-1-63, Cl. 273-15.
- Kimbro Mfg. Corp.: *See*—
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- Kimbro, Robert M., to Kimbro Mfg. Corp. Replacement valve unit. 3,114,385, 12-17-63, Cl. 137-315.
- Kimbrough, Jacob C., to Cumberland Case Co. Doorstep box. 3,081,898, 3-19-63, Cl. 220-9.
- Kimbrough, Lud H., Jr., to Ideal Fishing Float Co., Inc. Box with slide cover and hang-up device. 3,082,902, 3-26-63, Cl. 220-18.
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- Kimel, Walter: *See*—
- Eichmann, Gary G., and Kimel. 3,093,681.
- Kimel, Walter, and M. Montavon, to Hoffmann-La Roche Inc. Process of making nuclearely unsaturated ionone and irone. 3,110,734, 11-12-63, Cl. 260-587.
- Kimm, Ewald J., to United Aircraft Products, Inc. Combined shut-off and flow regulating valve. 3,115,891, 12-31-63, Cl. 137-495.
- Kimmel, Clifford J., and R. R. Bawabe, to Heat-X, Inc. Refrigeration system, including oil separator and muffler unit and oil return arrangement. 3,070,977, 1-1-63, Cl. 62-473.
- Kimmel, Henry A., 1/2 to J. W. Haubner. Bandage scissors. 3,084,433, 4-9-63, Cl. 30-254.
- Kimmel, Paul J. Golf bag holder. 3,075,733, 1-29-63, Cl. 248-96.
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- Hosbein, Louis H., and Kimmlinger. 3,109,702.
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- Kimura, Masami, to Howa Kogyo Kabushiki Kaisha (known as Howa Machinery Ltd.). Weft end extractor. 3,086,561, 4-23-63, Cl. 139-257.
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- Kincl, Fred A., to Syntex Corp. 21-amino-3 $\beta$ ,20-dihydroxy-allopregnanes. 3,074,933, 1-22-63, Cl. 260-239.5.
- Kincl, Fred A., to Syntex Corp. [2,3]-cyclohex-4'-en-3'-one derivatives of 17 hydroxy-androstanes. 3,077,483, 2-12-63, Cl. 260-397.4.
- Kincl, Fred A., and H. J. Ringold, to Syntex Corp. 2-substituted testololactones. 3,080,379, 3-5-63, Cl. 260-343.2.
- Kincl, Fred A., and H. J. Ringold, to Syntex Corp. Steroidolactones. 3,099,659, 7-30-63, Cl. 260-343.2.
- Kincl, Fred A., and M. Velasco, to Syntex Corp.  $\Delta^{5(10)}$ -pregnene compounds. 3,102,125, 8-27-63, Cl. 260-397.4.
- Kincl, Fred A., to Syntex Corp. 17-aminoandrostanes. 3,097,200, 7-9-63, Cl. 260-239.5.
- Kinder, Gotthard, to Voigtlander A.G. Photographic camera with electrical exposure meter. 3,093,043, 6-11-63, Cl. 95-10.
- Kinderman, Walter J., to Yarnall-Waring Co. Transmission mechanism. 3,077,792, 2-19-63, Cl. 74-640.
- Kindig, Arnie J., to Jeffrey Gallion Mfg. Co. Segmented wheel structure. 3,097,541, 7-16-63, Cl. 74-243.
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- Kindred, Raymond L., and M. M. Pourroux, to Phillips Petroleum Co. Fluid mixture analysis. 3,095,728, 7-2-63, Cl. 73-23.
- Kindseth, Harold V. Method of producing open mesh sheeting of thermoplastic resin. 3,085,292, 4-16-63, Cl. 18-55.
- Kindseth, Harold V., to Bemis Bro. Bag Co. Probe and spout with lock assembly. 3,108,717, 10-29-63, Cl. 222-89.
- Kindseth, Harold V., to Bemis Bro. Bag Co. Transporting and dispensing container. 3,113,712, 12-10-63, Cl. 229-14.
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- Matlin, Nathaniel A., and Kine. 3,074,834.
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- Kine, Benjamin B., and J. Kucsan, to Rohm & Haas Co. Copolymers of alkyl acrylate, methoxymethyl vinyl sulfide, comonomer containing functional groups and coating compositions thereof. 3,084,073, 4-2-63, Cl. 117-161.
- Kine, Benjamin B., and N. A. Matlin, to Rohm & Haas Co. Method for making bonded non-woven fibrous products and the products obtained. 3,101,292, 8-20-63, Cl. 154-46.
- Kineflow Corp.: *See*—
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- Elliott, Louis J., and Ward. 3,096,472.
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- King, Austin H.: *See*—
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- King, Benny I. Relaxing couch. 3,108,293, 10-29-63, Cl. 5-348.
- King, Bernie E., to Rohr Corp. Unitized bathroom structure. 3,110,907, 11-19-63, Cl. 4-2.
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- King, Charles W. Ellipse compass. 3,104,466, 9-24-63, Cl. 33-27.



- King, Clarence V. H., Jr., and J. W. Margraf, to A. H. L. Klemme. Portable glue sealers for carton bottoms. 3,104,597, 9-24-63, Cl. 93-44.1.
- King, Clarence W., to Conveyor Systems, Inc. Belt conveyor system. 3,082,858, 3-26-63, Cl. 198-108.
- King, Clyde O. Dual flush valve. 3,080,567, 3-12-63, Cl. 4-57.
- King, Daniel L., and E. G. Hitch, to Associated Electrical Industries Ltd. Inter-communication systems. 3,100,244, 8-6-63, Cl. 179-17.
- King, Denver R. Air compressor. 3,108,737, 10-29-63, Cl. 230-72.
- King, Donald R.: *See*—  
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- King, Donald M. Conveyor systems. 3,102,631, 9-3-63, Cl. 198-177.
- King, Edward G., III. Insulated container for carrying or storing heated food and the like. 3,093,238, 6-11-63, Cl. 206-4.
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- King, Ellis G., and C. Adolphson, to Puget Sound Pulp & Timber Co. Drilling fluid composition and process. 3,087,923, 4-30-63, Cl. 260-124.
- King, Ellis G., and C. Adolphson, to Puget Sound Pulp & Timber Co. Acid treated sulfonated lignin-containing material and process for the production thereof. 3,095,409, 6-25-63, Cl. 260-124.
- King, Ellis G., and C. Adolphson, to Puget Sound Pulp & Timber Co. Gypsum composition and method. 3,108,008, 10-22-63, Cl. 106-111.
- King, Ellis G., and C. Adolphson, to Puget Sound Pulp & Timber Co. Structural clay and method. 3,109,742, 11-5-63, Cl. 106-72.
- King, Elmer M.: *See*—  
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- King, Ferdinand P. Pit plow. 3,072,199, 1-8-63, Cl. 172-86.
- King, Ferdinand P. Pit plow. 3,100,541, 8-13-63, Cl. 172-86.
- King, Forrest H.: *See*—  
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- King, Frank W., to E. I. du Pont de Nemours and Co. Process for wet spinning aromatic polyamides. 3,079,219, 2-26-63, Cl. 18-54.
- King, Garner W. Safety attachment for rear view vehicle mirrors. 3,104,274, 9-17-63, Cl. 88-87.
- King, George E., to Westinghouse Electric Corp. Electric motor control system. 3,107,322, 10-15-63, Cl. 318-443.
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- King, Henry V., to The Plessey Co. Ltd. Control valves for reversible air motors. 3,115,749, 12-31-63, Cl. 60-39.14.
- King, Irving R.: *See*—  
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- King, Jack C., to The Shaw-Walker Co. Card guides. 3,074,411, 1-22-63, Cl. 129-16.8.
- King, Jack E. Apparatus and method of clearing ditches. 3,097,466, 7-16-63, Cl. 56-25.4.
- King, James C., to Bell Telephone Laboratories, Inc. High temperature quartz piezoelectric devices. 3,113,224, 12-3-63, Cl. 310-9.5.
- King, James D., to Daniel Orifice Fitting Co. Multiple integration flow computer. 3,096,434, 7-2-63, Cl. 235-151.
- King, James F., Jr.: *See*—  
Bahnon, Agnew H., Jr., and King. 3,088,266.  
Bahnon, Agnew H., Jr., and King. 3,089,176.
- King, James F., Jr. Universally mounted ceiling cleaner for textile work rooms. 3,072,321, 1-8-63, Cl. 230-255.
- King, James F., Jr. Scavenger roll and flute holder. 3,072,948, 1-15-63, Cl. 15-256.52.
- King, James L.: *See*—  
Frissora, Joseph R., and King. 3,080,770.
- King, James R.: *See*—  
Laakso, Thomas M., Buckley, and King. 3,110,698.
- King, John C.: *See*—  
Jennings, Roscoe C., Jr., and King. 3,114,245.
- King, Karl V., and R. E. Wilson, to General Motors Corp. Dynamoelectric machine. 3,093,764, 6-11-63, Cl. 310-214.
- King, Kenneth J.: *See*—  
Totaro, Thomas C., and King. 3,071,264.
- King, Laurence F., and C. T. Steele, to Esso Research and Engineering Co. Process for improving the odor of paraffinic hydrocarbons. 3,080,436, 3-5-63, Cl. 260-676.
- King, Louis D.: *See*—  
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- King, Marvin M.: *See*—  
Craddock, Ronald G., and King. 3,115,108.
- King, Marvin M., to Shwayder Bros., Inc. Kneeler attachment for chairs. 3,107,943, 10-22-63, Cl. 297-426.
- King, Milton E., to Automatic Welding Co. Roller resurfacing machine. 3,109,918, 11-5-63, Cl. 219-76.
- King, Milton E., to Automatic Welding Co. Welding method and apparatus. 3,109,920, 11-5-63, Cl. 219-125.
- King, Murray A., and B. J. Dennison, to Pittsburgh Plate Glass Co. Method of laminating polyvinyl resin sheets. 3,074,841, 1-22-63, Cl. 156-325.
- King, Paul B., Jr., to Aircraft Radio Corp. Motor control for selecting shaft positions. 3,098,961, 7-23-63, Cl. 318-467.
- King, Paul E., and R. F. Mallina, to Thompson Ramo Wooldridge Inc. Dictating machine. 3,079,159, 2-26-63, Cl. 274-14.
- King, Phillip W., to The Sessions Clock Co. Repeat alarm device. 3,099,127, 7-30-63, Cl. 58-16.
- King, Phillip W., R. J. Kavanaugh, and W. A. Knecht, to Consolidated Electronics Industries Corp. Laboratory stop clock. 3,088,270, 5-7-63, Cl. 58-39.5.
- King, Ralph E.: *See*—  
Schumacher, Frank A., and King. 3,111,814.
- King, Robert R., to Daystrom, Inc. Balance weight. 3,073,283, 1-15-63, Cl. 116-136.5.
- King, Robert W., to Owens-Illinois Glass Co. Apparatus for producing plastic containers. 3,106,745, 10-15-63, Cl. 18-5.
- King, Roderick V., to The Joseph Dixon Crucible Co. Tray for water color paint box. 3,089,584, 5-14-63, Cl. 206-1.8.
- King, Roland C. Dielectric ceramic and method of preparing same. 3,089,779, 5-14-63, Cl. 106-39.
- King-Seelye Thermos Co.: *See*—  
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Boddy, Leonard. 3,099,731.  
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Darmstadt, Louis J., and Fuller. 3,115,981.  
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- King, Terence C., to The Toronto Iron Works, Ltd. Door locking mechanism for high pressure autoclaves. 3,107,810, 10-22-63, Cl. 220-55.3.
- King, Thomas F.: *See*—  
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- King, Thomas H., to Socony Mobil Oil Co., Inc. Catch and burn tank assembly. 3,107,494, 10-22-63, Cl. 61-5.
- King, Thurlow E.: *See*—  
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- King, William B. Cleaning and transporting device for a radioactive source. 3,102,958, 9-3-63, Cl. 250-106.
- King, William F., to General Motors Corp. Balancing means. 3,087,357, 4-30-63, Cl. 77-5.
- King, William M., L. C. Neltner, and T. C. Bahr. Small animal feeder. 3,114,350, 12-17-63, Cl. 119-51.
- King, William R., to Jas. H. Matthews & Co. Circular marking device. 3,080,812, 3-2-63, Cl. 101-36.
- King, William R., to Minneapolis-Honeywell Regulator Co. Molded electrical cord connector. 3,093,432, 6-11-63, Cl. 339-59.
- King, William R., to Phillips Petroleum Co. Pressure control in cyclic pneumatic conveyor systems. 3,101,909, 8-27-63, Cl. 241-25.
- King, William R., and J. S. Ayers, to Jas. H. Matthews & Co. Machine for embossing container lids and placing them on containers. 3,100,957, 8-20-63, Cl. 53-67.
- King Bee Mfg. Co.: *See*—  
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- Kingdon, Ralph H.: *See*—  
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- Kingdon, Ralph H., to Square D Co. Electrical panelboard. 3,105,173, 9-24-63, Cl. 317-119.
- Kinghorn, Charles M., and H. G. Hendrickson, to Kaiser Aluminum & Chemical Corp. Metal foil container. 3,088,624, 5-7-63, Cl. 220-54.
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- Kings Brush Co.: *See*—  
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- Kings, Leonard W.: *See*—  
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- Kings, Leonard W., to Girling Ltd. Universal joints. 3,071,943, 1-8-63, Cl. 64-21.
- Kings, Leonard W., to Girling Ltd. Universal joints. 3,075,370, 1-29-63, Cl. 64-32.
- Kingsbury Machine Works, Inc.: *See*—  
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- Kingsford-Smith, Charles A., to General Precision, Inc. Responder device. 3,088,106, 4-30-63, Cl. 343-6.8.
- Kingsland, James M.: *See*—  
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- Kingsley, Lewis A. Method and apparatus for marking polytetrafluoroethylene. 3,071,486, 1-1-63, Cl. 117-3.
- Kingsley, Lewis A. Wire pre-feeder. 3,088,642, 5-7-63, Cl. 226-43.
- Kingsley, Lewis A. Take-up mechanism for use on a roll leaf hot stamping machine. 3,092,347, 6-4-63, Cl. 242-67.2.
- Kingsley, Richard O. Mower having helical cutter blade. 3,073,100, 1-15-63, Cl. 56-26.
- Kingsley, Walter J.: *See*—  
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- Kingsmore, Harry V., Sr. Fire alarm signal box having hydraulic delay of operating handle and having a preliminary signal at the box for discouraging false alarms. 3,116,479, 12-31-63, Cl. 340-304.



- Kingston, Arthur W. Apparatus for making records and/or reproducing records from strip material and magazines for such strip material. 3,075,717, 1-29-63, Cl. 242-55.13.
- Kingston, Donald L.: *See—*  
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- Kingston Products Corp.: *See—*  
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Woolley, Lee A. 3,112,818.
- Kingston, Robert H., and A. L. McWhorter, to Massachusetts Institute of Technology. Semiconductor switching matrix. 3,077,578, 2-12-63 Cl. 340-166.
- Kingston, Walter E., B. Kopelman, and H. H. Hausner, to United States of America, Atomic Energy Commission. Nuclear reactor fuel elements and method of preparation. 3,096,263, 7-2-63, Cl. 204-154.2.
- Kinkaid, Robert J.: *See—*  
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- Kinkaid, Robert J., to AMP Inc. Panel connector with flag-type terminals. 3,075,167, 1-22-63, Cl. 339-176.
- Kinkead Industries Inc.: *See—*  
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- Kinker, Clarence C.: *See—*  
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- Kinkle, Robert A., to General Electric Co. Temperature sensor for roasting oven. 3,089,407, 5-14-63, Cl. 99-340.
- Kinnard, Wolcott. Textured finish on photographic prints. 3,110,235, 11-12-63, Cl. 95-1.
- Kinnear, Harold L., and R. C. Ankrum, to The Standard Oil Co. Outdoor lighting fixture. 3,107,864, 10-22-63, Cl. 240-3.
- Kinnear Mfg. Co., The: *See—*  
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- Kinney, Aldon M., to Parke, Davis & Co. Explosion venting construction for buildings. 3,112,535, 12-3-63, Cl. 20-56.4.
- Kinney, Alfred W.: *See—*  
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- Kinney, Cecile M. Portable device for hydrotherapy. 3,092,101, 6-4-63, Cl. 128-66.
- Kinney, Howard A., to Crescent Machine & Nipple Co. Tube shaping machine. 3,098,461, 7-23-63, Cl. 113-52.
- Kinney, John F., to The Bendix Corp. Bellows arrangement providing failure protection. 3,094,839, 6-25-63, Cl. 60-39.09.
- Kinney, John T., to Caterpillar Tractor Co. Weld rod guide. 3,089,022, 5-7-63, Cl. 219-130.
- Kinney, Patrick J., and L. C. Kahre, to Phillips Petroleum Co. Helium recovery from natural gas. 3,097,924, 7-16-63, Cl. 23-209.
- Kinney, Robert E.: *See—*  
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- Kinney, Robert E., to Crossley Machine Co., Inc. Spiral tape winding machine. 3,112,895, 12-3-63, Cl. 242-7.
- Kinney, S. P., Engineers, Inc.: *See—*  
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Kinney, Selwyne P., and Carr. 3,113,585.  
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- Kinney, Selwyne P.: *See—*  
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- Kinney, Selwyne P., to S. P. Kinney Engineers, Inc. Positive pressure backwash strainer. 3,074,560, 1-22-63, Cl. 210-330.
- Kinney, Selwyne P., to S. P. Kinney Engineers. Gas burner for blast furnace stoves. 3,086,582, 4-23-63, Cl. 158-109.
- Kinney, Selwyne P., to S. P. Kinney Engineers, Inc. Furnace gas cleaning and cooling apparatus. 3,113,168, 12-3-63, Cl. 261-22.
- Kinney, Selwyne P., and H. B. Carr, to S. P. Kinney Engineers, Inc. Butterfly valve with a rubber seat. 3,105,672, 10-1-63, Cl. 251-306.
- Kinney, Selwyne P., and H. B. Carr, to S. P. Kinney Engineers, Inc. Valves and operating mechanism therefor. 3,113,585, 12-10-63, Cl. 137-315.
- Kinney, Theodore S.: *See—*  
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- Kinney, Thurlow R. Implement holder. 3,096,960, 7-9-63, Cl. 248-113.
- Kinnicutt, Roger, Jr., and D. Sieurin, to Morgan Construction Co. Severed product switching means. 3,109,340, 11-5-63, Cl. 83-105.
- Kinnison, John E. Impact wrench. 3,083,598, 4-2-63, Cl. 81-52.3.
- Kinoshita, Shukuo, M. Tanaka, and Y. Kato, to Kyowa Hakko Kogyo Co., Ltd. Process for producing L-glutamic acid from racemic glutamic acid. 3,086,916, 4-23-63, Cl. 195-29.
- Kinoshita, Shukuo, K. Tanaka, and K. Kimura, to Kyowa Hakko Kogyo Co., Ltd. Method for producing orotic acid by fermentation process. 3,086,917, 4-23-63, Cl. 195-47.
- Kinoshita, Shukuo, H. Samejima, C. Fujita, and T. Nara, to Kyowa Hakko Kogyo Co., Ltd. Method of producing L-threonine by fermentation. 3,099,604, 7-30-63, Cl. 195-29.
- Kinoshita, Shukuo, K. Nakayama, T. Suzuki, and Z. Sato, to Kyowa Hakko Kogyo Co., Ltd. Method for manufacturing xanthosine by fermentation. 3,102,079, 8-27-63, Cl. 195-42.
- Kinsell, Earl, and C. W. Harris. Clip and guard for cigarette package. 3,112,028, 11-26-63, Cl. 206-41.
- Kinsella, John J., to Xerox Corp. Immediate image formulation process and apparatus therefor. 3,091,767, 5-28-63, Cl. 346-74.
- Kinsey, Andrew H. Container cooling apparatus. 3,092,125, 6-4-63, Cl. 134-125.
- Kinsey, Charles M.: *See—*  
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- Kinsworthy, Donald D., to The Lau Blower Co. Control system for plural speed fan motors. 3,096,468, 7-2-63, Cl. 318-224.
- Kinter, Mark R., and C. R. Pfeifer, to The Dow Chemical Co. Preparation of alkyl aluminum compounds. 3,076,006, 1-29-63, Cl. 260-448.
- Kintzel, Henry M.: *See—*  
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- Kinugawa, Jiro, H. Yamamoto, M. Ochiai, and I. Sumina, to Takeda Pharmaceutical Industries, Ltd. Antimicrobial thio pyridazine compositions for agricultural use. 3,089,809, 5-14-63, Cl. 167-33.
- Kinyon, Brice W., and G. D. Whitman, to United States of America, Atomic Energy Commission. Steam generator. 3,097,630, 7-16-63, Cl. 122-34.
- Kinzbach, Robert B., to Bowen-Iteo, Inc. Whipstock and anchoring mechanism therefor. 3,095,039, 6-25-63, Cl. 166-117.6.
- Kinzbach, Robert B. Piloted milling tool. 3,110,084, 11-26-63, Cl. 29-105.
- Kinzie, Ora A., and H. J. Watts, to Continental Oil Co. Grease dispensing apparatus. 3,115,906, 12-31-63, Cl. 141-253.
- Kinzie, Ora, and H. J. Watts, to Continental Oil Co. Unitary ring insert sealing face and adapter assembly. 3,116,067, 12-31-63, Cl. 277-170.
- Kinzo Tajima: *See—*  
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- Kiper, Gerd: *See—*  
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- Kiper, Gerd, to Agfa Aktiengesellschaft. Timing mechanism for camera shutters. 3,073,232, 1-15-63, Cl. 95-63.
- Kiper, Gerd, to Agfa Aktiengesellschaft. Camera shutter assembly. 3,075,445, 1-29-63, Cl. 95-63.
- Kiper, Gerd, to Agfa Aktiengesellschaft. Manually and automatically controllable exposure assembly for cameras. 3,078,774, 2-26-63, Cl. 95-10.
- Kiper, Gerd, to Agfa Aktiengesellschaft. Timing mechanism for camera shutters. 3,083,629, 4-2-63, Cl. 95-63.
- Kiper, Gerd, to Agfa Aktiengesellschaft. Camera shutter assembly. 3,089,400, 5-14-63, Cl. 95-63.
- Kiper, Gerd, to Agfa Aktiengesellschaft. Retarding device for photographic shutter. 3,092,003, 6-4-63, Cl. 95-63.
- Kiper, Gerd, to Agfa Aktiengesellschaft. Automatic cameras. 3,093,040, 6-11-63, Cl. 95-10.
- Kiper, Gerd, to Agfa Aktiengesellschaft. Central photographic shutter. 3,099,197, 7-30-63, Cl. 95-63.
- Kiper, Gerd, and H. D. Saueremann, to Agfa Aktiengesellschaft. Self-timer for cameras. 3,103,862, 9-17-63, Cl. 95-53.3.
- Kippenhan, Dean O., to United States of America, Atomic Energy Commission. Coaxial filament transformers for pulse circuits. 3,071,734, 1-1-63, Cl. 328-270.
- Kippers, Harold W.: *See—*  
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- Kiraly, Tibor. Apparatus for cutting off lengths of glass tubing. 3,114,621, 12-17-63, Cl. 65-272.
- Kirby, Dean E., Sr. Combination spinning and fly reel. 3,089,663, 5-14-63, Cl. 242-84.1.
- Kirby, Frederick G. Ash tray. 3,084,789, 4-9-63, Cl. 206-19.5.
- Kirby, James B. Tooth cleaning device. 3,106,216, 10-8-63, Cl. 132-92.
- Kirby, James D.: *See—*  
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- Kirch, William: *See—*  
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- Kircher, Paul J., to Landers, Frary & Clark. Coffee basket assembly. 3,103,872, 9-17-63, Cl. 99-275.
- Kircher, Paul J., to Landers, Frary & Clark. Steam iron with dual heating means. 3,110,975, 11-19-63, Cl. 38-77.
- Kircher, Rene: *See—*  
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- Kircher, René, and R. Périat, to Société d'Etudes Chimiques pour L'Industrie et L'Agriculture. Process for producing alkaline earth metal bromides. 3,095,267, 6-25-63, Cl. 23-85.



- Kirchhoff, Hans: *See*—  
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- Kirchner, Frederick K., to Sterling Drug Inc. *N,N'*-bis(dilower-alkylamino-lower-alkyl) dicarboxylic acid amides. 3,096,373, 7-2-63, Cl. 260—558.
- Kirchner, Paul H., to General Electric Co. Electronic contact analog simulator. 3,098,929, 7-23-63, Cl. 235—187.
- Kirchoff, George F., Jr.: *See*—  
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- Kiriltsev, George M., and N. I. Lazarenko. Electro-spark (spark-erosion) apparatus for precision machining of metals. 3,092,710, 6-4-63, Cl. 219—69.
- Kirk, Calvin K.: *See*—  
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- Kirk, Chester H., Jr. Combination fill valve and expansion tank. 3,089,513, 5-14-63, Cl. 137—505.34.
- Kirk, David N., and V. Petrow, to The British Drug Houses Ltd. 4-methyl-3-oxo- $\Delta^4$  steroids and methods for preparing same. 3,076,822, 2-5-63, Cl. 260—397.4.
- Kirk, David N., and V. Petrow, to The British Drug Houses Ltd. 3-enol ethers of 3-oxo- $\Delta^4$ -6-aminomethyl steroids and process for preparing same. 3,084,159, 4-2-63, Cl. 260—239.55.
- Kirk, David N., and V. Petrow, to The British Drug Houses Ltd. 3-enol ethers of 6-hydroxymethyl-3-oxo- $\Delta^4$  steroids and process for their preparation. 3,095,411, 6-25-63, Cl. 260—239.55.
- Kirk, David N., and V. Petrow, to The British Drug Houses Ltd. 6-methylene-3-oxo- $\Delta^4$ -steroids and process for their preparation. 3,112,305, 11-26-63, Cl. 260—239.55.
- Kirk, David N., and V. Petrow, to The British Drug Houses Ltd. 3-enol ethers of 6-formyl-3-oxo- $\Delta^4$ -steroids and process for their preparation. 3,114,750, 12-17-63, Cl. 260—239.55.
- Kirk, Delbert J. Boom control devices. 3,077,964, 2-19-63, Cl. 192—12.
- Kirk, Hugh A.: *See*—  
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- Kirk, James H., to Sinclair Research, Inc. Method of filtering a fuel oil. 3,077,449, 2-12-63, Cl. 208—251.
- Kirk, Larry D.: *See*—  
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- Kirk, Morris P., & Son, Inc.: *See*—  
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- Kirk, Robert A., to Eastman Kodak Co. Control system for a motion picture camera. 3,106,126, 10-8-63, Cl. 88—16.
- Kirk, Thomas E.: *See*—  
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- Kirk, Thomas E., to General Motors Corp. Internal combustion engine ignition system. 3,072,823, 1-8-63, Cl. 315—205.
- Kirk, Walter B., to Westinghouse Air Brake Co. Brake beam with integrally formed brake cylinder. 3,088,550, 5-7-63, Cl. 188—52.
- Kirkel, Leo. Shovel with pivotally adjustable head. 3,074,752, 1-22-63, Cl. 294—53.5.
- Kirkham, Robert C., to International Telephone and Telegraph Corp. Multi-line telephone station. 3,114,801, 12-17-63, Cl. 179—99.
- Kirkham, Thomas A.: *See*—  
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- Kirkman, Frederick J., to Servel, Inc. Club swing momentum indicator. 3,106,403, 10-8-63, Cl. 273—186.
- Kirkowski, Stan A., to The Western Union Telegraph Co. Perforator chad disposal attachment. 3,104,804, 9-24-63, Cl. 234—131.
- Kirkpatrick, Alan R., to C. A. Parsons & Co. Ltd. Nuclear reactors. 3,074,872, 1-22-63, Cl. 204—193.2.
- Kirkpatrick, Alan R., to C. A. Parsons & Co. Ltd. Nuclear reactors. 3,110,654, 11-12-63, Cl. 204—193.2.
- Kirkpatrick, Craig G.: *See*—  
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- Kirkpatrick, George M., to General Electric Co. Signal processing arrangement with filters in plural channels minimizing undesirable interference to narrow and wide pass bands. 3,112,452, 11-26-63, Cl. 328—167.
- Kirkpatrick, James S., and G. Ban, to Brooks & Perkins, Inc. Method and apparatus for shaving metal plates. 3,077,819, 2-19-63, Cl. 90—25.
- Kirkpatrick, James S., and R. R. Studer, to Brooks & Perkins, Inc. Method and apparatus for providing accessible containers for high altitude or space use. 3,103,294, 9-10-63, Cl. 220—53.
- Kirkpatrick, Kenneth L., to Deere & Co. Power driven hoe. 3,092,053, 6-4-63, Cl. 111—11.
- Kirkpatrick, Robert J.: *See*—  
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- Kirkpatrick, Willard H., to Nalco Chemical Co. Process of breaking petroleum emulsions. 3,112,276, 11-26-63, Cl. 252—338.
- Kirkpatrick, Willard H., and V. L. Seale, to Nalco Chemical Co. Processes for breaking petroleum emulsions of the oil-in-water type. 3,084,124, 4-2-63, Cl. 252—332.
- Kirkpatrick, Willard H., V. L. Seale, A. Walker, and R. E. Law, to Nalco Chemical Co. Demulsification of petroleum oil emulsions. 3,098,827, 7-23-63, Cl. 252—341.
- Kirkpatrick, Willard H., and V. L. Seale, to Nalco Chemical Co. Dicarboxy acid esters of sulfated oxyalkylated alkyl phenol-formaldehyde resins. 3,108,087, 10-22-63, Cl. 260—44.
- Kirkpatrick, William J.: *See*—  
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- Kirkpatrick, William J., and E. S. Funston, to General Electric Co. Method of making high purity, substantially spherical discrete particles of beryllium hydroxide or oxide. 3,099,532, 7-30-63, Cl. 23—183.
- Kirkpatrick, Wylie C.: *See*—  
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- Lowry, Robert D., Kirkpatrick, and Harrison. 3,076,542.
- Kirkpatrick, Wylie C., to W. R. Grace & Co. Plastic multiple pack carrier. 3,087,610, 4-30-63, Cl. 206—65.
- Kirkpatrick, Wylie C., to W. R. Grace & Co. Shrinkable film as a structural aid. 3,089,283, 5-14-63, Cl. 50—80.
- Kirkpatrick, Wylie C., W. G. Baird, Jr., and T. E. Ford, to W. R. Grace & Co. Encapsulation of electrical components and other articles. 3,093,448, 6-11-63, Cl. 18—59.
- Kirkpatrick, Wylie C., J. W. Harrison, and R. D. Lowry, to W. R. Grace & Co. Process for securing a shrinkable fastener to a container. 3,113,408, 12-10-63, Cl. 53—30.
- Kirsch Co.: *See*—  
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- Wills, Bob W. 3,083,760.
- Kirsch, Francis W., and S. E. Shull, to Air Products and Chemicals Inc. Selective hydrogenation of diolefins. 3,113,983, 12-10-63, Cl. 260—677.
- Kirsch, Howard A.: *See*—  
Jordan, Terence B., and Kirsch. 3,072,571.
- Kirsch, Jerry. Constant-speed reciprocable hydro-pneumatic motor. 3,079,897, 3-5-63, Cl. 121—38.
- Kirsch, Jerry. Pressure-responsive fluid flow control valve. 3,104,673, 9-24-63, Cl. 137—71.
- Kirsch, Karl, and S. Uhl, to Keller & Knappich G.m.b.H. Apparatus for making barbed wire barriers. 3,070,946, 1-1-63, Cl. 57—1.
- Kirsch, Kurt: *See*—  
Burkhardt, Gisbert, and Kirsch. 3,105,908.
- Kirsch, Wilhelm, to Bolkow-Entwicklungen KG. Ignition means for reaction motors used in connection with missiles. 3,073,994, 1-15-63, Cl. 317—79.
- Kirsch, William A. Boat ladder. 3,113,654, 12-10-63, Cl. 193—35.
- Kirschenbaum, Samuel. Whiskey pourer or similar device. 3,091,373, 5-28-63, Cl. 222—420.
- Kirschenmann, Harold L., to A & B Wig Co., Inc. Hair rooting chain-stitch sewing machine. 3,109,396, 11-5-63, Cl. 112—79.5.
- Kirschey, Gerhard. Continuously controllable friction wheel-epicyclic gear drive. 3,089,350, 5-14-63, Cl. 74—796.
- Kirschner, Robert K.: *See*—  
Byrne, James D. Bergford, and Kirschner. 3,116,395.
- Kirshenbaum, David. Shower curtain and installation therefor. 3,101,485, 8-27-63, Cl. 4—146.
- Kirshenbaum, Isidor, E. M. Amir, and E. J. Inchalik, to Esso Research and Engineering Co. Oxidation of alcohols. 3,080,426, 3-5-63, Cl. 260—596.
- Kirshenbaum, Isidor, J. H. Bartlett, and R. M. Hill, to Esso Research and Engineering Co. Hydroxylation of polymers of mono-olefins. 3,082,192, 3-19-63, Cl. 260—88.2.
- Kirshler, Lewis, to International Harvester Co. Tilt and pitch dozer construction. 3,083,480, 4-2-63, Cl. 37—144.
- Kirst, Werner: *See*—  
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- Gross, Richard, Hertel, Kirst, and Mohr. 3,099,651.
- Gross, Richard, Hertel, Kirst, Mohr, and Staab. 3,084,151.
- Gross, Richard, Hertel, Kirst, Mohr, and Staab. 3,116,277.
- Gross, Richard, Kirst, and Mohr. 3,071,428.
- Orthner, Ludwig, Horst, Scharf, Kirst, Oxé, and Gross. 3,101,235.
- Kirstahler, Alfred: *See*—  
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- Kirstein, Keith: *See*—  
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- Kirsten, Erhard. Truck crane. 3,111,226, 11-19-63, Cl. 212—59.
- Kirwan, John O., to Wallace & Tiernan Inc. Differential pressure instrument. 3,095,745, 7-2-63, Cl. 73—412.
- Kiser, Duane E.: *See*—  
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- Kiser, Kenneth M.: *See*—  
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- Kiser, Orville R. and D. E. Gravity grain box. 3,083,057, 3-26-63, Cl. 298—7.
- Kish, Michael, Jr., to Atlantic Products Corp. Band receiving device. 3,099,975, 8-6-63, Cl. 112—262.
- Kish, Steven P. Plastic fixture and method of making the same. 3,072,971, 1-15-63, Cl. 18—59.
- Kishi, Shuzo: *See*—  
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- Kisling, James W., III, to Schlumberger Well Surveying Corp. Fluid samplers. 3,095,930, 7-2-63, Cl. 166—163.
- Kiss, Ferenc: *See*—  
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- Kiss, Howard. Boat hull construction. 3,078,819, 2-26-63, Cl. 114—61.
- Kissane, Richard W., to Speed Fastener, Inc. Powder actuated tool. 3,075,197, 1-29-63, Cl. 1—106.
- Kissel, John W., to Mead Johnson & Co. Apparatus for measuring animal activity. 3,100,473, 8-13-63, Cl. 119—1.



- Kissel, William J., to Interchemical Corp. Thermosetting resins formed by reacting formaldehyde with resins produced from benzoguanamine and diepoxy materials. 3,075,945, 1-29-63, Cl. 260-45.2.
- Kissin, Gerald H., and R. L. Smith, to Kaiser Aluminum & Chemical Corp. Sealing anodized aluminum. 3,098,018, 7-16-63, Cl. 204-35.
- Kistiakowsky, George B.: *See*—  
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- Kistler, Walter P., to United States of America, Air Force. Inverted pendulum accelerometer. 3,111,036, 11-19-63, Cl. 73-517.
- Kisumi, Masahiko: *See*—  
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- Kitagawa, Seiichi: *See*—  
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- Kital, Atsuo: *See*—  
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- Kitamura, Nobuo, to Sony Corp. Television receiver cabinet apparatus. 3,105,110, 9-24-63, Cl. 178-7.3.
- Kitaoka, Hiroo: *See*—  
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- Kitasaki, Kiyoshi: *See*—  
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- Kitasaki, Kiyoshi, A. L. McCloskey, and W. G. Woods, to United States Borax & Chemical Corp. Preparation of thioaryloxides and alkyl aluminum thioaryloxides. 3,082,234, 3-19-63, Cl. 260-448.
- Kitchell, Thorne C., to Union Bag-Comp Paper Corp. Twin compartmented container for shipping long stemmed flowers. 3,087,666, 4-30-63, Cl. 229-15.
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- Kitchens, Garry C., to The Givaudan Corp. Myrcene-methyl isopropenyl ketone adducts, derivatives thereof. 3,076,022, 1-29-63, Cl. 260-488.
- Kitchens, William L.: *See*—  
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- Kitchens, William T. Rotary jet engine. 3,085,399, 4-16-63, Cl. 60-39.3p.
- Kitching, Geoffrey W. Cable hauling gear. 3,106,325, 10-8-63, Cl. 226-171.
- Kitching, John C.: *See*—  
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- Kitko, Bartholomew J.: *See*—  
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- Kitley, Fred L., to Foldomatic Door Co., Inc. Aircraft hangar door. 3,103,969, 9-17-63, Cl. 160-193.
- Kito, Miyoshi, and R. Yamamoto. Wire gripper. 3,108,345, 10-29-63, Cl. 24-134.
- Kitscha, Hector, to Cutler-Hammer, Inc. Latching mechanism for electroresponsive relay. 3,101,434, 8-20-63, Cl. 317-187.
- Kitselman, Harry L., to Indiana Steel & Wire Co., Inc. Apparatus and method for filament feed control. 3,106,354, 10-8-63, Cl. 242-47.08.
- Kitson, Gerald L. Automatic collection system for poultry nests. 3,107,652, 10-22-63, Cl. 119-48.
- Kitson, Gerald L. Conveyor and loader for bulk materials. 3,113,663, 12-10-63, Cl. 198-218.
- Kitson, Harold, Jr., W. L. Marshall, and H. E. Mazanek, to General Electric Co. Coil and method of insulating same. 3,079,519, 2-26-63, Cl. 310-208.
- Kitson, Joseph R.: *See*—  
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- Casavina, Paul R., and Kitson. 3,081,488.
- Kitsopoulos, George N. Multiple purpose chair. 3,075,810, 1-29-63, Cl. 297-270.
- Kitsopoulos, Sotirios C., to Bell Telephone Laboratories, Inc. Bandwidth reduction system. 3,071,727, 1-1-63, Cl. 325-44.
- Kittanning Brick Co.: *See*—  
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- Kittel, Hermann, W. Kohmann, and B. Kasper, to Kienzle Apparate G.m.b.H. Carriage motion control arrangement. 3,104,002, 9-17-63, Cl. 197-177.
- Kittel, John H., to United States of America, Atomic Energy Commission. Dimensionally stable, corrosion resistant nuclear fuel. 3,089,768, 5-14-63, Cl. 75-122.7.
- Kittel, Walter. Contact plate structure for use in a rectifying or contacting column. 3,105,105, 9-24-63, Cl. 261-79.
- Kittle, Keith B.: *See*—  
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- Kittock, James A. Device to aid pilots in entering and maintaining a holding pattern from a preset holding fix. 3,110,965, 11-19-63, Cl. 33-1.
- Kittrell, Richard L., to Collins Radio Co. Aircraft guidance control signal development system. 3,099,007, 7-23-63, Cl. 343-107.
- Kitz, Norbert: *See*—  
Condy, John H., and Kitz. 3,089,058.
- Kitz, Norbert, H. L. Mansford, and J. G. Lloyd, to Bell Punch Co. Ltd. Multiple-output generator system. 3,095,522, 6-25-63, Cl. 315-84.6.
- Kitzer, Richard W. Automatic mechanism for stripping and ejecting fin-type heat exchange units from an assembly press. 3,102,330, 9-3-63, Cl. 29-202.
- Kitzrow, Herbert, to Rheinische Kalksteinwerke GmbH. Supply apparatus for shaft furnaces and the like. 3,077,274, 2-12-63, Cl. 214-35.
- Kiuchi, Yabei. Universal speed converter. 3,108,480, 10-29-63, Cl. 74-196.
- Kivenson, Gilbert, to Westinghouse Electric Corp. Magnetic shaft damper. 3,110,481, 11-12-63, Cl. 259-107.
- Kivett, Jerome S., to Regal Plastic Co. Bowling equipment carrier. 3,092,225, 6-4-63, Cl. 190-48.
- Kiwi Coders Corp.: *See*—  
Gill, Bernard J. 3,086,461.
- Kiwi, Walter, to R. H. Hood Co. Apparatus for applying a cord in encircling relation to an article. 3,070,929, 1-1-62, Cl. 53-135.
- Kiwi, Walter, to R. H. Hood Co. Securing apparatus. 3,115,734, 12-31-63, Cl. 53-135.
- Kixmiller, Frank C., and D. J. Petro. Shoes or sandals. 3,099,884, 8-6-63, Cl. 36-2.5.
- Kiyonaga, Kazuo, and M. L. Suval, to Union Carbide Corp. Purification of light gases with molecular sieves. 3,085,379, 4-16-63, Cl. 55-23.
- Kiyuna, Paul C., to Paul's of Hawaii, Inc. Missile projector. 3,095,867, 7-2-63, Cl. 124-5.
- Kizer, Austin E., O. E. H. Klopfer, and O. W. Burke, Jr., to Continental Oil Co. Continuous polymerization apparatus. 3,091,518, 5-28-63, Cl. 23-285.
- Kizer, Austin J., O. E. H. Klopfer, and O. W. Burke, Jr., to Continental Oil Co. Continuous polymerization process. 3,074,924, 1-22-63, Cl. 260-95.
- Kizcek, Roger A.: *See*—  
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- Kjellberg, Göran: *See*—  
Svala, Carl G., Åro, and Kjellberg. 3,100,820.
- Kjellman, Thomas K., to The Bendix Corp. Snap switch having presetting means responsive to current flow. 3,100,826, 8-13-63, Cl. 200-113.
- Kjellman, Thomas K., to The Bendix Corp. Humidistat adaptable for response to changes in relative or absolute humidity or function as a thermostat. 3,115,557, 12-24-63, Cl. 200-61.06.
- Klaas, Emil B. Adjustable threshold. 3,072,976, 1-15-63, Cl. 20-64.
- Klaas Machine and Mfg. Co.: *See*—  
Meyers, Ellwood H. 3,104,836.
- Klaas, Ruth E. B. Treatment of plants with light-affecting compositions. 3,089,280, 5-14-63, Cl. 47-58.
- Klaassen, Hendrik, to Lips N.V. Control device for variable pitch propellers. 3,089,548, 5-14-63, Cl. 170-135.74.
- Klaczynski, Alex C.: *See*—  
Rowell, Douglas C., Klaczynski, and Flinn. 3,070,993.
- Klager, Karl: *See*—  
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- Klages, Christian L., and H. E. Konopka, to Wesson Corp. Interchangeable head boring bar. 3,112,659, 12-3-63, Cl. 77-58.
- Klages, John W., to The Columbus Auto Parts Co. Rope ladder. 3,077,241, 2-12-63, Cl. 182-196.
- Klamm, Carl E., to Parker-Hannifin Corp. Bracket mounting of tube fittings. 3,088,755, 5-7-63, Cl. 285-64.
- Klamp, Paul: *See*—  
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- Klamp, William, to Cleveland-Detroit Corp. Sealing apparatus. 3,106,630, 10-8-63, Cl. 219-19.
- Klampferer, Golda G. Stand with adjustably mounted head. 3,089,028, 5-7-63, Cl. 240-81.
- Klancnik, Adolph V. Positioning fixtures. 3,091,363, 5-28-63, Cl. 221-243.
- Klancnik, Adolph V. Parts feeder for machine tools. 3,109,557, 11-5-63, Cl. 221-238.
- Klancnik, Frank J., to Hi-Lo Mfg. Corp. Hinged lock for connecting antenna rod to boom. 3,083,044, 3-26-63, Cl. 287-99.
- Klang, Marcel: *See*—  
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- Klapdohr, Hans, H. Binder, F. Horn, and O. Peus, to Firma Rheinmetall G.m.b.H. Gun loading mechanism. 3,106,866, 10-15-63, Cl. 89-45.
- Klapes, Michael C., and E. G. Cleveland, to Delta Engineering Corp. Apparatus for conveying and filling containers. 3,081,588, 3-19-63, Cl. 53-78.
- Klapheke, August A.: *See*—  
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- Klapp, Arnold, to Koppers Co., Inc. Apparatus for gasification of finely divided solid fuels. 3,104,020, 9-17-63, Cl. 214-17.
- Klappert, Helmut, and O. Bayer, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of water-soluble dyestuffs and dyeing cellulose therewith. 3,076,687, 2-5-63, Cl. 8-54.2.
- Klapproth, John F., to General Electric Co. Wave type pressure exchanger with overall pressure rise. 3,084,511, 4-9-63, Cl. 60-39.45.
- Klasek, Frank A., to Western Electric Co., Inc. Apparatus for knurling articles. 3,101,633, 8-27-63, Cl. 78-45.
- Klasen, Charles J.: *See*—  
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- Klass, Donald L., to The Pure Oil Co. Method and apparatus for lubricating bearing-journal assemblies. 3,072,444, 1-8-63, Cl. 308-1.
- Klass, Donald L., to The Pure Oil Co. Diarylethanes by reaction of aromatics with carbyl sulfate. 3,092,672, 6-4-63, Cl. 260-668.
- Klass, Donald L., to The Pure Oil Co. Process for preparing cyclic lower alkylene sulfates. 3,100,780, 8-13-63, Cl. 260-327.



- Klass, Donald L., to The Pure Oil Co. Surfactant compositions containing salts of vinylsulfonanilides. 3,116,257, 12-31-63, Cl. 252-355.
- Klass, Donald L., to The Pure Oil Co. B-hydroxy-sulfanamides. 3,116,325, 12-31-63, Cl. 260-556.
- Klass, Donald L., R. W. Watson, and R. E. Karll, to Standard Oil Co. Lubricant additive and composition containing same. 3,089,851, 5-14-63, Cl. 252-327.
- Klass, Donald L., and V. Brozowski, to The Pure Oil Co. Method for treating hydrocarbon mixtures. 3,091,587, 5-28-63, Cl. 208-293.
- Klass, Donald L., and R. W. Watson, to Standard Oil Co. Lubricant additive and composition containing same. 3,108,958, 10-29-63, Cl. 252-327.
- Klass, Donald L., and R. W. Watson, to Standard Oil Co. Lubricant additive and composition containing same. 3,108,959, 10-29-63, Cl. 252-327.
- Klass, Donald L., and V. Brozowski, to The Pure Oil Co. Colored reaction products produced by reaction of sulfato betaines with alkali. 3,109,846, 11-5-63, Cl. 260-294.8.
- Klass, Donald L., W. L. Sieker, and R. W. Watson, to Standard Oil Co. Rust inhibited lubricants. 3,113,106, 12-3-63, Cl. 252-49.6.
- Klasse, Fritz: *See—*
- Heinz, Adolf, and Klasse. 3,089,655.
- Klassen, Edward J. Stack chair. 3,095,236, 6-25-63, Cl. 297-239.
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- Browning, James A., and Klasson. 3,116,405.
- Klatt, Paul: *See—*
- Archer, Alva R., Jr. 3,084,056.
- Klauber Games, Inc.: *See—*
- Hirsch, James C. 3,091,196.
- Klausner, Melvin W., to Engelhard Hanovia, Inc. Photoelectric device for measuring light output valves in photo-printing machines. 3,105,107, 9-24-63, Cl. 88-23.
- Klauss, Ralph E.: *See—*
- Swarthout, Richard J., and Klauss. 3,099,750.
- Klavehn, Wilfrid, and H. Kraft, to Knoll A.-G. Chemische Fabriken. Esters and amides of 2-phenyl-bicyclo (2,2,1) heptene-2-carboxylic acid, 2-phenyl-bicyclo (2,2,1)-5-heptene-2-carboxylic acid, 2-phenyl-bicyclo (2,2,2)-5-octene-2-carboxylic acid and 2-phenyl-bicyclo (2,2,2) octane carboxylic acid. 3,083,204, 3-26-63, Cl. 260-292.
- Klean-Kote Inc.: *See—*
- McCune, James D. 3,073,687.
- McCune, James D. 3,073,688.
- Kleber, Eugene V., to Nuclear Corp. of America. Method of tagging bulk materials. 3,113,991, 12-10-63, Cl. 88-14.
- Kleeberg, Gunther K. E., and F. L. Perry, Jr., to Infrared Industries, Inc. Plug-in terminal board. 3,083,346, 3-26-63, Cl. 339-64.
- Kleekamm, Fritz: *See—*
- Siggel, Erhard, and Kleekamm. 3,099,872.
- Kleemann, Karl: *See—*
- Gross, Helmut, and Kleemann. 3,074,363.
- Kleemann, Karl, and W. Irmischer, to G. M. Pfaff, A.G. Protected cutting device for sewing machines. 3,111,921, 11-26-63, Cl. 112-261.
- Kleen-Stik Products, Inc.: *See—*
- Cole, Gerald E. 3,087,850.
- Reich, Robert L. 3,093,528.
- Kleer-Pak Machinery & Packaging, Inc.: *See—*
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- Klees, George N., to North American Aviation, Inc. Transistor circuit overload protective device. 3,074,006, 1-15-63, Cl. 323-9.
- Kleesattel, Claus: *See—*
- Balamuth, Lewis, Kleesattel, and Kuris. 3,089,790.
- Kleesattel, Claus, to Cavitron Ultrasonics Inc. Amplitude measuring devices for high frequency vibrations. 3,089,333, 5-14-63, Cl. 73-71.4.
- Kleesattel, Claus, L. Balamuth, and A. Kuris, to Cavitron Corp. Acoustically vibrated material cutting and removing devices. 3,076,904, 2-5-63, Cl. 310-26.
- Kleesattel, Claus, L. Balamuth, and A. Kuris, to Cavitron Ultrasonics Inc. Magnetostrictive vibratory apparatus. 3,100,853, 8-13-63, Cl. 310-26.
- Kleesattel, Claus, L. Balamuth, and A. Kuris, to Cavitron Ultrasonics Inc. Ultrasonic vibration generator. 3,113,225, 12-3-63, Cl. 310-26.
- Klehm, William G., Jr., and L. L. Tanguy, Jr., to Burroughs Corp. Magnetic recording system. 3,080,560, 3-5-63, Cl. 346-74.
- Kleiber, Carl E., to Esso Research and Engineering Co. Fluidized solids recovery system. 3,083,082, 3-26-63, Cl. 23-284.
- Kleiber, Donald J.: *See—*
- Kohn, Robert C., Kleiber, and Romine. 3,070,817.
- Kleiber, John C.: *See—*
- Zagar, Peter G., Burns, Falconi, and Kleiber. 3,070,970.
- Kleiber, Walter: *See—*
- Brandt, Ernst, and Kleiber. 3,109,779.
- Kleiman, George J. Adjustable wheel support for sidewalk snow sweeper. 3,086,789, 4-23-63, Cl. 280-43.
- Kleimeyer, Vernon T., to The Cincinnati Time Recorder Co. Time clock having charge computing means. 3,116,102, 12-31-63, Cl. 346-20.
- Klein, Alec. Ball runway toy. 3,105,689, 10-1-63, Cl. 273-109.
- Klein, Alexander: *See—*
- Blythe, William R., and Klein. 3,105,214.
- Klein, Arthur J.: *See—*
- Bogart, George A. 3,091,426.
- Klein, Charles H., to The National Telephone Supply Co. Compression tool. 3,084,575, 4-9-63, Cl. 81-15.
- Klein, Charles H., to The National Telephone Supply Co. Splice separator. 3,095,468, 6-25-63, Cl. 174-88.
- Klein, Claude A., and W. D. Straub, to Raytheon Co. Semi-conductive dosimeters. 3,086,117, 4-16-63, Cl. 250-83.1.
- Klein, David M., to United States of America, Navy. Annular stream variable area injector. 3,074,231, 1-22-63, Cl. 60-35.6.
- Klein, David X., to Heyden Newport Chemical Corp. Recovery of trimethylolpropane. 3,076,854, 2-5-63, Cl. 260-637.
- Klein, Elias, H. Wise, and W. C. Richardson, to Courtaulds North America Inc. Method for making high tenacity regenerated cellulosic staple fiber. 3,109,698, 11-5-63, Cl. 18-54.
- Klein, Elias, D. S. Nelson, and B. E. M. Bingham, to Courtaulds North America Inc. Method for making rayon filaments. 3,109,700, 11-5-63, Cl. 18-54.
- Klein, Fritz. Internal combustion engine. 3,097,633, 7-16-63, Cl. 123-79.
- Klein, Fritz. Vertical take off and landing aircraft. 3,104,853, 9-24-63, Cl. 244-12.
- Klein, Fritz. Aircraft propeller with centrifugally induced air flow control features. 3,109,499, 11-5-63, Cl. 170-172.
- Klein, George I.: *See—*
- Beck, Thomas M., and Klein. 3,071,608.
- Klein, George I., R. E. Newby, and L. B. Post, to Stauffer Chemical Co. Method for recovering phosphoric acid anhydride. 3,077,382, 2-12-63, Cl. 23-165.
- Klein, George I., R. E. Newby, and L. B. Post, to Stauffer Chemical Co. Apparatus for processing phosphoric acid anhydride. 3,100,693, 8-13-63, Cl. 23-262.
- Klein, George S. Portable internal timer having relay control time motor and signalling means. 3,104,386, 9-17-63, Cl. 340-309.1.
- Klein, Gerald, to Siemens-Schuckertwerke Aktiengesellschaft. Space-reference gyro of the restrained type. 3,071,011, 1-1-63, Cl. 74-5.7.
- Klein, Heinz G.: *See—*
- Zirngiebl, Eberhard, and Klein. 3,090,734.
- Klein, Helene. Ballet stretch device. 3,109,646, 11-5-63, Cl. 272-79.
- Klein, Howard C.: *See—*
- Horn, Herman, Klein, and Griffith. 3,084,188.
- Klein, Howard C., and D. R. Grassetti, to Nopco Chemical Co. Production of vitamin A aldehyde. 3,097,244, 7-9-63, Cl. 260-598.
- Klein, Iven W., to Sioux Steel Co. Dump wagon hoist. 3,084,908, 4-9-63, Cl. 254-8.
- Klein, John E., to Goodrich-Gulf Chemicals, Inc. Process for polymerizing ethylene in the process of aluminum alkyl, titanium tetrachloride, and carboxylic acid. 3,082,198, 3-19-63, Cl. 260-94.9.
- Klein, John S.: *See—*
- McElroy, Charles W., and Klein. 3,098,455.
- Klein, Keith W., and D. B. Powell, to General Electric Co. Electric circuit breaker. 3,084,236, 4-2-63, Cl. 200-106.
- Klein, Leonard: *See—*
- Kuzell, Charles R., Fowler, Klein, and Davis. 3,071,454.
- Kuzell, Charles R., Fowler, Klein, and Hawkins. 3,081,163.
- Klein, Murray J. Volumetric positive displacement flow meter. 3,101,616, 8-27-63, Cl. 73-263.
- Klein, Norman E., to Deering Milliken Research Corp. Apparatus for coating a moving web. 3,082,734, 3-26-63, Cl. 118-7.
- Klein, Norman E., to Deering Milliken Research Corp. Fiber handling arrangement and process. 3,090,081, 5-21-63, Cl. 19-288.
- Klein, Norman E., and F. E. Rowe, Jr., to Deering Milliken Research Corp. Methods and apparatus for processing yarn. 3,081,510, 3-19-63, Cl. 28-1.
- Klein, Norman E., and C. G. Evans, to Deering Milliken Research Corp. Methods for processing thermoplastic yarns. 3,102,321, 9-3-63, Cl. 28-72.
- Klein, Oscar R. Door construction. 3,079,987, 3-5-63, Cl. 160-113.
- Klein, Paul S., 1/2 to Products Ltd., Inc. Bottle cap. 3,085,709, 4-16-63, Cl. 220-23.
- Klein, Paul S., to "42" Products Ltd., Inc. Portable wire rack for bottles. 3,094,219, 6-18-63, Cl. 211-77.
- Klein, Paul S., to "42" Products Ltd., Inc. Package. 3,107,007, 10-15-63, Cl. 206-1.
- Klein, Peter M., and G. D. Murray III, to Natser Corp., d.b.a. Acco Products. Loose-leaf binders. 3,078,853, 2-26-63, Cl. 129-41.
- Klein, Robert L. Window structure with removable sashes. 3,086,259, 4-23-63, Cl. 20-52.2.
- Klein, Roy W.: *See—*
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- Klein, Schanzlin & Becker Aktiengesellschaft: *See—*
- Buschhorn, Walther. 3,082,695.
- Hartnagel, Robert. 3,101,199.
- Klein, Sidney, and H. Hockemeyer. Rotary mixing blade. 3,071,353, 1-1-63, Cl. 259-134.
- Klein, Vernon W., and E. C. Jones, Jr., deceased (C. Jones, administratrix), to Great Lakes Pipe Line Co. Hazardous atmosphere detecting and signalling system. 3,090,038, 5-14-63, Cl. 340-237.



- Klein, William F.: *See*—  
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- Klein, William H. Heel lift. 3,074,187, 1-22-63, Cl. 36—42.
- Kleine, Werner K. M. Trepanning and boring head. 3,094,016, 6-18-63, Cl. 77-69.
- Kleiner, Helmut: *See*—  
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- Kleinerman, Benjamin B. Tape recorder. 3,090,536, 5-21-63, Cl. 226-48.
- Kleinfeld, Martin J., and B. A. Hunter, to United States Rubber Co. Low temperature expansion of liquid organic polysulfide polymer with sodium azodicarboxylate. 3,095,387, 6-25-63, Cl. 260-25.
- Kleinhaus, Schuyler, and C. A. Weise, to Douglas Aircraft Co., Inc. Jet engine sound suppressor and reverser. 3,084,507, 4-9-63, Cl. 60-35.54.
- Kleinman, David A.: *See*—  
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- Kleinman, David A., and A. L. Schawlow, to Bell Telephone Laboratories, Inc. Hall-effect apparatus. 3,089,995, 5-14-63, Cl. 321-2.
- Kleinman, Jacob L. Motor structure having movable connecting elements. 3,080,493, 3-5-63, Cl. 310-68.
- Kleinman, Jacob L. Electric shavers having hingeable shearing section. 3,091,850, 6-4-63, Cl. 30-43.
- Kleinman, Jacob L. Shaver having a removable assembled shaving unit. 3,101,537, 8-27-63, Cl. 30-43.
- Kleinman, Jacob L. Scale-washing machine combination. 3,101,802, 8-27-63, Cl. 177-144.
- Kleinman, Jacob L. Adjustable illuminated scale structure. 3,101,803, 8-27-63, Cl. 177-177.
- Kleinman, Leonard, and A. D. Berk, to Hughes Aircraft Co. Harmonic generator. 3,076,132, 1-29-63, Cl. 321-69.
- Kleinschmidt, Albert W.: *See*—  
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- Kleis, Derk, G. Schenkel, and A. Bierens, to North American Philips Co., Inc. Electrodynamic device. 3,088,001, 4-30-63, Cl. 179-115.5.
- Kleiss, Louis D., to Phillips Petroleum Co. Fractionation control system. 3,085,050, 4-9-63, Cl. 202-160.
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- Kleist, Robert A., and C. S. Jones, to General Precision, Inc. Remote interrogator-responder signalling system communications channel apparatus. 3,072,899, 1-8-63, Cl. 343-6.5.
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- Klekot, Jan: *See*—  
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- Klem, Stanley J., Jr.: *See*—  
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- Klement, John F., to Ampco Metal, Inc. Method of making a composite metal structure. 3,094,753, 6-25-63, Cl. 22-204.
- Klement, John F., and Q. F. Ingerson, to Ampco Metal, Inc. Method of heat treating copper base alloy. 3,072,508, 1-8-63, Cl. 148-160.
- Klemm, Herman G., A. H. Mark, and W. G. Colestock, to Massey-Ferguson Inc. Endless track driving assembly. 3,082,044, 3-19-63, Cl. 305-12.
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- Klenke, Edward F., Jr., to E. I. du Pont de Nemours and Co. Mica pigment. 3,107,173, 10-15-63, Cl. 106-291.
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- Klessig, Ernst F., to Vickers Inc. Divided flow control valve system. 3,077,901, 2-19-63, Cl. 137-621.
- Kleven, Lowell A., to Rosemount Engineering Co. Bearing. 3,107,950, 10-22-63, Cl. 308-36.
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- Kline, Albert K. Bridge plug. 3,115,186, 12-24-63, Cl. 166-135.
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- Knight, Ronald A., to The United Kingdom Atomic Energy Authority. Sintering processes. 3,115,408, 12-24-63, Cl. 75-200.
- Knight, Robert B.: *See*—  
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- Knight, Sidney G.,  $\frac{1}{2}$  to R. F. Oxley. Method of making a universal coupling. 3,089,232, 5-14-63, Cl. 29-423.
- Knight, Sidney G., to Drott Mfg. Corp. Mobile crane. 3,112,035, 11-26-63, Cl. 212-55.
- Knight, Stanley G., to Wisconsin Alumni Research Foundation. Process for preparing flavoring compositions. 3,100,153, 8-6-63, Cl. 99-116.
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- Knight, William P.: *See*—  
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- Knighton, James B., to United States of America, Atomic Energy Commission. Production of actinide metal. 3,109,731, 11-5-63, Cl. 75-84.1.
- Knights, Herbert C., and P. N. Munn, to United Kingdom Atomic Energy Authority. Graphite moderator structures for nuclear reactors. 3,085,958, 4-18-63, Cl. 204-193.2.
- Knights, Richard N., A. R. Pitt, A. A. J. Willitt, and S. W. H. Wood, to Dowty Rotol Ltd. Bogie undercarriages for aircraft. 3,091,416, 5-28-63, Cl. 244-50.
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- Knobel, Max, to Pneumatic Scale Corp., Ltd. Weighing element embodying a resilient contact unit. 3,113,632, 12-10-63, Cl. 177-79.
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- Knobloch, James O., J. W. Shepard, and H. P. Liao, to Standard Oil Co. Process for resolving aromatic polycarboxylic acids capable of forming intramolecular anhydrides. 3,098,095, 7-16-63, Cl. 260-525.
- Knobloch, James O., and H. P. Liao, to Standard Oil Co. Separation of recoverable materials from oxidation by-products. 3,105,851, 10-1-63, Cl. 260-525.
- Knobloch, Walter: *See*—  
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- Knoblock, Frederick D. Folding table. 3,108,550, 10-29-63, Cl. 108-124.
- Knoch, Max H. Contraceptive intra-uterine appliance. 3,077,879, 2-19-63, Cl. 128-130.
- Knocke, Louis T., to Thompson Ramo Wooldridge Inc. Automatic brake adjuster. 3,115,955, 12-31-63, Cl. 188-79.5.
- Knodel, Louis R.: *See*—  
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- Knoell, Oscar F., to United States Steel Corp. Self-dumping bucket with removable bail. 3,107,114, 10-15-63, Cl. 294-73.
- Knoevenagel, Kurt, to C. F. Spiess & Sohn Chemische Fabrik. Sugar esters and process of preparing the same. 3,103,507, 9-10-63, Cl. 260-234.
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- Knoll Associates, Inc.: *See*—  
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- Knoll, David, and A. Greenhaus, to Berko Electric Mfg. Corp. Panel type heating apparatus and air circulating means therefor. 3,097,287, 7-9-63, Cl. 219-39.
- Knoll, Florence S., and V. J. Cafero, to Knoll Associates, Inc. Drawer structure. 3,102,763, 9-3-63, Cl. 312-234.1.
- Knoll, Joseph, and I. J. Melman, to Servo Corp. of America. Image pickup devices and scanning circuits therefor. 3,111,556, 11-19-63, Cl. 178-71.1.
- Knoll, Kenneth C., to United States of America, Atomic Energy Commission. Removal of cesium from aqueous solutions by adsorption. 3,097,920, 7-16-63, Cl. 23-25.
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- Knopf, Robert J., and L. F. Theiling, Jr., to Union Carbide Corp. Preparation of half-esters of aliphatic diols. 3,114,766, 12-17-63, Cl. 260-486.
- Knopfle, Walter J., and H. G. Hagenah, to Perpetuum-Ebner, Fabrik fur Feinmechanik und Elektrotechnik Steidner & Co., Kom.-Ges. Holding arm for record changer. 3,081,094, 3-12-63, Cl. 274-10.
- Knoph, Nic L., and R. E. Sonneland, to Tysaman Machine Co., Inc. Long wire stone sawing apparatus. 3,098,475, 7-23-63, Cl. 125-21.
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- Knospe, Robert N., and D. L. Gecks, to The Fosdick Machine Tool Co. Machine tool programming system. 3,109,329, 11-5-63, Cl. 77-4.
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- Knowles, Carl H.: *See*—  
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- Knowles, Carl H., to Motorola, Inc. Transistor device and method of manufacture. 3,108,209, 10-22-63, Cl. 317-234.
- Knowles, Carl H., and H. Da Costa, to Motorola, Inc. Method and apparatus for use in the manufacture of transistors. 3,092,522, 6-4-63, Cl. 148-1.5.
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- Knowles, Edwin C.: *See*—  
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- Knowles, Edwin C., E. L. Cole, and W. E. Kuhn, to Texaco, Inc. Method of tin plating copper. 3,072,498, 1-8-63, Cl. 117-113.
- Knowles, Edwin C., and E. L. Kay, to Texaco Inc. Amine salts of tetra-covalent boron compounds. 3,102,131, 8-27-63, Cl. 260-462.
- Knowles, Gregory W., to Fairchild Stratos Corp. Angular position control system. 3,111,290, 11-19-63, Cl. 244-75.
- Knowles, James, to Ford Motor Co. Power transmission mechanism. 3,113,470, 12-10-63, Cl. 74-677.
- Knowles, James T. R. Stockton, and N. T. General, to Ford Motor Co. Power transmission mechanism. 3,083,589, 4-2-63, Cl. 74-677.
- Knowles, John G. Hydraulic brake systems. 3,101,976, 8-27-63, Cl. 303-49.
- Knowles, M. B.: *See*—  
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- Knowles, William S., and A. J. Elias, to Ampex Corp. Diode input NOR circuit including positive feedback. 3,083,303, 3-26-63, Cl. 307-85.5.
- Knowles, William S., and A. E. Lippmann, to Monsanto Chemical Co. Method of preparing nitrophenetoles. 3,085,113, 4-9-63, Cl. 260-612.
- Knowlton, David R., to United-Carr Fastener Corp. Clip member. 3,113,811, 12-10-63, Cl. 308-88.
- Knowlton, James A., Jr., and R. H. Arndt, to General Electric Co. Method and apparatus for uniformly irradiating an object with electrons. 3,109,931, 11-5-63, Cl. 250-49.5.
- Knox, Charles B., Gelatine Co., Inc.: *See*—  
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- Knox, Lawrence H., to Syntex S.A. 1',1'-dihalo and 1'-carboxy-cyclopropano androstane derivatives. 3,079,406, 2-26-63, Cl. 260-397.1.
- Knox, Lawrence H., to Syntex S.A. 3a,4a and 5 $\beta$ ,6 $\beta$ -cyclopropano-pregnene derivatives. 3,080,385, 3-5-63, Cl. 260-397.1.
- Knox, Lawrence H., to Syntex S.A. 3a,4a and 5 $\beta$ ,6 $\beta$ -cyclopropano-pregnene derivatives. 3,080,386, 3-5-63, Cl. 260-397.1.
- Knox, Lawrence H., to Syntex S.A. 1',1'-dihalo and 1'-carboxy-cyclopropano-androstene derivatives. 3,080,387, 3-5-63, Cl. 260-397.1.
- Knox, Lawrence H., and F. A. Kincl, to Syntex Corp. 2 and/or 16-aminomethylene-13, 17-secoandrostan- $\alpha$ -ol-17 oic (13-17) lactones. 3,102,119, 8-27-63, Cl. 260-294.3.
- Knox, Leonard S.: *See*—  
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- Knox, Roger E., to E. I. du Pont de Nemours and Co. Preparation of a cured polyurethane cellular material. 3,108,976, 10-29-63, Cl. 260-2.5.



- Knox, Roger E., and J. A. Margedant, Jr., to E. I. du Pont de Nemours and Co. Process of molding a polyurethane foam by shaping it without compression. 3,079,641, 3-5-63, Cl. 18-48.
- Knox, William C., Jr.: *See*—  
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- Knox, William C., Jr., to Knox Instruments, Inc. Aerial toy. 3,082,572, 3-26-63, Cl. 46-82.
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- Knudsen, Harold S. Leader attachment for reels. 3,106,364, 10-8-63, Cl. 242-74.
- Knudsen, John P., to Monsanto Chemical Co. Manufacture of shaped objects of acrylonitrile polymer by wet spinning. 3,088,183, 5-7-63, Cl. 28-82.
- Knudsen, John P., and P. A. Ucci, to Monsanto Chemical Co. Spinning of acrylonitrile polymers. 3,088,793, 5-7-63, Cl. 18-54.
- Knudsen, Knud J., to Lewis Engineering Co. Transistor amplifier and motor load using conductive circuit feedback. 3,090,903, 5-21-63, Cl. 318-448.
- Knudsen, Knud J., to Lewis Engineering Co. Electric temperature control. 3,116,396, 12-31-63, Cl. 219-20.
- Knudsen, Lawrence B., to National Lead Co. Method of sulfating titaniferous materials. 3,071,435, 1-1-63, Cl. 23-117.
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- Knudsen, Vagn A., to Graybar Precast Ltd. Highway safety guard rail. 3,092,371, 6-4-63, Cl. 256-13.1.
- Knudson, Giltner J., to The Bendix Corp. Fuel feed control for internal combustion engines. 3,076,447, 2-5-63, Cl. 123-119.
- Knudson, Melvin R., and D. G. Bowen, to St. Regis Paper Co. Wood drying method. 3,070,896, 1-1-63, Cl. 34-26.
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- Knüßli, Enrico, K. Rüfenacht, and H. Gysin, to J. R. Geigy A.G. Herbicidal composition and method. 3,086,855, 4-23-63, Cl. 71-2.5.
- Knuth, Eugene W. Scaffold horse. 3,103,988, 9-17-63, Cl. 182-26.
- Knuth, Harvey G., to Lyon Metal Products, Inc. Shelving structure. 3,088,424, 5-7-63, Cl. 108-108.
- Knuth, Paul E., E. F. Collins, and H. J. Smith. Cover for lawn mowers. 3,087,585, 4-30-63, Cl. 189-2.
- Knutson, Andrew T., and M. O. Kalleberg, to Minnesota Mining and Mfg. Co. Pressure sensitive adhesive tape in which the adhesive is a mixture of synthetic rubber and acrylate. 3,092,250, 6-4-63, Cl. 206-59.
- Knutson, Gerald L. Relief station for cats. 3,111,932, 11-26-63, Cl. 119-1.
- Knutson, Kelsey N. Fork lift-loader attachment for mobile lifting vehicles. 3,075,661, 1-29-63, Cl. 214-140.
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- Kobayashi, Hidehiko: *See*—  
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- Kobayashi, Hiroshi: *See*—  
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- Kobayashi, Minoru: *See*—  
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- Kobayashi, Takatoshi, to Toyo Rayon Kabushiki Kaisha and Toyo Nylon Nenshi Kako Kabushiki Kaisha. Process for preparation of stretch yarn. 3,108,430, 10-29-63, Cl. 57-157.
- Kobayashi, Takizo. Fluorescent lamp circuit and starting means therefor. 3,114,076, 12-10-63, Cl. 315-100.
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- Kobee, Frank R. Pneumatic jack. 3,092,366, 6-4-63, Cl. 254-93.
- Kober, Ehrenfried H., to Olin Mathieson Chemical Corp. Tertiary amine salts of 2,4-bis-haloalkyl-6-hydroxy-1,3,5-triazines. 3,090,784, 5-21-63, Cl. 260-247.5.
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- Köber, Fritz: *See*—  
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- Kobetz, Paul, to Ethyl Corp. Complex bimetallic organo-metallic compounds and method for their preparation. 3,098,862, 7-23-63, Cl. 260-429.7.
- Koble, Robert A.: *See*—  
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- Koble, Robert A., to Phillips Petroleum Co. Control of carbonate concentration in carbonate leaching of uranium-bearing ores by calcium sulfate addition. 3,081,147, 3-12-63, Cl. 23-14.5.
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- Kobler, Richard, to McGraw-Edison Co. Telephone dialing equipment. 3,104,285, 9-17-63, Cl. 179-90.
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- Kobler, Victor and W. Shape and proportions of shearheads. 3,103,743, 9-17-63, Cl. 30-34.
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- Kocay, Witold R., and J. W. Preece, to American Cyanamid Co. Process of producing shaped structures from an acrylonitrile polymerization product. 3,104,938, 9-24-63, Cl. 18-54.
- Koch, Adolf J. J.: *See*—  
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- Koch, Anton, to Portland Zementwerke Heidelberg AG. Process and apparatus for the production of cement clinker, more especially for white cement. 3,085,022, 4-9-63, Cl. 106-101.
- Koch, Carl. Photoelectric exposure metering device for photographic darkslide cameras. 3,100,429, 8-13-63, Cl. 95-10.
- Koch, David, to Morris Kurtzon, Inc. Method and apparatus for making a screen or grille. 3,096,571, 7-9-63, Cl. 29-160.
- Koch, Donald T., and W. R. Bohannon, to The Cooper-Bessemer Corp. Compressor control. 3,096,926, 7-9-63, Cl. 230-4.
- Koch, Edward I. Simulated vehicle toy. 3,099,443, 7-30-63, Cl. 272-1.
- Koch, Frederick A. Candles. 3,088,302, 5-7-63, Cl. 67-22.
- Koch, Gawain B., to Polymer Processes, Inc. Synthetic article. 3,091,173, 5-28-63, Cl. 100-162.
- Koch, George, to Allis-Chalmers Mfg. Co. Clutch and brake control. 3,080,026, 3-5-63, Cl. 192-13.
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- Koch, John E. Snowplow attachment for automobiles. 3,098,309, 7-23-63, Cl. 37-42.
- Koch, Jacob: *See*—  
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- Koch, Lawrence E., to L. A. M. Phelan. Cup lift serving valve for continuous freezers. 3,081,804, 3-19-63, Cl. 141-360.
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- Koch, Paul H., to The Babcock & Wilcox Co. Forced flow fluid heating unit. 3,081,748, 3-19-63, Cl. 122-406.
- Koch, Paul H., E. A. Pirsh, and H. S. Swenson, to The Babcock & Wilcox Co. Ribbed vapor generating tubes. 3,088,494, 5-7-63, Cl. 138-37.
- Koch, Theodore A., I. M. Robinson, and W. L. Wiley, to E. I. du Pont de Nemours and Co. Vapor phase oxidation of acrolein to acrylic acid. 3,087,964, 4-30-63, Cl. 260-530.
- Koch, Stanley D., to Monsanto Research Corp. Tricyclic monospirane hydrocarbons as high energy fuels. 3,113,419, 12-10-63, Cl. 60-35.4.
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- Koch, Walter L.: *See*—  
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- Koch, Werner, to Roland Offsetmaschinenfabrik Faber & Schleicher AG. Stacking device for printing machines. 3,106,393, 10-8-63, Cl. 271-64.
- Kochanowski, George A., to Kinkead Industries Inc. Mounting structure for slidable doors. 3,102,581, 9-3-63, Cl. 160-196.
- Kocher, Erich J., to Vilter Mfg. Corp. Refrigeration system having an atmospheric temperature responsive condenser. 3,088,292, 5-7-63, Cl. 62-196.
- Kocher, Erich J., and J. N. Long, to Vilter Mfg. Corp. Defrosting system for refrigeration installation. 3,115,017, 12-24-63, Cl. 62-155.
- Kocher, Fred W., and O. H. Rinne, to Pittsburgh Plate Glass Co. Sheet handling apparatus. 3,094,322, 6-18-63, Cl. 271-12.
- Kocher, Francis, to Traitments Chimiques des Textiles, S.A. Process of wet and dry creaseproofing cellulose fabrics with a pyridinium salt of a di-chloromethyl ether and rubber latex, bleaching the fabrics, and fabrics produced thereby. 3,076,688, 2-5-63, Cl. 8-108.
- Kocher, George K. Reducing and comminuting apparatus. 3,077,309, 2-12-63, Cl. 241-221.
- Kocher, George K. Apparatus for turning an automobile on its side. 3,087,631, 4-30-63, Cl. 214-1.
- Kocher, George K. Rubber and metal tire. 3,089,530, 5-14-63, Cl. 152-288.
- Kocher, George K. Railroad tie and rail mounting combination thereof. 3,101,899, 8-27-63, Cl. 238-109.
- Kocher, George K. Puncture resistant pneumatic tire. 3,105,785, 10-1-63, Cl. 156-128.
- Kocher, George K. Apparatus for adapting railroad rails to pneumatic tired vehicles. 3,113,722, 12-10-63, Cl. 238-9.
- Kocher, Hans, to Buren Watch Co. S.A. Self-winding watch movement. 3,106,818, 10-15-63, Cl. 58-82.
- Kochey, Edward L., Jr., to Combustion Engineering, Inc. Vapor heater arrangement which protects the tubes from overheating and sootblower erosion. 3,101,698, 8-27-63, Cl. 122-392.
- Kochi, Jay K.: *See*—  
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Tölle, Hans G. 3,103,904.
- Koci, Jerry C., to Tabet Mfg. Co., Inc. Electrical switch assembly. 3,072,756, 1-8-63, Cl. 200-11.
- Koci, Jerry C., and A. Holz, to Chicago Dynamic Industries, Inc. Actuating mechanism for a thumb wheel type switch. 3,104,299, 9-17-63, Cl. 200-156.
- Koci, Ludvik J., R. D. Andersen, and I. Jepson, to Sunbeam Corp. Remotely controlled electric heating and cooking vessels. 3,098,918, 7-23-63, Cl. 219-20.
- Kocian, Richard H.: *See*—  
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- Kock, Max, to P. Gossen & Co., G.m.b.H. Photoelectric diaphragm control devices. 3,072,027, 1-8-63, Cl. 95-10.
- Kocks, Friedrich. Furnace charging apparatus. 3,103,286, 9-10-63, Cl. 214-31.
- Kocks, Friedrich, G.m.b.H.: *See*—  
Uebing, Heinrich, Bretschneider, Bindernagel, and Jurczyk. 3,114,276.
- Kocsis, Miklós: *See*—  
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- Koda, Arthur J., to C. P. Clare & Co. Switching assembly. 3,089,010, 5-7-63, Cl. 200-87.
- Koda, Arthur J., to C. P. Clare & Co. Electromagnetic sealed reed printed circuit switching assembly. 3,114,019, 12-10-63, Cl. 200-87.
- Koda, Arthur J., to C. P. Clare & Co. Sealed switch unit mounted on printed circuit board. 3,114,807, 12-17-63, Cl. 200-87.
- Koda, Arthur J., and D. R. Morrison, to C. P. Clare & Co. Switch assembly comprising a plurality of sealed units. 3,114,018, 12-10-63, Cl. 200-87.
- Koda, Arthur J., and R. W. Ottman, to C. P. Clare & Co. Switching assembly including resilient switch mounting means. 3,114,080, 12-10-63, Cl. 317-101.
- Kodama, Shinjiro, D. Komiya, K. Mori, and T. Ando, to Sumitomo Chemical Co., Ltd. Method of rectifying a formaldehyde-containing solution. 3,077,441, 2-12-63, Cl. 202-52.
- Kodama, Shinjiro, T. Ando, and S. Kitagawa, to Sumitomo Chemical Co., Ltd. Process for producing a highly concentrated formaldehyde solution. 3,113,972, 12-10-63, Cl. 260-603.
- Kodama, Yoshio: *See*—  
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- Kodaras, Michael J., to Elof Hansson, Inc. Ventilated ceiling construction. 3,103,868, 9-17-63, Cl. 98-40.
- Kodiak, Inc.: *See*—  
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- Kodis, Robert D.: *See*—  
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Woo, Way D., Kodis, and Ruhman. 3,075,179.
- Kodra, Esper, to Joy Mfg. Co. Multi-stage compressor. 3,072,317, 1-8-63, Cl. 230-182.
- Kodras, Rudolph, to International Minerals & Chemical Corp. Process of dehydrating potatoes. 3,110,574, 11-12-63, Cl. 34-39.
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- Koe, Billie K.: *See*—  
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- Koe, Billie K., and T. A. Seto, to Chas. Pfizer & Co., Inc. Derivatives of 6-amino penicillanic acid. 3,078,269, 2-19-63, Cl. 260-239.1.
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- Koebele, Alfred: *See*—  
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- Koehl, Anton, G. Fuellemann, and E. Kaegi, to Ciba Ltd. Cells for the electrolysis of fused salts. 3,071,532, 1-1-63, Cl. 204-243.
- Koehler, Frank: *See*—  
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- Koehler, James O., and H. Lamprey, to Union Carbide Corp. Lubricating composition. 3,098,041, 7-16-63, Cl. 252-35.
- Koehler, Joseph: *See*—  
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- Koehler, Robert L., to Calavar Corp. Tong assembly. 3,071,405, 1-1-63, Cl. 294-88.
- Koehly, Paul F., and E. C. Walters, Jr., to General Motors Corp. Protective means for insulation. 3,097,320, 7-9-63, Cl. 310-217.
- Koehn, Wilbur R. Injection set and flow meter for parenteral fluids. 3,101,710, 8-27-63, Cl. 128-214.
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- Koehring-Waterous Ltd.: *See*—  
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- Koeljmans, Gerard D., to Socony Mobil Oil Co., Inc. Sequential seismic correction means. 3,092,805, 6-4-63, Cl. 340-15.5.
- Koelega, Willem: *See*—  
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- Koelle, Otto, to Will Scientific, Inc. Recording apparatus for measuring small changes in gas volume in reaction vessels. 3,108,476, 10-29-63, Cl. 73-401.
- Koeller, William N., to Huck Mfg. Co. Spacer applying and removing tool. 3,105,291, 10-1-63, Cl. 29-227.
- Koelliker, James E., to Chicago Rawhide Mfg. Co. Bowling pin impact curtain. 3,079,155, 2-26-63, Cl. 273-53.
- Koelmans, Hein: *See*—  
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- Koelmans, Hein, and H. G. Grimmels, to North American Philips Co., Inc. Photoconductor device. 3,104,229, 9-17-63, Cl. 252-501.
- Koelmans, Hein, W. L. Wanmaker, A. P. M. Cox, and A. S. Emmens, to North American Philips Co., Inc. Orthophosphate phosphor compositions. 3,110,680, 11-12-63, Cl. 252-301.6.
- Koelndorfer, Frederick J. Lawn mower sharpening device. 3,101,629, 8-27-63, Cl. 76-82.1.
- Koelsch, Emery F., to Royal Jet, a division of Royal Industries, Inc. Containers and interlocked pack thereof. 3,084,830, 4-9-63, Cl. 220-97.
- Koenecke, Donald F.: *See*—  
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- Koenen, John T. Support for clothes hangers. 3,084,894, 4-9-63, Cl. 248-278.
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- Koenig, Eldo C., to Allis-Chalmers Mfg. Co. Rotating systems analyzer. 3,071,972, 1-8-63, Cl. 73-462.
- Koenig, Harold R., to United States of America, Atomic Energy Commission. Confinement of high temperature plasma. 3,088,894, 5-7-63, Cl. 204-193.2.



- Koenig, Herbert, and R. C. Sullivan, to Koenig Iron Works, Inc. Winch. 3,071,222, 1-1-63, Cl. 192-12.
- Koenig Iron Works, Inc.: See—
- Koenig, Herbert, and Sullivan. 3,071,222.
- Koenig, John H., and E. L. Kastenbein, to Consolidated Electrodynamics Corp. Insulated electrical conductor. 3,110,619, 11-12-63, Cl. 117-215.
- Koenig, Martin F., A. J. Pastene, and L. D. Williams, to Cutler-Hammer, Inc. Circuit breakers. 3,081,386, 3-12-63, Cl. 200-88.
- Koenig, Nathan H., to United States of America, Agriculture. Treatment of wool with acid anhydrides in the presence of dimethyl sulfoxide. 3,079,215, 2-26-63, Cl. 8-128.
- Koenig, Nathan H., to United States of America, Agriculture. Treatment of wool with acid anhydrides in the presence of acetic acid. 3,097,052, 7-9-63, Cl. 8-128.
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- Koenig, Nathan H., to United States of America, Agriculture. Treatment of wool with isocyanates in the presence of  $\gamma$ -butyrolactone. 3,112,157, 11-26-63, Cl. 8-128.
- Koenig, Nathan H., and R. A. Crass, to United States of America, Agriculture. Treatment of wool with acid chlorides in the presence of methylpyrrolidone. 3,110,543, 11-12-63, Cl. 8-128.
- Koenig, Walter, Jr., to Bell Telephone Laboratories, Inc. Signaling system. 3,105,114, 9-24-63, Cl. 179-15.
- Koenigkramer F. and F. Co.: See—
- Johnson, Philip C. 3,096,059.
- Johnson, Philip C. 3,104,402.
- Koenigsberg, Max: See—
- Khawam, Antoine, and Koenigsberg. 3,082,486.
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- Koepfinger, Ronald D., to The Dow Chemical Co. Dip brazing composition for magnesium and method of use. 3,108,369, 10-29-63, Cl. 29-488.
- Koeppel, Hans H., to Adox Kamerawerk G.m.b.H. Pressure plate assembly for cameras or magazines. 3,103,861, 9-17-63, Cl. 95-31.
- Koepfen, Jack A., to General Motors Corp. Valve seat and guide finishing machine. 3,073,023, 1-15-63, Cl. 29-566.
- Koerber, Henry G.: See—
- Peoples, Graydon, and Koerber. 3,084,682.
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- Koerner, Ernest L., M. Smutz, and H. A. Wilhelm, to United States of America, Atomic Energy Commission. Niobium-tantalum separation. 3,107,976, 10-22-63, Cl. 23-19.
- Koerner, Harry E., and E. W. Vaughn, to Westinghouse Electric Corp. Therapy unit. 3,082,322, 3-19-63, Cl. 250-615.
- Koerner, Harry E., and E. P. Thomas, to Westinghouse Electric Corp. X-ray apparatus. 3,096,976, 7-9-63, Cl. 269-323.
- Koerner, Walter J.: See—
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- Johnson, Paul D., Popin, and Koers. 3,073,270.
- Koertge, Nobel H., to Cutler-Hammer, Inc. Electromagnetic relay. 3,088,007, 4-30-63, Cl. 200-87.
- Koertge, Nobel H., and T. F. Rosing, to Cutler-Hammer, Inc. Electromagnetic relay. 3,109,904, 11-5-63, Cl. 200-87.
- Koelsing, Heinz, and O. Bohm, to North American Philips Co. Inc. Detachable connecting means for cooling agents and current. 3,075,163, 1-22-63, Cl. 339-16.
- Koester, Claus, to Robert Bosch G.m.b.H. Adjustable fuel injection pump. 3,115,838, 12-31-63, Cl. 103-2.
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- Koff, Arnold, to Hoffmann-La Roche Inc. Process of making pleasant-tasting niacinamide beadlets. 3,080,293, 3-5-63, Cl. 167-81.
- Koffie F. Rombouts N.V. in het Frans Cafes F. Rombouts S.A.: See—
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- Kofler, Max, A. Langemann, and R. Ruegg, to Hoffmann-La Roche Inc. Substituted benzoquinones and preparation thereof. 3,080,384, 3-5-63, Cl. 260-396.
- Koffler, Maximilian. Vacuum evaporator with a climbing and falling film. 3,097,126, 7-9-63, Cl. 159-15.
- Koffler, Sol. Car case. 3,104,740, 9-24-63, Cl. 190-43.
- Kofsky, John M., Jr.: See—
- Pelton, John F., and Kofsky. 3,071,489.
- Kofink, Siegfried, to J. Eberspacher. Heating apparatus for automotive vehicles. 3,103,923, 9-17-63, Cl. 126-116.
- Kofink, Siegfried, and F. Reuter, to J. Eberspacher. Control device for dampers. 3,089,647, 5-14-63, Cl. 236-48.
- Kofsky, Melvin H., and A. E. Karp, to Cal-Cod Process Corp. Bird feeding device. 3,076,433, 2-5-63, Cl. 119-51.
- Koga, Motoyuki. Lid means including a mixing chamber for a container with plural spaced outlets. 3,105,615, 10-1-63, Cl. 222-94.
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- Kogan, Alexandre. Jet airplane engine mounting. 3,075,728, 1-29-63, Cl. 244-74.
- Koh, Won Y., and R. A. Messing, to Ethicon, Inc. Enzyme production. 3,096,253, 7-2-63, Cl. 195-62.
- Kohen, Sheldon I., and H. Ruskin, to Swingline Inc. Stapling device. 3,103,012, 9-10-63, Cl. 1-3.
- Kohl, Arthur L.: See—
- Porter, Joe A., and Kohl. 3,112,261.
- Kohl, Arthur L., and A. L. Fuller, to The Fluor Corp. Ltd. Corrugated packing for counterflow cooling towers. 3,084,918, 4-9-63, Cl. 261-112.
- Kohl, Christoph, K. Schutz, H. Poppe, and E. Krusche, to Cassella Farbwerke Mainkur Aktiengesellschaft. Dyeing with sulfur dyes. 3,113,824, 12-10-63, Cl. 8-37.
- Kohl, Douglas A., to General Mills, Inc. Humidity sensor having a decreased resistance range. 3,071,746, 1-1-63, Cl. 338-35.
- Kohl, Everard F. Apparatus for providing gases at a desired pressure. 3,106,918, 10-15-63, Cl. 128-203.
- Kohl, Karl. Knitted fabric. 3,106,079, 10-8-63, Cl. 66-193.
- Kohl, Walter H., to Sylvania Electric Products Inc. Electrode spacer. 3,105,165, 9-24-63, Cl. 313-257.
- Kohler Co.: See—
- Reinemann, Wilfred W. 3,086,748.
- Kohler, Charles F., to Telecontrol Corp. System for recording registered data. 3,099,512, 7-30-63, Cl. 346-34.
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- Konrad, Alexander, 20% each to L. Hahn, M. J. Konrad, M. B. Felder, and W. A. Konrad. Bathroom diaper shower. 3,081,613, 3-19-63, Cl. 68-181.
- Konrad, Alexander, 20% each to L. L. Hahn, M. J. Konrad, M. B. Felder, and W. A. Konrad. Power mower with rotary and vibratory cleaning disc. 3,097,467, 7-16-63, Cl. 56-25.4.
- Konrad, Howard E., to Johns-Manville Corp. Bonding agent for dry air setting mortars. 3,085,021, 4-9-63, Cl. 106-84.
- Konrad, Howard E., and W. L. Stafford, to Johns-Manville Corp. Light weight castable refractories. 3,079,267, 2-26-63, Cl. 106-64.
- Konrad, Kenneth K., to Union Carbide Corp. Corona cell. 3,105,918, 10-1-63, Cl. 313-231.
- Konrad, Margaret J.: See—  
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- Konrad, Peter, Aktiengesellschaft: *See*—  
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- Konrad, Siegfried: *See*—  
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- Konrad, Warren A.: *See*—  
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- Konstant, Anthony N., and B. E. Schell, Jr., to Speedrack Inc. Storage rack. 3,102,641, 9-3-63, Cl. 211-148.
- Kontrollhudar, Andelsslakteriernas Forening UPA: *See*—  
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- Kooijman, Pieter L., and H. Buesink, to Shell Oil Co. Sulfonates of hydroxyalkyl esters of tertiary alkanolic acids. 3,097,218, 7-9-63, Cl. 260-400.
- Koolman, Pieter L., to Avedko N.V. Integrator to be used in a calorimeter. 3,110,179, 11-12-63, Cl. 73-193.
- Koolman, Robert R.: *See*—  
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- Kooiman, Robert R., and F. D. Werner, to Rosemount Engineering Co. Digital rotating pressure reference. 3,111,847, 11-26-63, Cl. 73-386.
- Kooistra, Anne: *See*—  
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- Kooistra, John A., to Davis & Furber Machine Co. Means for mounting a yarn spool in a spinning frame. 3,077,069, 2-12-63, Cl. 57-127.5.
- Kooistra, John A., to Davis & Furber Machine Co. Tension regulator for spinning frame. 3,107,479, 10-22-63, Cl. 57-73.
- Kooistra, Lambert F., to The Babcock & Wilcox Co. Nuclear reactor control rod and method of making same. 3,103,478, 9-10-63, Cl. 204-193.2.
- Koolhaas, Dirk R., to Tervalon Maatschappij voor voedingsmiddelen op wetenschappelijke basis. Method of preparing a baking dough and baked product thereof. 3,076,710, 2-5-63, Cl. 99-90.
- Kools Brothers, Inc.: *See*—  
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- Koonce, George W.: *See*—  
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- Koonce, John L. and G. W. Kite. 3,110,460, 11-12-63, Cl. 244-153.
- Koons, Dick M.: *See*—  
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- Koontz, James H., to Joy Mfg. Co. Safety hook for drilling apparatus. 3,106,416, 10-8-63, Cl. 287-100.
- Koontz, John D.: *See*—  
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- Koontz, Marshall D. Load-distributing device for tractor-trailer combinations. 3,116,074, 12-31-63, Cl. 280-405.
- Koontz, Ray: *See*—  
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- Koontz, Robert D., to Minnesota Mining and Mfg. Co. Pressure vessel. 3,074,585, 1-22-63, Cl. 220-3.
- Koontz, Robert D., to Minnesota Mining and Mfg. Co. Ribbed sheet structure. 3,096,958, 7-9-63, Cl. 244-123.
- Koontz, Robert D., to Minnesota Mining and Mfg. Co. Wall securement. 3,110,064, 11-12-63, Cl. 20-4.
- Koontz, Victor F., and J. A. Anthes, to Dravo Corp. Cooler for sinter and the like. 3,092,473, 6-4-63, Cl. 34-164.
- Koontz, Victor F., and D. D. Phelps, to Dravo Corp. Method of and apparatus for conditioning finely-divided solids. 3,110,570, 11-12-63, Cl. 23-313.
- Koonz, Carl H.: *See*—  
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- Kooperativa Forbundet Ekonomisk Forening: *See*—  
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- Koopmans, Martinus J.: *See*—  
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- Uhlenbroek, Jan H., and Koopmans. 3,095,352.
- Koopmans, Martinus J., to North American Philips Co., Inc. Organo tin compositions and method for treating plants. 3,097,999, 7-16-63, Cl. 167-22.
- Koopmans, Martinus J., J. Meltzer, H. O. Hutsman, B. G. van den Bos, K. Wellinga, and C. J. Schoot, to North American Philips Co., Inc. Certain phosphorus amide derivatives of imidazoles. 3,111,526, 11-19-63, Cl. 260-309.2.
- Koopmans Meelfabrieken N.V.: *See*—  
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- Koorland, Henrv. Golf putter. 3,077,350, 2-12-63, Cl. 273-164.
- Kooy, Cornelis: *See*—  
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- Kopa, Miroslaw A.: *See*—  
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- Kopare, Kauko O. Filing device for sharpening and fixing the tooth chain of the motor saw. 3,071,987, 1-8-63, Cl. 76-36.
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- Kopetz, Kurt: *See*—  
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- Kopf, John C.: *See*—  
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- Kopietz, Karl-Heinz, to Houghton-Chemie G.m.b.H. Quenching and cutting oil composition. 3,072,506, 1-8-63, Cl. 148-18.
- Kopito, Louis: *See*—  
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- Koplar, Solomon E., and I. R. Quiroz, to Rubber Products, Inc. Rewinding mechanism for clock springs. 3,113,639, 12-10-63, Cl. 185-40.
- Kopp, Ernest A., to St. John & Co. Abattoir apparatus. 3,111,706, 11-26-63, Cl. 17-24.
- Kopp, Philip E. Signaling arrangement for a rural mailbox. 3,084,853, 4-9-63, Cl. 232-35.
- Kopp, Wenzel P.: *See*—  
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- Koppehele, Hugo P.: *See*—  
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- Koppehele, Hugo P., to American Viscose Corp. Method and apparatus for biaxial stretching of beaded edge film. 3,078,504, 2-26-63, Cl. 18-1.
- Koppehele, Hugo P., and J. Zink, to Airsun Corp. Film stretching apparatus. 3,110,927, 11-19-63, Cl. 18-1.
- Koppel, Harold H.: *See*—  
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- Koppel, Harold H., to Bailey Meter Co. Motor control system. 3,077,552, 2-12-63, Cl. 318-28.
- Koppel, Harold H., and J. R. Louis, to Bailey Meter Co. D-C stabilizing amplifier. 3,080,531, 3-5-63, Cl. 330-69.
- Koppel, Harold H., and J. R. Louis, to Bailey Meter Co. Control apparatus. 3,105,182, 9-24-63, Cl. 318-446.
- Koppel, Victor: *See*—  
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- Koppelman, Edward, and A. R. Campman, to Raymond Development Industries, Inc. Woven panel and method of making same. 3,090,406, 5-21-63, Cl. 139-384.
- Koppelman, Edward, and A. R. Campman, to Raymond Development Industries, Inc. Woven honeycomb cellular fabrics. 3,102,559, 9-3-63, Cl. 139-384.
- Koppen, Heinz, to Zeiss Ikon Aktiengesellschaft. Photographic cameras. 3,074,331, 1-22-63, Cl. 95-10.
- Koppen, Heinz, to Zeiss Ikon Aktiengesellschaft. Photographic camera with an automatic flash operating mechanism. 3,102,461, 9-3-63, Cl. 95-10.
- Koppen, Heinz, and W. Gunther, to Zeiss Ikon Aktiengesellschaft. Photographic camera provided with interchangeable lens system. 3,075,442, 1-29-63, Cl. 95-10.
- Koppensteiner, James V.: *See*—  
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- Koppers Co., Inc.: *See*—  
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Gildard, James H., III, and Lemmerman. 3,115,948.  
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- Koppers Pittsburgh Co.: *See*—  
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- Koppius, Otto G., to Semicon Associates, Inc. Impregnated tungsten cathode structures and methods for fabricating same. 3,076,916, 2-5-63, Cl. 313-346.
- Kopplius, Wibrandus J.: *See*—  
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- Kopplius, Wibrandus J., to Gits Bros. Mfg. Co. Mating ring and seal. 3,116,066, 12-31-63, Cl. 277-38.
- Kopps, Harry A. All weather stock water means. 3,106,189, 10-8-63, Cl. 119-73.
- Kopriva, Karel: *See*—  
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- Korach, Malcolm, and J. K. Thomas III; said Korach assor. to Pittsburgh Plate Glass Co., and said Thomas assor. to Columbia-National Corp. Method of separating silica from zirconium sulphate solutions. 3,095,270, 6-25-63, Cl. 23-117.
- Koralesky, Edwin F. Rope clamp. 3,075,267, 1-29-63, Cl. 24-134.
- Koranda, Clarence J., and W. E. Fritz, to Enterprise Railway Equipment Co. Hopper outlet construction. 3,090,519, 5-21-63, Cl. 220-46.
- Körber, Kurt. Device for providing cigarettes with an axial air duct. 3,096,772, 7-9-63, Cl. 131-66.
- Korda, John W.: *See*—  
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- Korda, John W., to The Leece-Neville Co. Electric generating system regulation. 3,072,839, 1-8-63, Cl. 322-25.
- Kordesch Karl V., and E. M. King, to Union Carbide Corp. Fuel cell electrode. 3,077,507, 2-12-63, Cl. 136-86.
- Kordesch, Karl V., and R. E. Stark, to Union Carbide Corp. Cathodes for primary and rechargeable cells. 3,113,050, 12-3-63, Cl. 136-123.
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- Kordzinski, Stanley, and P. A. Yurick, to Catalin Corp. of America. Process for preparing phenol dialcohols. 3,093,688, 6-11-63, Cl. 260-609.
- Korelitz, Theodore H.: *See*—  
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- Koretzky, Herman, to International Business Machines Corp. Electrodeposition of cobalt phosphorus alloys. 3,073,762, 1-15-63, Cl. 204-43.
- Koretzky, Herman, to International Business Machines Corp. Preparation of hard magnetic coatings of nickel-phosphorus alloys. 3,077,442, 2-12-63, Cl. 204-37.
- Korff, Christian, and F. H. W. Wachholtz, to W. Dorst. Zinc oxide pigments and their production. 3,083,113, 3-26-63, Cl. 106-254.
- Korff, Otto. Rotary piston internal combustion engine. 3,108,579, 10-29-63, Cl. 123-17.
- Korfund Dynamics Corp.: *See*—  
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- Korger, Gerhard: *See*—  
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- Haack, Erich, Hagedorn, Adolf, Ruschig, and Korger. 3,100,208.
- Korger, Gerhard, H. Wagner, W. Aumuller, and H. Ruschig, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. N-cyclohexane-sulphonyl-N'-(B-phenylethyl)-urea. 3,097,241, 7-9-63, Cl. 260-553.
- Korman, Bernard. Ornamental breast cup and method of making. 3,101,717, 8-27-63, Cl. 128-463.
- Korman, Jerome, to The Upjohn Co.  $\alpha,\alpha$ -bis(p-aminophenyl)-lower alkanones. 3,102,146, 8-27-63, Cl. 260-590.
- Korman, Samuel: *See*—  
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- Sheer, Charles, Korman, and Gibson. 3,101,308.
- Korn, Meyer. Highway traffic warning signal device. 3,113,551, 12-10-63, Cl. 116-63.
- Korn, Robert. Adjusting means for swing lever suspensions. 3,085,778, 4-16-63, Cl. 248-399.
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- Kornblith, John H. Accessory device for bathtubs. 3,112,714, 12-3-63, Cl. 108-27.
- Kornbluh, Abraham J., and E. L. Bruynning, to Transformers, Inc. Constant ratio transformers. 3,114,874, 12-17-63, Cl. 323-45.
- Kornbluth, Martin E., to American Seating Co. Numbered theater chair seats. 3,116,090, 12-31-63, Cl. 297-217.
- Körner, Erich. Spring-loaded cover mechanism for pyrophoric lighters. 3,083,555, 4-2-63, Cl. 67-71.
- Kornylak, Andrew T. Conveyor belt. 3,082,861, 3-26-63, Cl. 198-195.
- Kornylak, Andrew T. System for handling foamed plastic. 3,093,232, 6-11-63, Cl. 198-1.
- Koropatkin, Stephen, and M. W. Noble. Convertible and disposable picnic basket and table top device. 3,097,782, 7-16-63, Cl. 229-31.
- Korpmann, Ralf, to Johnson & Johnson. Tape employing an adhesive comprising an epoxy resin and a polymer having carboxylic groups. 3,100,160, 8-6-63, Cl. 117-122.
- Korr, Abraham L., to United States of America, Army. Systems for measuring moments of inertia. 3,106,091, 10-8-63, Cl. 73-65.
- Korrell, Melvin H., and R. Crehore, to Whirlpool Corp. Vacuum cleaner. 3,090,181, 5-21-63, Cl. 55-376.
- Korris Products, Inc.: *See*—  
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- Korsgren, Theodore Y., Jr.: *See*—  
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- Korsgren, Theodore Y., Sr., to Haydon Switch, Inc. Actuating means for a hermetically sealed switch or the like. 3,089,009, 5-7-63, Cl. 200-83.
- Korsgren, Theodore Y., Sr., and T. Y. Korsgren, Jr., to Haydon Switch, Inc. Switch and parts thereof. 3,105,887, 10-1-63, Cl. 200-67.
- Kort, Roman: *See*—  
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- Kort, Roman, to Symons Mfg. Co. Machine for cleaning and reconditioning concrete wall form panels. 3,083,388, 4-2-63, Cl. 15-93.
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- Korte, Alfred C., to ACF Industries, Inc. Carburetor. 3,105,861, 10-1-63, Cl. 261-72.
- Korte, Alfred C., and J. M. White, to ACF Industries, Inc. Fuel treatment device. 3,106,527, 10-8-63, Cl. 210-223.
- Korte, Friedrich W. A. G. K.: *See*—  
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- Korte, Friedrich W. A. G. K., and A. K. W. Zschocke, to Shell Oil Co. Process for the production of iridomyrmecin and related compounds. 3,089,877, 5-14-63, Cl. 260-343.2.
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- Koser, Arthur J. Rotary barbecue grill. 3,092,013, 6-4-63, Cl. 99-397.
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- Kosik, Sam J., Jr.: *See*—  
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- Kosin, Ruediger E.: *See*—  
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- Kosin, Ruediger E., and W. G. Stuart, to Northrop Corp. Variable thrust vectoring systems defining convergent nozzles. 3,081,597, 3-19-63, Cl. 60-35.54.
- Kosin, Ruediger E., and D. M. Heinze, to Northrop Corp. Deflecting means for jet aircraft and the like. 3,100,377, 8-13-63, Cl. 60-35.54.
- Koski, Eino A., and H. A. Wilmeth, to Kennecott Copper Corp. Cable-supported belt conveyor. 3,101,145, 8-20-63, Cl. 198-203.
- Koski, Oscar H., to United States of America, Atomic Energy Commission. Pulsed extraction column. 3,108,859, 10-29-63, Cl. 23-310.
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- Kosonocky, Walter F., and L. S. Onyshkevych, to Radio Corp. of America. Switching systems. 3,084,264, 4-2-63, Cl. 307-88.
- Kosonocky, Walter F., and L. S. Onyshkevych, to Radio Corp. of America. Readout circuit for parametric oscillator. 3,084,335, 4-2-63, Cl. 340-173.2.
- Koss, Adrian, to Hague Mfg. Co. Universal joint. 3,107,504, 10-22-63, Cl. 64-7.
- Koss, Adrian, to Hague Mfg. Co. Universal joint. 3,107,505, 10-22-63, Cl. 64-7.
- Koss, George S., and L. E. Ringger, to United States Steel Corp. Automatic control system for continuous strip mill. 3,111,046, 11-19-63, Cl. 80-56.
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- Kost, Nick. Shock absorbing fender. 3,096,116, 7-2-63, Cl. 293-85.



- Kostelec, Joze, and H. F. Nitka, to General Aniline & Film Corp. Electrophotographic element. 3,095,301, 6-25-63, Cl. 96-1.
- Kostelitz, Oscar, and G. Wettrich, to Pechiney Compagnie de Produits Chimiques et Electrometallurgiques. Stabilizer for styrene-acrylonitrile copolymers. 3,092,609, 6-4-63, Cl. 260-45.9.
- Kostenowczyk, Stanley, to The Singer Mfg. Co. Automatic lubrication for a feed-off-the-arm sewing machine. 3,081,723, 3-19-63, Cl. 12-256.
- Koster, Arthur H. Fluid level control system. 3,091,676, 5-28-63, Cl. 200-83.
- Koster, Frank, to Vogel Tool & Die Corp. Apparatus for notching the ends of tubing in the preparation of tubular assemblies. 3,073,195, 1-15-63, Cl. 83-191.
- Köster, Roland: *See*—  
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- Koster, Roland, to Studiengesellschaft Kohle m.b.H. Process for the exchange of hydrocarbon groups between aluminum and boron hydrocarbon compounds. 3,087,953, 4-30-63, Cl. 260-448.
- Köster, Roland, to Studiengesellschaft Kohle m.b.H. Improvements in the preparation of aluminum hydride containing materials. 3,092,648, 6-4-63, Cl. 260-448.
- Koster, Roland, to Studiengesellschaft Kohle m.b.H. Process for the production of alkali metal and alkaline earth metal borohydrides. 3,111,372, 11-19-63, Cl. 23-14.
- Köster, Roland, W. R. Kroll, and K. Ziegler; said Köster and said Kroll assors. to said Ziegler. Process for the production of aluminum trialkyls from dialkyl aluminum halides. 3,074,986, 1-22-63, Cl. 260-448.
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- Kostka, Charles. Combined ratchet and direct drive hand operated rotary tools. 3,099,177, 7-30-63, Cl. 81-63.2.
- Kostur, J. Edward. Machines for automatically skin packaging mechandise articles and for cutting into separate packages. Re. 25,466, 10-22-63, Cl. 53-112.
- Kostur, J. Edward. Automatic vacuum forming machine for plastics. Re. 25,484, 11-26-63, Cl. 18-19.
- Kostur, J. Edward. Device for expanding polystyrene in piece form. 3,073,036, 1-15-63, Cl. 34-57.
- Kostyrka, Alfred. Chuck. 3,076,662, 2-5-63, Cl. 279-4.
- Kostyun, Paul M., to United States of America, Navy. Counter rotating propeller drive. 3,087,553, 4-30-63, Cl. 170-135.28.
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- Kotarski, Lester R., and H. G. Boucher, to Wilmot Castle Co. Sterilizing apparatus. 3,093,449, 6-11-63, Cl. 21-94.
- Kotarsky, Joseph E., and G. A. Franks. Mine roof warning device. 3,111,655, 11-19-63, Cl. 340-213.
- Kotas, Donald E., to Minneapolis-Honeywell Regulator Co. Variable frequency telemetering apparatus. 3,071,759, 1-1-63, Cl. 340-206.
- Koteles, Stephen A., and C. J. Berg, to The Sherwin-Williams Co. Variable thickness wet film applicator. 3,114,165, 12-17-63, Cl. 15-236.
- Kothe, Ewald, to Coors Porcelain Co. Slurry diffusing machine. 3,073,531, 1-15-63, Cl. 239-223.
- Kotheimer, William C., to General Electric Co. Protective relay. 3,079,533, 2-26-63, Cl. 317-36.
- Kotkins, Henry L. Tray and pin cushion combination. 3,107,832, 10-22-63, Cl. 223-109.
- Kotlin, James J., and J. R. Ware, to General Motors Corp. Cylinder head for internal combustion engine. 3,081,755, 3-19-63, Cl. 123-41.77.
- Kotowick, Joseph L. Collapsible container. 3,115,291, 12-24-63, Cl. 229-41.
- Kotraba, Jack. Endless magnetic-type conveyor. 3,107,001, 10-15-63, Cl. 198-41.
- Kotte, Jan J., and E. Netten, to North American Philips Co. Inc. Film projector film gate. 3,074,310, 1-22-63, Cl. 88-17.
- Kottler, August: *See*—  
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Seeger, Ernst, and Kottler. 3,109,845.
- Köttner, Antonin. Conveyor assembly for conveying of carcasses to a cutting device. 3,078,811, 2-26-63, Cl. 104-72.
- Köttner, Antonin. Device for halving the bodies of slaughtered animals. 3,095,602, 7-2-63, Cl. 17-23.
- Koueiter, Michel N. High frequency cavity tuned by both telescoping sleeves and voltage variable diode means. 3,108,239, 10-22-63, Cl. 333-8.3.
- Koulievitch, Maurice, to Societe Genervoise d'Instruments de Physique. Dynamic coders. 3,089,133, 5-7-63, Cl. 340-347.
- Koump, Vladimir I. Autohelicopter. 3,096,953, 7-9-63, Cl. 244-17.19.
- Kounovsky, Edward F., and H. T. Lange, to Sporlan Valve Co., Inc. Thermostatic charge for motor system of expansion valve and method of charging. 3,091,120, 5-28-63, Cl. 73-368.2.
- Kouri, Joseph J. Self-sealing roll film. 3,099,560, 7-30-63, Cl. 96-78.
- Kourtz, Raymond E.: *See*—  
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- Koury, Anthony J.: *See*—  
Matuska, Stephen A., and Koury. 3,115,471.
- Koury, Frederic, to Sylvania Electric Products Inc. Electroluminescent device. 3,104,339, 9-17-63, Cl. 313-108.
- Koury, Frederic, to Sylvania Electric Products, Inc. Method for increasing the brightness of electroluminescent phosphors. 3,113,929, 12-10-63, Cl. 252-301.6.
- Koury, Frederic, to Sylvania Electric Products Inc. Indicia bearing device. 3,114,854, 12-17-63, Cl. 313-108.
- Koussoros, Petros: *See*—  
Pagny, Pierre, and Koussoros. 3,073,671.
- Koutnik, Roderick J., to Clary Corp. Vacuum pulsator. 3,077,207, 2-12-63, Cl. 137-622.
- Koutz, Stanley L.: *See*—  
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- Koutz, Stanley L., R. B. Duffield, R. B. Minogue, W. A. Compton, and H. R. Lynch, to General Dynamics Corp. Neutronic reactor. 3,072,549, 1-8-63, Cl. 204-193.2.
- Kouvel, James S.: *See*—  
Jacobs, Israel S., and Kouvel. 3,116,254.
- Kouvel, James S., to General Electric Co. Magnets. 3,116,182, 12-31-63, Cl. 148-31.57.
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- Kovach, John E., to Bergen Machine & Tool Co., Inc. Automatic off bearing equipment for block molding machine. 3,115,974, 12-31-63, Cl. 214-16.4.
- Kovach, Stephen M., to Sinclair Research, Inc. Alkylation of aromatics with azine oxide, chromium oxide, copper oxide, silica-alumina catalyst. 3,104,268, 9-17-63, Cl. 260-671.
- Kovacs, Theodor. Propelling pencil having an eraser adjustable therein by a screw action. 3,072,101, 1-8-63, Cl. 120-14.9.
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- Kovatch, Robert J., to Bethlehem Steel Co. Printing roll. 3,081,495, 3-19-63, Cl. 18-47.5.
- Kovo-Finis narodni podnik: *See*—  
Navara, Vaclav. 3,108,614.
- Kowal, Leonard J., to Imperial-Eastman Corp. Tube forming apparatus. 3,086,575, 4-23-63, Cl. 153-80.5.
- Kowaleski, Clarence, to Bell Telephone Laboratories, Inc. Encoding device. 3,075,759, 1-29-63, Cl. 269-48.
- Kowalewski, John J.: *See*—  
Anderson, Emil, and Kowalewski. 3,108,736.
- Kowalke, Herman M., Jr., and D. P. MacKay. Device for transporting rotary hoes. 3,094,233, 6-18-63, Cl. 214-394.
- Kowall, John T.: *See*—  
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- Kowallis, Otto K., to Tamar Electronics, Inc. Electric measuring system. 3,079,795, 3-5-63, Cl. 73-194.
- Kowalski, Alexander: *See*—  
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- Kowalski, Chester M., to Lyon Inc. Ejection means for draw presses. 3,085,531, 4-16-63, Cl. 113-50.
- Kowalski, Hans: *See*—  
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- Kozlowski, Robert H.: *See*—  
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- Koyasu, Takeo: *See*—  
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- Koyo Seiko Co., Ltd.: *See*—  
Ogura, Kanji. 3,113,814.
- Kozacka, Frederick J., to The Chase-Shawmut Co. Cartridge fuses. 3,080,463, 3-5-63, Cl. 200-120.
- Kozacka, Frederick J., to The Chase-Shawmut Co. Electric fuse having improved cap link connection. 3,094,600, 6-18-63, Cl. 200-132.
- Kozacka, Frederick J., to The Chase-Shawmut Co. Fuse structures for elevated circuit voltages. 3,113,195, 12-3-63, Cl. 200-131.
- Kozak, John, and L. D. Soubier, to Kimble Glass Co. Apparatus for extruding glass. 3,078,695, 2-26-63, Cl. 65-183.
- Kozicki Henry J., to Ford Motor Co. Interconnected torsion bar suspension. 3,086,793, 4-23-63, Cl. 280-104.
- Kozicki, Henry J., to Ford Motor Co. Motor vehicle suspension. 3,089,689, 5-14-63, Cl. 267-11.
- Kozicki, Henry J., to Ford Motor Co. Torsion bar mounting construction. 3,104,097, 9-17-63, Cl. 267-57.
- Kozikowski, Edward S. First aid kit. 3,088,584, 5-7-63, Cl. 206-12.
- Kozinski, Joseph, to H. G. Fischer & Co. Electric resistor. 3,105,218, 9-24-63, Cl. 338-214.
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- Kozlik, Robert F., to General Mills, Inc. Brown sugar flavor concentrate and method of making the same. 3,093,484, 6-11-63, Cl. 99-141.
- Kozlik, Roland A., and C. J. Novak, to The International Nickel Co., Inc. Unfired pressure vessel. 3,107,997, 10-22-63, Cl. 75-124.



- Kozlowski, Edward C., and F. W. Winton, to The Warner Brothers Co. Receptacle and handle therefor. 3,104,796, 9-24-63, Cl. 229-52.
- Kozlowski, Henry: *See*—  
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- Kozlowski, Robert H.: *See*—  
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Paterson, Norman J., Kozlowski, and Scott. 3,072,560.
- Kozlowski, Robert H., H. F. Mason, and J. W. Scott, Jr., to California Research Corp. Low temperature hydrocracking process. 3,092,567, 6-4-63, Cl. 208-57.
- Kozma, Joseph A.: *See*—  
Rearwin, Earle W. 3,077,015.
- Kozma, Joseph A., Jr.: *See*—  
Rearwin, Earle W. 3,077,015.
- Kozul, Theodore L. Protective device for radar receiving apparatus including crystal diode detector means. 3,092,781, 6-4-63, Cl. 329-162.
- Krabacher, Bernard R.: *See*—  
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- Krabbe, Erik, and K. W. Wendt, to Miller Brewing Co. Process in the manufacture of beer and the like. 3,071,469, 1-1-63, Cl. 99-48.
- Kraeling, John B., to Drafto Corp. Traveling block weighing device. 3,095,057, 6-25-63, Cl. 177-147.
- Kraemer, Robert E., and J. T. Kowall, to Ford Motor Co. Independent bogie suspension. 3,077,942, 2-19-63, Cl. 180-22.
- Kraft, Frederick G., to The Thompson Grinder Co. Feeding method and apparatus. 3,087,286, 4-30-63, Cl. 51-165.
- Kraft, Frederick G., and W. Ernst, to Thompson Grinder Co. Hydraulic servo system. 3,083,535, 4-2-63, Cl. 60-52.
- Kraft, Alfred, and E. Kämpf. Dual characteristic additive feeding system. 3,096,779, 7-9-63, Cl. 137-101.19.
- Kraft, Arthur A., to Cleveland Controls, Inc. Steam boiler combustion control unit. 3,096,020, 7-2-63, Cl. 236-14.
- Kraft, Derald H., and D. W. Hitchings, to E. W. Bliss Co. Die clamp. 3,111,895, 11-26-63, Cl. 100-295.
- Kraft, Donald L., and E. C. Beason, Jr., to Phillips Petroleum Co. Knife sealer for thermoplastic film or sheet. 3,083,757, 4-2-63, Cl. 156-515.
- Kraft, Frank J.: *See*—  
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- Kraft, George H.: *See*—  
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- Kraft, George H., to National Dairy Products Corp. Packaging method and apparatus. 3,090,174, 5-21-63, Cl. 53-22.
- Kraft, George H., and H. G. Podlesak, to National Dairy Products Corp. Cheese package. 3,080,238, 3-5-63, Cl. 99-178.
- Kraft, Gerald A.: *See*—  
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- Kraft, Hans-Gunther: *See*—  
Schulte, Karl, Muller, and Kraft. 3,100,205.
- Kraft, Harold D., and J. A. Kraft. Timing device. 3,090,192, 5-21-63, Cl. 58-39.5.
- Kraft, Helmut: *See*—  
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- Kraft, Herman T., to The General Tire & Rubber Co. Pneumatic tire. 3,108,628, 10-29-63, Cl. 152-354.
- Kraft, Jack A.: *See*—  
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- Kraft, Martin: *See*—  
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- Kraft, William M., and J. Weisfeld, to Heyden Newport Chemical Corp. Polyepoxide resin compositions. 3,073,786, 1-15-63, Cl. 260-2.
- Kraftanlagen AG.: *See*—  
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- Kraftson, Harry A., to Leeds and Northrup Co. Gas sampling probe. 3,107,535, 10-22-63, Cl. 73-421.5.
- Kragle, Ralph J., to Thompson Ramo Wooldridge Inc. Failure indicating circuit for slave driven unit. 3,097,333, 7-9-63, Cl. 318-467.
- Krahler, Stanley E., to E. I. du Pont de Nemours and Co. Improved process for preparing resilient isocyanate foams. 3,073,787, 1-15-63, Cl. 260-2.5.
- Krajewski, Ignacy: *See*—  
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- Krakauer, Edwin G., to Kay Mfg. Corp. Sinuous wire spring. 3,096,086, 7-2-63, Cl. 267-103.
- Krakauer, Merrill: *See*—  
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- Krakauer, Merrill, and P. Katz, to Rowe Mfg. Co., Inc. Console cigarette merchandising machine. 3,074,593, 1-22-63, Cl. 221-13.
- Krakauer, Merrill, and W. L. Koch, to Rowe Mfg. Co., Inc. Illuminated display assembly. 3,093,918, 6-18-63, Cl. 40-126.
- Krakauer, Merrill, and H. E. Verbeke, to Rowe Mfg. Co., Inc. Coin-released locking mechanism. 3,107,000, 10-15-63, Cl. 194-2.
- Kraker, George P.: *See*—  
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- Kral, Leonard: *See*—  
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- Kralovopolska Šrojárna, zavody Chemických zařízení, parodni podnik: *See*—  
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- Kralowetz, Bruno. Hydraulic positioning system for gripping heads of forging machines. 3,091,140, 5-28-63, Cl. 78-99.
- Kralowetz, Bruno. Forging machine. 3,098,402, 7-23-63, Cl. 78-20.
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- Kraly, John. Tire repair insert. 3,095,342, 6-25-63, Cl. 156-97.
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- Kramcsak, Michael, Jr.: *See*—  
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- Kramcsak, Michael, Jr., to The Bassick Co. Caster glide. 3,080,601, 3-12-63, Cl. 16-42.
- Kramer, Anton: *See*—  
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- Kramer, Charles E.: *See*—  
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- Kramer, Clarence F., to Ford Motor Co. Vehicle body and door header sealing means. 3,083,048, 3-26-63, Cl. 296-44.
- Kramer, Clarence F., to Ford Motor Co. Door handle assembly. 3,113,798, 12-10-63, Cl. 292-336.3.
- Kramer, Don A., to Motorola, Inc. Noise cut-off of AGC and sync-separator tubes. 3,109,061, 10-29-63, Cl. 178-7.3.
- Kramer, H., and Co.: *See*—  
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- Kramer, Hans: *See*—  
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- Kramer, Hans B. A., G. Messwarb, and W. Denk, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Polymers containing phosphorus. 3,105,064, 9-24-63, Cl. 260-80.
- Kramer, Helmut: *See*—  
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- Kramer, Hyman. Web-to-tube fastenings. 3,092,176, 6-4-63, Cl. 160-404.
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- Kramer, Hyman. Metal-frame furniture manufacture. 3,105,237, 10-1-63, Cl. 1-3.
- Kramer, Jack, to Van Camp Sea Food Co. Method for preparing fish. 3,082,094, 3-19-63, Cl. 99-111.
- Kramer, Johannes: *See*—  
Le Poole, Jan B., and Kramer. 3,078,368.
- Kramer, Leo, to Ingersoll-Rand Co. Pump or motor shaft and rotor coupling means. 3,113,527, 12-10-63, Cl. 103-136.
- Kramer, Max J., to Aluminum Co. of America. Ground circuit supervisory system. 3,086,999, 4-23-63, Cl. 13-24.
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- Kramer, Theodore A., M. A. Leavitt, and A. Thom, to Telautograph Corp. Continuously slipping magnetic clutch. 3,092,984, 6-11-63, Cl. 64-30.
- Kramer, Virgil F.: *See*—  
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- Kramer, Walter E.: *See*—  
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- Kramish, Arnold. Self-propelled nuclear radiometer. 3,110,811, 11-12-63, Cl. 250-106.
- Krammer, Robert: *See*—  
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- Krampf, Charles E., and J. H. Luther, to Aerovox Corp. Capacitor assembly machine. 3,087,229, 4-30-63, Cl. 29-25.42.
- Kranak, John A. Apparatus for holding stone for facing. 3,086,510, 4-23-63, Cl. 125-35.
- Krane, Herbert G., and W. H. Brader, Jr., to Standard Oil Co. Production of high octane gasoline. 3,085,972, 4-16-63, Cl. 208-99.
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- Kranty, H., Firma: *See*—  
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- Krantz, Curtis R. Carpet anchoring device and cover therefor. 3,086,262, 4-23-63, Cl. 20-74.
- Krantz, Evert, to Svenska Flakfabriken, Aktiebolaget. Distribution channel for supplying washing liquid. 3,112,352, 11-26-63, Cl. 261-36.
- Krantz, H., Sohne: *See*—  
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- Kranz, Frederick H., to Allied Chemical Corp. Pressure sensitive sheet record material and method of making. 3,079,271, 2-26-63, Cl. 117-36.7.
- Kranz, Frederick H., and F. L. Tewksbury, Jr., to Allied Chemical Corp. Duplicating sheet and colored coating compositions therefor. 3,096,189, 7-2-63, Cl. 106-236.
- Kranz, Joachim: *See*—  
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- Krapcho, John, to Olin Mathieson Chemical Corp. Benzothiazines. 3,075,967, 1-29-63, Cl. 260—239.3.
- Krapcho, John, to Olin Mathieson Chemical Corp. Benzothiazepines. 3,075,968, 1-29-63, Cl. 260—239.3.
- Krapcho, John, to Olin Mathieson Chemical Corp. Benzothiazine and benzothiazepine compounds. 3,089,872, 5-14-63, Cl. 260—239.3.
- Krapf, George H., to United States Steel Corp. Apparatus for heating blast furnace stoves. 3,082,995, 3-26-63, Cl. 263—19.
- Kraschinsky, Theodore, Jr.: *See*—  
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- Krasin, Lester Q., to Lenkurt Electric Co., Inc. Carrier telephone systems. 3,116,371, 12-31-63, Cl. 179—15.
- Krasinski, Walter F.: *See*—  
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- Krasnabira, William. Apparatus for detecting engine failure. 3,097,352, 7-9-63, Cl. 340—236.
- Krasne, Henry. Feather duster. 3,095,593, 7-2-63, Cl. 15—234.
- Krasnoff, Gilbert: *See*—  
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- Krasnoff, William and G. Animated toy tooth paste container. 3,105,612, 10-1-63, Cl. 222—78.
- Krasnow, Shelley. Converters and circuits for high frequency fluorescent lighting. 3,083,311, 3-26-63, Cl. 310—156.
- Krasny, John F., to American Enka Corp. Process for finishing rayon fabrics. 3,082,122, 3-19-63, Cl. 117—145.
- Kratt, Henry J., to The Plastic Contact Lens Co. Toric lens tool. 3,079,736, 3-5-63, Cl. 51—217.
- Kratt, Henry J., to The Plastic Contact Lens Co. Lens edging tool. 3,087,284, 4-30-63, Cl. 51—90.
- Kratt, Henry J., to The Plastic Contact Lens Co. Apparatus for producing contact lenses. 3,100,955, 8-20-63, Cl. 51—217.
- Kratt, Henry J., and L. Bronstein, to The Plastic Contact Lens Co. Toric lens tool. 3,079,737, 3-5-63, Cl. 51—217.
- Kratz, Ernst: *See*—  
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- Kratz, Howard R., to United States of America, Atomic Energy Commission. Method of fabricating a graphite-moderated reactor. 3,088,890, 5-7-63, Cl. 204—154.2.
- Kratzer, Carole: *See*—  
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- Kraus, Charles E., to Excelermatic, Inc. Variable speed-ratio toroidal transmission. 3,087,348, 4-30-63, Cl. 74—200.
- Kraus, Gerard, to Phillips Petroleum Co. Reinforcement of rubber with irradiated carbon black. 3,093,561, 6-11-63, Cl. 204—154.
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- Kraus, Paul W. Lithographic composing frame. 3,081,551, 3-19-63, Cl. 33—184.5.
- Kraus, Philip B., to E. I. du Pont de Nemours and Co. Melting furnace. 3,107,268, 10-15-63, Cl. 13—26.
- Kraus, Thaddeus J., to Balzers Patent-und Lizenz-Anstalt. High-vacuum plants. 3,088,219, 5-7-63, Cl. 34—15.
- Krause, Albert. Twin screw power motor boat and transmission control. 3,112,728, 12-3-63, Cl. 115—37.
- Krause, Charles E., to Bell Telephone Laboratories, Inc. Pulse resolution circuit with gated delay means and flip-flop providing selective separation between random inputs. 3,112,450, 11-26-63, Cl. 328—109.
- Krause, David E., to J. I. Case Co. Agricultural implement. 3,114,995, 12-24-63, Cl. 56—1.
- Krause, Georges, and R. F. Hubscher, to Georg Fischer, AG. Method of and device for stabilizing crank axles with pneumatic cushioning. 3,085,817, 4-16-63, Cl. 280—124.
- Krause, Herbert, to Chicago Forging and Mfg. Co. Automobile hood latch housing. 3,081,118, 3-12-63, Cl. 292—226.
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- Krause, Herbert, to Chicago Forging and Mfg. Co. Cammed hinge. 3,113,339, 12-10-63, Cl. 16—128.1.
- Krause, Horst-Jürgen: *See*—  
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- Krause, Jack H.: *See*—  
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- Krause, James N., to The Anaconda Aluminum Co. Food package. 3,113,873, 12-10-63, Cl. 99—171.
- Krause, Richard T.: *See*—  
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- Krause, Richard T., H. B. Kalmár, and F. A. Kukla, to Malco Mfg. Co. Method of making a terminal. 3,071,844, 1-8-63, Cl. 29—155.55.
- Krauss, Fred A., to United Mfg. Co. Over steering assembly for towed vehicles. 3,108,821, 10-29-63, Cl. 280—103.
- Krauss, Kurt, and H. Diekmann, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process for the production of high percentage nitric oxide. 3,110,563, 11-12-63, Cl. 23—162.
- Krauss-Maffei Aktiengesellschaft: *See*—  
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- Kraut, Max, to Western Machinery Co. Method and apparatus for concentration of ores. 3,087,619, 4-30-63, Cl. 209—456.
- Krauthelm, Leonard: *See*—  
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- Krautkramer, Adam. Container. 3,088,617, 5-7-63, Cl. 215—42.
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- Krautwurst, Homer V., to General Motors Corp. Brake lever. 3,109,320, 11-5-63, Cl. 74—529.
- Kraver, Barnett L. Automobile hood lock. 3,115,764, 12-31-63, Cl. 70—240.
- Kravig, Robert S., and A. E. Johnson, to Minnesota Mining and Mfg. Co. Decorative bows. 3,112,240, 11-23-63, Cl. 161—10.
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- Kray, Raymond J.: *See*—  
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- Kray, Raymond J., and C. A. De Fazio, to Celanese Corp. of America. Terpolymer latex of an unsaturated ester of a fatty acid, ethyl acrylate, and another acrylic ester or a vinyl aromatic monomer. 3,080,333, 3-5-63, Cl. 260—29.6.
- Kray, Raymond J., and C. A. De Fazio, to Celanese Corp. of America. Copolymers of trioxane and vinyl ethers. 3,087,913, 4-30-63, Cl. 260—73.
- Kraychy, Stephen, to G. D. Searle & Co. 12-carboxyethyl-12-hydroxypropylene-4-ene-3,20-dione lactone and intermediates. 3,079,386, 2-26-63, Cl. 260—239.57.
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- Krebs, Henry, to General Motors Corp. Vibration damper. 3,075,405, 1-29-63, Cl. 74—574.
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- Kreger, John, Jr. Stirrup and adjustable suspension means therefor. 3,096,552, 7-9-63, Cl. 24—166.
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- Kreider, Peter A. Automobile trash disposal system. 3,081,937, 3-19-63, Cl. 282—43.2.
- Kreidler's Metall- und Drahtwerke G.m.b.H.: *See*—  
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- Kreimendahl, William J., to West Virginia Pulp and Paper Co. Carton folding machine. 3,115,073, 12-24-63, Cl. 93—51.
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- Kreisky, Kurt E. G. Hurtz, and H. Froeben, to Atlas Equipment (London) Ltd. Dough stamping machine. 3,071,087, 1-1-63, Cl. 107—15.
- Kreithen, Alexander, and R. W. Bragg, to The Ohio Citizens Trust Co., trustee. Magazine loading magnetic tape recorder-reproducers. 3,080,101, 3-5-63, Cl. 226—174.
- Krejci, Joseph C., to Phillips Petroleum Co. Production of carbon black. 3,103,418, 9-10-63, Cl. 23—209.4.
- Krekel, Richard W., to Dadant & Son, Inc. Comb foundation. 3,105,978, 10-8-63, Cl. 6—11.
- Krekeler, Claude B., to The Cincinnati Mine Machinery Co. Cutter chain joint. 3,086,404, 4-23-63, Cl. 74—254.
- Krekeler, Claude B., to The Cincinnati Mine Machinery Co. Resilient controlling means. 3,088,721, 5-7-63, Cl. 262—33.
- Krekeler, Claude B., to The Cincinnati Mine Machinery Co. Resilient engagement device. 3,092,374, 6-4-63, Cl. 262—33.
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- Krekeler, Claude B., to The Cincinnati Mine Machinery Co. Cutter bit and socket construction. 3,101,933, 8-27-63, Cl. 262-33.
- Krekeler, Claude B., to The Cincinnati Mine Machinery Co. Cutter bit to be used with resilient retaining member. 3,114,537, 12-17-63, Cl. 262-33.
- Krembel, Frank Jr., to Columbia Marking Tools, Inc. Marking tool. 3,111,997, 11-26-63, Cl. 121-11.
- Kremen, Seymour S., and R. L. Southwood, to Leather Research Corp. Apparatus for treating animal hides. 3,099,149, 7-30-63, Cl. 69-32.
- Kremer, Charles J., Jr. Liquid wiper packings for reciprocating rods. 3,076,659, 2-5-63, Cl. 277-192.
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- Kremp, Rudolf, P. Frost, and F. Hennig, to Agfa Aktiengesellschaft. Diaphragm assembly for photographic cameras. 3,084,605, 4-9-63, Cl. 95-10.
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- Kreps, John F. Flat tire indicator. 3,072,759, 1-8-63, Cl. 200-61.24.
- Kreps, Saul I., to Van Dyk & Co., Inc. Cosmetic compositions containing lactic acid esters of fatty alcohols. 3,098,795, 7-23-63, Cl. 167-90.
- Kresel, Anton S., to M. A. Kresel. Toilet bowl plug. 3,105,975, 10-8-63, Cl. 4-257.
- Kresel, Mary A. : See—  
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- Kresge, Alfred N., W. A. Pardee, and J. V. Ward, to Gulf Research & Development Co. Process for removing acetylenic hydrocarbon impurity. 3,105,858, 10-1-63, Cl. 260-681.5.
- Krespan, Carl G., to E. I. du Pont de Nemours and Co. Fluorinated cyclic sulfides and their preparation. 3,073,844, 1-15-63, Cl. 260-327.
- Krespan, Carl G., to E. I. du Pont de Nemours and Co. Tetrafluoroethylene-sulfur monomeric and polymeric compounds. 3,088,935, 5-7-63, Cl. 260-79.
- Krespan, Carl G., to E. I. du Pont de Nemours and Co. Polyfluorinated 1,4-dithiol compounds and the process of preparation. 3,096,342, 7-2-63, Cl. 260-327.
- Krespan, Carl G., to E. I. du Pont de Nemours and Co. Fluorinated sulfonyl halides and disulfur halides. 3,099,688, 7-30-63, Cl. 260-543.
- Krespan, Carl G., to E. I. du Pont de Nemours and Co. Selected 2-oxazolines and 2-thiazolines and their preparation. 3,108,114, 10-22-63, Cl. 260-306.7.
- Kress, George H., and W. A. Menn, to General Precision, Inc. Reel mounting assembly. 3,099,415, 7-30-63, Cl. 242-68.3.
- Kress, Ralph H., to LeTourneau-Westinghouse Co. Trailer dumping vehicle. 3,076,680, 2-5-63, Cl. 298-35.
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- Krett, Orest J., and S. L. Gennuso, to National Dairy Products Corp. Salad dressing. 3,093,486, 6-11-63, Cl. 99-144.
- Kretzmer, Ernest R., to Bell Telephone Laboratories, Inc. Information storage arrangement. 3,098,996, 7-23-63, Cl. 340-173.
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- Kretzmer, Minor G., Jr., to The A. C. Gilbert Co. Overcontrol preventer for miniature captive airplanes. 3,110,126, 11-12-63, Cl. 46-77.
- Kretzschmar, Frederick, to Ward Leonard Electric Co. Permanent magnet blowout for a contactor. 3,090,854, 5-21-63, Cl. 200-147.
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- Kreznoski, Joseph Z., to Barnes-Hind Laboratories, Inc. Dispensing package. 3,086,647, 4-23-63, Cl. 206-56.
- Krezeck, Donald, to Basic Products Corp. Shunt control circuit for controlling waveform. 3,089,965, 5-14-63, Cl. 307-88.5.
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- Krinov, Stanley, to Pittsburgh Plate Glass Co. Method of preparing glass batch ingredients. 3,081,180, 3-12-63, Cl. 106-52.
- Krinov, Stanley, to Pittsburgh Plate Glass Co. Pigment process. 3,108,892, 10-29-63, Cl. 106-309.
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- Kripke, Joseph B., and D. W. Turner, to General Motors Corp. Magnetically operated rotary motion detector. 3,108,163, 10-22-63, Cl. 200-61.46.
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- Kritchever, Mathew F., to E. I. du Pont de Nemours and Co. Plastic tube forming method. 3,085,293, 4-16-63, Cl. 18-57.
- Kritz, Jack, to American Bosch Arma Corp. High efficiency sonic generator. 3,085,167, 4-9-63, Cl. 310-9.1.
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- Kritz, Orville H. Light assembly. 3,085,151, 4-9-63, Cl. 240-46.31.
- Kritzer, Richard W. Fin stock feeding apparatus. 3,073,461, 1-15-63, Cl. 214-7.
- Kritzer, Richard W. Apparatus for purifying air in inhabitable or product-containing enclosures. 3,100,679, 8-13-63, Cl. 21-74.
- Kritzer, Richard W. Automatic apparatus for loading an assembly nest with fin strips in the production of heat exchange units. 3,114,963, 12-24-63, Cl. 29-202.
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- Krizman, Steve. Ball joint assembly for wheel suspension. 3,074,736, 1-22-63, Cl. 280—96.1.
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- Krizman, Steve, to Krizman Mfg. Co., Inc. Automobile idler arm construction. 3,111,334, 11-19-63, Cl. 280—95.
- Krober, Klaus. Tone arm for phonographs. 3,078,100, 2-19-63, Cl. 274—23.
- Krochta, Harry, to The Ducon Co., Inc. Gas scrubber. 3,093,468, 6-11-63, Cl. 55—238.
- Krodel, Leander J., to General Motors Corp. Cylinder liner bore gauge. 3,090,125, 5-21-63, Cl. 33—143.
- Kroeckel, Alfred J., to Viber Co. Laminated air turbine rotor and method of making the same. 3,074,151, 1-22-63, Cl. 29—156.8.
- Kroeckel, Rolf H. W., to Sealol Corp. Rotary shaft seal. 3,082,011, 3-19-63, Cl. 277—26.
- Kroeckel, Rolf H. W., to Sealol, Inc. Laminated metallic bellows. 3,090,403, 5-21-63, Cl. 137—793.
- Kroeper, Hugo, W. Fuchs, and R. Platz, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Continuous production of phthalodinitriles. 3,076,014, 1-29-63, Cl. 260—465.
- Kroeper, Hugo, and R. Platz, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process and apparatus for the catalytic cracking of hydrocarbons. 3,082,165, 3-19-63, Cl. 208—120.
- Kroff, Eugene, to Peterson Filters and Engineering Co. Drum filter. 3,113,926, 12-10-63, Cl. 210—391.
- Kroffke, Kenneth K., to Airmatic valve, Inc. Pressure relief valve. 3,099,997, 8-6-63, Cl. 137—493.8.
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- Krogh, Lester C., to Minnesota Mining and Mfg. Co. Method of splicing coated flexible films and product thereof. 3,074,789, 1-22-63, Cl. 51—293.
- Krogman, Alfred W. Filter. 3,095,370, 6-25-63, Cl. 210—133.
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- Krohm, Fred A., to The Anderson Co. Windshield wiper blade assembly. 3,083,395, 4-2-63, Cl. 15—250.42.
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- Krohn, Earl H., to Krohn-Hite Laboratories, Inc. Power amplifier. 3,092,783, 6-4-63, Cl. 330—98.
- Krohn, Fred W., to Walter Machine and Screw Co. Industrial type reel and balancer. 3,093,342, 6-11-63, Cl. 242—107.5.
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- Kroko, Leonard J., to Link-Belt Co. Silicon rectifier assembly comprising a heat conductive mounting base. 3,116,442, 12-31-63, Cl. 317—234.
- Krol, Harry J., and L. C. Hoy, to Indak Mfg. Corp. Multiple position rotary switch. 3,110,774, 11-12-63, Cl. 200—11.
- Kroll, Cornelius and N. M., to Speed Park, Inc. Transferring apparatus. 3,071,016, 1-1-63, Cl. 74—102.
- Kroll, Cornelius and N. M., to Speed Park, Inc. Drive mechanism. 3,087,346, 4-30-63, Cl. 74—102.
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- Kron, Saul. Golf game. 3,082,005, 3-19-63, Cl. 273—181.
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- Kronenberg, Marvin, and J. K. Moore, to Columbia Broadcasting System, Inc. Character generator apparatus. 3,109,166, 10-29-63, Cl. 340—324.
- Kronheim, John H., to Kidde Mfg. Co., Inc. Apparatus for handling fluid under pressure. 3,085,599, 4-16-63, Cl. 141—18.
- Kronig, Walter, A. Meckelburg, G. Scharfe, B. Schleppinghoff, and W. Schmidt, to Farbenfabriken Bayer Aktiengesellschaft. Process for the selective hydrogenation of hydrocarbon mixtures. 3,075,917, 1-29-63, Cl. 208—255.
- Kronig, Walter, W. Bayer, H.-J. Wahl, and L. Bacher, to Farbenfabriken Bayer Aktiengesellschaft. Fittings for a fluidized bed reactor. 3,099,538, 7-30-63, Cl. 23—288.
- Kroning, Robert D., and J. Orost, to Bell Telephone Laboratories, Inc. Intercepting trunk circuit. 3,090,835, 5-21-63, Cl. 179—6.
- Kroninger, Nolan R., to United States of America, Navy. Multi-speed servo system crossover network. 3,093,777, 6-11-63, Cl. 318—30.
- Kronoff, Clarence R., to Crompton & Knowles Corp. Shuttle checking means for loom. 3,096,794, 7-9-63, Cl. 139—185.
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- Kronstein, Alexandre. Tire. 3,084,732, 4-9-63, Cl. 152—212.
- Kroon, James L., and R. D. Blue, to The Dow Chemical Co. Electrolytic preparation of sodium. 3,072,544, 1-8-63, Cl. 204—68.
- Kropa, Edward L., to W. R. Grace & Co. Solid-phase polymerization process of methacrylate monomers, catalyzed by aluminum triethyl. 3,094,513, 6-18-63, Cl. 260—89.5.
- Kropa, Edward L., to W. R. Grace & Co. Polymerization of methyl methacrylate using catalyst combination of tri-alkyl aluminum and pyromellitocyanine. 3,114,740, 12-17-63, Cl. 260—89.5.
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- Kropp Forge Co.: *See*—  
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- Kropp, Willis A.: *See*—  
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- Krotz, Alvin S., to Dexter Axle Co., Inc. Automatic trailer brake system. 3,109,521, 11-5-63, Cl. 188—112.
- Krousch, Edward G.: *See*—  
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- Krouse, John P.: *See*—  
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- Krouse, John P., to Ingersoll-Rand Co. Pilot valve control reverse valve. 3,093,360, 6-11-63, Cl. 253—2.
- Krowley, Cass. Hair curling rod. 3,113,578, 12-10-63, Cl. 132—40.
- Kroyer, Karl K. K. Road construction materials. 3,073,708, 1-15-63, Cl. 106—52.
- Kruck, Ralph E., to Metal Fabrications, Inc. Spray devices. 3,107,826, 10-22-63, Cl. 222—394.
- Kruckenber, Perry L., to McCulloch Corp. Two-cycle cross-flow internal combustion engine with fuel injection. 3,074,388, 1-22-63, Cl. 123—32.
- Krueger, Alfred P., to Minnesota Mining and Mfg. Co. Dispenser for tape having paper backing. 3,077,919, 2-19-63, Cl. 156—584.
- Krueger, Alfred P., to Minnesota Mining and Mfg. Co. Tape dispensers. 3,102,670, 9-3-63, Cl. 225—43.
- Krueger, Arthur C., to Tri-Tix, Inc. Road line markers. 3,103,457, 10-1-63, Cl. 116—63.
- Krueger, Clarence L.: *See*—  
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- Krueger, Harvey: *See*—  
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- Krueger, Henry A., to Central Coil Co., Inc. Mechanical mileage recorder. 3,109,251, 11-5-63, Cl. 40—68.
- Krueger, James R. Water softeners. 3,109,810, 11-5-63, Cl. 210—138.
- Krueger, James S. Filter construction. 3,083,157, 3-26-63, Cl. 210—505.
- Krueger, Loren L., to Minneapolis-Honeywell Regulator Co. Defrost control apparatus. 3,097,502, 7-16-63, Cl. 62—156.
- Krueger, Oscar E., to Continental Freezers of Illinois, Division of F. H. Prince & Co., Inc. Portable conveyer path. 3,081,857, 3-19-63, Cl. 193—35.
- Krueger, Robert C., to Pittsburgh Plate Glass Co. Resinous compositions comprising a styrene polymer and an aldehyde modified interpolymer of an acid amide and a vinyl monomer and articles coated therewith. 3,108,088, 10-22-63, Cl. 260—45.2.
- Krueger, Roland F., to Union Oil Co. of California. Apparatus for underground retorting. 3,113,623, 12-10-63, Cl. 166—59.



- Krueger, Roland F., and G. P. Maly, to Union Oil Co. of California. Subterranean well treatments using a vibrational field. 3,113,621, 12-10-63, Cl. 166—20.
- Krueger, Stanley E., to U.S. Industries, Inc. Stocking stretch measuring machine. 3,099,152, 7-30-63, Cl. 73—95.
- Krueger, Theodore H. Box size controlled tape dispenser. 3,076,587, 2-5-63, Cl. 226—135.
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- Kruesi, Paul R.: *See—*  
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- Kruesi, Paul R., to Vitro Corp. of America. Concentration of rare earths. 3,089,758, 5-14-63, Cl. 23—296.
- Krug, Herbert A.: *See—*  
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- Krug, Herbert A. Thread removing apparatus. 3,105,284, 10-1-63, Cl. 26—11.
- Krug, John E., and E. F. Hubacker, to Whirlpool Corp. Home appliance. 3,103,109, 9-10-63, Cl. 62—419.
- Krug, Martin, and H. W. Theobald. Supporting means and method for toothbrushes and the like. 3,109,619, 11-5-63, Cl. 248—360.
- Krug, Robert H.: *See—*  
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- Krug, William H.: *See—*  
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- Krug, William H., to Gibbs Mfg. & Research Corp. Percussion system for an electronic musical instrument. 3,073,204, 1-15-63, Cl. 84—126.
- Krüger, Cornelius J., to himself and South African Iron and Steel Industries Corp. Ltd. Method and means for producing holes in metallic members. 3,111,977, 11-26-63, Cl. 153—2.
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- Krüger, Fritz, F. Mainz, and G. Rodloff, to Libbey-Owens-Ford Glass Co. Apparatus for the production of welded double glass sheets. 3,103,429, 9-10-63, Cl. 65—152.
- Kruger, Herbert W., to Lamb-Weston, Inc. Micro-pressurometer. 3,115,773, 12-31-63, Cl. 73—141.
- Kruger, James B., and R. L. Roddeau, to Philip Morris, Inc. Adjustable injector razor. 3,111,756, 11-26-63, Cl. 30—63.
- Kruger, Michael H., to Smithcraft Corp. Ceiling illuminating system. 3,094,285, 6-18-63, Cl. 240—9.
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- Kruger, Rine, Jr., to General Motors Corp. Production of filled polyolefin molding compound and the molding of articles therefrom. 3,092,438, 6-4-63, Cl. 18—47.5.
- Kruihof, Anton M.: *See—*  
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- Krukziener, Maurits, to Shell Oil Co. Nitro-aromatic telomers and oils containing them. 3,116,250, 12-31-63, Cl. 252—51.5.
- Krull, Ruth M. Corrugated paper hair curler. 3,108,604, 10-29-63, Cl. 132—39.
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- Bril, Kazimierz J., and Krumholz. 3,104,940.
- Gotdenker, Friedrich, and Krumholz. 3,111,375.
- Krumholz, Pawel. Process for separating cerium from trivalent rare earths. 3,112,990, 12-3-63, Cl. 23—14.5.
- Krumme, David F., Jr.: *See—*  
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- Krup, Donald E., to The Fred Mills Corp. Soup or beverage dispenser. 3,105,616, 10-1-63, Cl. 222—129.2.
- Krupp, Carroll P., to The B. F. Goodrich Co. Method of making filament-wound pressure vessels. 3,112,234, 11-26-63, Cl. 156—169.
- Krupp, Carroll P., and C. H. Wenger, to The B. F. Goodrich Co. Container winding apparatus. 3,104,839, 9-24-63, Cl. 242—2.
- Krupp, Frederick W., to Gudebrod Brothers Silk Co., Inc. Dental floss package. 3,094,209, 6-18-63, Cl. 206—63.5.
- Krupp, Robert F., to Gerber Products Co. Driving mechanism for driving a plurality of machines in synchronism and in phase. 3,087,353, 4-30-63, Cl. 74—665.
- Krupp, Robert F., and J. K. Wagner, to Gerber Products Co. Angular feed carton flap opening machine. 3,075,332, 1-29-63, Cl. 53—382.
- Krupp, Robert F., and J. K. Wagner, to Gerber Products Co. Pallet construction for case unloading machine. 3,086,668, 4-23-63, Cl. 214—309.
- Kruppa, William J., to American Cyanamid Co. Carbonization of coal. 3,094,467, 6-18-63, Cl. 202—22.
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- Kruse, Carl W., and R. F. Kleinschmidt, to Phillips Petroleum Co. Amines and unsaturated ketones from tertiary acetylenic amines. 3,094,563, 6-18-63, Cl. 260—583.
- Kruse, Georg: *See—*  
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- Kruse, Harold L.: *See—*  
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- Kruse, Jurgen M., to E. I. du Pont de Nemours & Co. Process for the selective recovery of uranium directly from uranium-bearing ores. 3,089,885, 5-14-63, Cl. 260—429.1.
- Kruse, Niels A. Cultivator. 3,078,929, 2-26-63, Cl. 172—302.
- Krüssmann, Adolf, to Sulzer Freres Societe Anonyme. Boiler control system. 3,077,739, 2-19-63, Cl. 50—105.
- Kruzan, Albert W., to Borg-Warner Corp. Clothes drying machine. 3,114,653, 12-17-63, Cl. 118—48.
- Krynak, Michael S., to United States Steel Corp. Vehicle warning bell. 3,072,092, 1-8-63, Cl. 116—60.
- Krynski, John, and R. E. Engwall, to Ametek, Inc. Filter. 3,080,063, 3-5-63, Cl. 210—330.
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- Krzes, Casey S. Battle game. 3,085,803, 4-16-63, Cl. 273—130.
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- Kubik, Marian L., to Lambhill Ironworks Ltd. Apparatus for parking of vehicles or the storage of articles. 3,115,257, 12-24-63, Cl. 214—16.
- Kubik, Paul P., to The Yale and Towne Mfg. Co. Hotel room lock. 3,115,357, 12-24-63, Cl. 292—5.
- Kubiliunas, Ignas B., to Polytop Corp. Pouring spout construction. 3,089,626, 5-14-63, Cl. 222—484.
- Kubilos, Charles A., to Textron Inc. Hydraulic system for traversing winders. 3,109,606, 11-5-63, Cl. 242—158.4.
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- Kubo, Tsunesuke, and M. Kawamura. Absorption cooling apparatus for automobile. 3,077,083, 2-12-63, Cl. 62—239.
- Kubodera, Hisayoshi. Method and apparatus for drying solvent-containing materials while recovering vaporized solvent. 3,087,254, 4-30-63, Cl. 34—16.
- Kubodera, Hisayoshi. Device for limiting movement of kettle handles and the like. 3,113,696, 12-10-63, Cl. 220—96.
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- Kubota, Ryomei, T. Saito, N. Kondo, and M. Odomari, to Asahi Shimbunsha Publishing Co., Ltd. System for removing influence of momentary break in the communication line to the received picture in the facsimile equipment and the like. 3,112,361, 11-26-63, Cl. 178—6.6.
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- Kubovy, Joseph V.: *See—*  
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- Kucera, Clare H., and A. N. Barron, to The Dow Chemical Co. Fluid loss control in hydraulic cement slurries. 3,104,704, 9-24-63, Cl. 166—31.
- Kucera, Clement M., and D. L. Del'Homme, to Reed Roller Bit Co. Circulation ports for drill bit. 3,099,324, 7-30-63, Cl. 175—339.
- Kucera, Joseph B.,  $\frac{1}{2}$  to R. L. Lowell, and  $\frac{1}{2}$  to E. M. McElhinney. Material cutting and chopping apparatus. 3,084,493, 4-9-63, Cl. 56—24.
- Kucera, Joseph B.,  $\frac{1}{2}$  to R. L. Lowell, and  $\frac{1}{2}$  to E. M. McElhinney. Material spreader. 3,084,942, 4-9-63, Cl. 275—6.
- Kucera, Joseph B.,  $\frac{1}{2}$  to R. L. Lowell, and  $\frac{1}{2}$  to E. M. McElhinney. Material handling apparatus. 3,095,202, 6-25-63, Cl. 275—6.



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- Kucera, Thomas J., to Charles Bruning Co., Inc. Electrophotographic recording member and process of producing same. Re. 25,444, 9-17-63, Cl. 96-1.
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- Kuchenbecker, Morris W., to American Can Co. Container. 3,073,503, 1-15-63, Cl. 229-17.
- Kuchenbecker, Morris W., to American Can Co. Method of producing a container body having a side seam. 3,078,768, 2-26-63, Cl. 93-36.6.
- Kuchenbecker, Morris W., to American Can Co. Container body having a side seam. 3,079,059, 2-26-63, Cl. 229-14.
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- Kuchenbecker, Morris W., to American Can Co. Can package. 3,080,966, 3-12-63, Cl. 206-65.
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- Kuchenbecker, Morris W., to American Can Co. Method of producing a collapsed container and a unitary blank therefor. 3,097,574, 7-16-63, Cl. 93-36.
- Kuchenbecker, Morris W., to American Can Co. Ready opening dispensing container. 3,107,038, 10-15-63, Cl. 229-17.
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- Kucher, Andrew A., to Ford Motor Co. Levacar guidance system. 3,083,479, 4-23-63, Cl. 104-134.
- Kuchera, Joseph P., to Tonalyzer, Inc. Method and apparatus for obtaining sound. 3,075,044, 1-22-63, Cl. 179-1.
- Kuchinsky, Saul, to Burroughs Corp. Magnetron tubes and magnet means therefor. 3,087,084, 4-23-63, Cl. 313-73.
- Kuchinsky, Saul, to Burroughs Corp. Magnetron tubes. 3,088,045, 4-30-63, Cl. 313-73.
- Kucia, Richard R.: See—
- Coffee, Ralph E., and Kucia. 3,108,916.
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- Pons, Walter A., Jr., Kuck, and Frampton. 3,087,946.
- Kuck, John H., to United States of America, Navy. Target discriminator. 3,090,952, 5-21-63, Cl. 343-16.
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- Kuecken, John A., to United States of America, Air Force. Height finding mechanism. 3,087,154, 4-23-63, Cl. 343-10.
- Kuecken, John A., to Avco Corp. Polarization diversity modulation. 3,111,668, 11-19-63, Cl. 343-100.
- Kuecken, John A., to Avco Corp. Method and apparatus for measuring altitude. 3,113,309, 12-3-63, Cl. 343-14.
- Kuecken, John A., to Avco Corp. Aircraft collision warning system. 3,114,147, 12-10-63, Cl. 343-7.
- Kuehl, Emmett L. Lining apparatus. 3,086,290, 4-23-63, Cl. 33-41.
- Kuehl, Ernest W., and R. D. Ewing, to Cannon Electric Co. High fluid pressure electrical connector. 3,115,380, 12-24-63, Cl. 339-117.
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- Kuehlman, Robert F. Slabber for haylage and similar materials. 3,110,245, 11-12-63, Cl. 100-139.
- Kuehn, Andrew, III, to Systematics, Inc. Engine starter and temperature control apparatus for automotive vehicles. 3,102,961, 9-3-63, Cl. 290-37.
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- Kueny, Kenneth E., to Johnson Products, Inc. Mechanical tappet. 3,089,473, 5-14-63, Cl. 123-90.
- Kuerston, Richard D., to Phillips Petroleum Co. Production and recovery of ethylene. 3,095,293, 6-25-63, Cl. 62-23.
- Kuethner, Siegfried. Spinning reel. 3,105,650, 10-1-63, Cl. 242-84.2.
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- Kugler, Alfred E., to General Motors Corp. Parting agent for sprayed metal shells and method for making such shells. 3,077,647, 2-19-63, Cl. 22-193.
- Kugler, Emanuel. Method of making draw string bags. 3,079,844, 3-5-63, Cl. 93-35.
- Kugler, Emanuel. Draw string bags. 3,079,966, 3-5-63, Cl. 150-11.
- Kugler, Emanuel. Reinforced plastic bag and method of making the same. 3,084,731, 4-9-63, Cl. 150-11.
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- Kugler, Emanuel. Plastic tubular bag. 3,096,013, 7-2-63, Cl. 229-55.
- Kugler, Emanuel. Merchandise package and container therefor. 3,101,887, 8-27-63, Cl. 229-62.
- Kugler, Emanuel. Drawstring bag. 3,114,497, 12-17-63, Cl. 229-63.
- Kugler, Robert L. Timer mechanism. 3,078,355, 2-19-63, Cl. 200-24.
- Kugler, Tibor, and K. Miklossy, to Kralovopolska Sirojirna, zavody Chemických zariadení, parodní podnik. Method and apparatus for the maintenance of the arc column in the core of a liquid vortex. 3,097,292, 7-9-63, Cl. 219-121.
- Kuhar, Ludwig J.: See—
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- Kuhberg, Olaf E. O. Telephone headphone attachment. 3,072,755, 1-8-63, Cl. 179-146.
- Kuhl, Bernard, and H. Krense, to Patent-Treuhand-Gesellschaft für elektrische Glühlampen m.b.H. Mixed-light electric lamp. 3,093,769, 6-11-63, Cl. 315-46.
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- Räntscht, Kurt, and Kühl. 3,075,425.
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- Kuhlenkamp, Alfred, to Mathema Corp. Reg. Trust. Ordnance sight. 3,091,035, 5-28-63, Cl. 33-49.
- Kuhles, Edward K., to Ladish Co. Clean in place sanitary valve. 3,110,471, 11-12-63, Cl. 251-318.
- Kuhlman, Arthur L. Dish liners. 3,076,579, 2-5-63, Cl. 220-65.
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- Kurtze, Günther, to Bolt Beranek and Newman, Inc. High acoustic-energy transmission-loss panel and the like. 3,087,567, 4-30-63, Cl. 181—33.
- Kurtze, Günther, to Bolt Beranek and Newman, Inc. Vibration-damped structure. 3,087,568, 4-30-63, Cl. 181—33.
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- Kurtzon, Morris, Inc.: *See*—  
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- Kurz, Edward A., to Tung-Sol Electric Inc. Snap acting switch blade. 3,080,464, 3-5-63, Cl. 200—122.
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- Kurz, Maurice C., to Societe Calinter S.A. Catalytic heating apparatus. 3,099,258, 7-30-63, Cl. 126—93.
- Kurz, Milton. Knitted mesh fabric. 3,071,951, 1-8-63, Cl. 66—195.
- Kurz, Philip F.: *See*—  
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- Kurzinski, Edward F., to Air Products and Chemicals, Inc. Fluid transfer device. 3,082,997, 3-26-63, Cl. 266—34.
- Kurzke, Herbert, H. Sattler, and E. Stix, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the manufacture of fibers and filaments of linear polyesters having improved properties. 3,107,140, 10-15-63, Cl. 18—48.
- Kus, Theodore A., to Universal Form Clamp Co. Fastening device. 3,108,828, 10-29-63, Cl. 287—49.
- Kuschei, Gerhard, F. Buske, and W. Haase, to VEB Schwermaschinenbau S. M. Kirow. Tower-crane cabin. 3,080,981, 3-12-63, Cl. 212—28.
- Kushigemachi, Tsunekichi, and Y. Watanabe. Instant brake type electric motor. 3,113,254, 12-3-63, Cl. 318—379.
- Kushnuk, Walter P., and O. T. Handwerk, to Ammco Tools, Inc. Ridge reamer. 3,075,412, 1-29-63, Cl. 77—2.
- Kushnuk, Walter P., and L. C. Bogaerts, to Ammco Tools, Inc. Brake shoe clamp. 3,089,295, 5-14-63, Cl. 51—217.
- Kushner, Leonard H. Color control. 3,112,886, 12-3-63, Cl. 240—1.1.
- Kushner, Martin: *See*—  
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- Kusiak, Frank J., Jr.: *See*—  
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- Kusinski, Edward M., and J. W. Bushong. Method of preserving foods and closure cap utilized therein. 3,110,599, 11-12-63, Cl. 99—182.
- Kusko, Alexander, to Basic Products Corp. Regulator. 3,092,768, 6-4-63, Cl. 323—66.
- Kuss, R. L., & Co., Inc.: *See*—  
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- Kuss, Theodore M. Pile driver. 3,115,198, 12-24-63, Cl. 175—152.
- Kuster, William F., to Signode Steel Strapping Co. Nestable interlocking seal blank. 3,083,845, 4-2-63, Cl. 214—10.5.
- Kusunoki, Yukio. Paper container with integral handle means. 3,093,294, 6-11-63, Cl. 229—52.
- Kusunose, Masatomo, Y. Saji, and T. Koyasu, to Toho Rayon Kabushiki Kaisha. Process for the manufacture of high tenacity viscose rayon. 3,107,970, 10-22-63, Cl. 18—54.
- Kuszmanski, Janos: *See*—  
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- Kutik, Louis F. Closure for pressurized dispensing can having an actuator for the discharge valve. 3,109,565, 11-5-63, Cl. 222—394.
- Kutney, John T., to General Electric Co. Reingestion control means. 3,106,372, 10-8-63, Cl. 244—113.
- Kuts, Mathew, to The B. F. Goodrich Co. Brake cup trimmer. 3,084,577, 4-9-63, Cl. 82—48.
- Kutsche, Robert O., to Lear Siegler, Inc. Pressure regulator with damping means. 3,103,230, 9-10-63, Cl. 137—116.3.
- Kutzler, Robert J., to Minneapolis-Honeywell Regulator Co. Control apparatus for aircraft. Re. 25,311, 1-1-63, Cl. 244—77.
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- Kuwako, Takeo: *See*—  
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- Kuwata, Tsutomu, and S. Yoshikawa, to Asahi Garasu Kabushiki Kaisha (Asahi Glass Co., Ltd.). Cation permselective membranes. 3,086,947, 4-23-63, Cl. 260—2.2.
- Kuzell, Charles R., M. G. Fowler, L. Klein, and J. H. Davis, Jr., to Phelps Dodge Corp. Apparatus for reforming gases. 3,071,454, 1-1-63, Cl. 48—196.
- Kuzell, Charles R., M. G. Fowler, L. Klein, and G. S. Hawkins, to Phelps Dodge Corp. Treating copper matte. 3,081,163, 3-12-63, Cl. 75—75.
- Kuzma, Stephen, and M. R. Singer, to Allied Chemical Corp. Carboy package. 3,084,824, 4-9-63, Cl. 217—52.
- Kuzma, Stephen, and M. R. Singer, to Allied Chemical Corp. Vertical and lateral interlocking packing case. 3,103,278, 9-10-63, Cl. 206—65.
- Kuzminsky, Irving, to Entron, Inc. Variable attenuation sharp notch filter. 3,074,026, 1-15-63, Cl. 330—144.
- Kuzmitz, Andrew A., to The Bendix Corp. Governor for gas turbine engines including inlet condition bias during steady state operation. 3,092,960, 6-11-63, Cl. 60—39.28.
- Kvalnes, Donovan E., to E. I. du Pont de Nemours and Co. Process of transferring heat. 3,085,065, 4-9-63, Cl. 252—67.
- Kvalnes, Donovan E., to E. I. du Pont de Nemours and Co. Stabilized chlorofluoroalkanes. 3,085,116, 4-9-63, Cl. 260—652.5.
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- Kwolek, Stephen S., to Lyon Inc. Tire trim. 3,083,062, 3-26-63, Cl. 301—37.
- Kyame, George J., and H. R. Copeland, to United States of America, Agriculture. Yarn spinning machine. 3,110,150, 11-12-63, Cl. 57—58.89.
- Kybal, Jan, J. Protiva, K. Strnadová, F. Stary, and Z. Cekan, to Spofa, Sdruzeni podniků pro zdravotnickou výrobu. Method of artificial cultivation of ergot. 3,110,651, 11-12-63, Cl. 195—81.
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- Kyle, William K., and R. S. Stewart, to Westinghouse Electric Corp. Defrost controls for heat pumps. 3,103,794, 9-17-63, Cl. 62—160.
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- Kinoshita, Shukuo, Tanaka, and Kato. 3,086,916.
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- Laakso, Perttu V., to The Kendall Co. Autoclavable packaged compositions. 3,113,675, 12-10-63, Cl. 206-84.
- Laakso, Thomas M., and J. L. R. Williams, to Eastman Kodak Co. Condensation products of polyvinylketones with hydrazides containing quaternary nitrogen groups. 3,096,305, 7-2-63, Cl. 260-65.
- Laakso, Thomas M., and M. C. Petropoulos, to Eastman Kodak Co. Block copolycarbonates from bisphenol A and 4,4'-bis(hydroxyphenyl) methyl dihalophenyl methanes. 3,106,544, 10-8-63, Cl. 260-47.
- Laakso, Thomas M., D. A. Buckley, and M. C. Petropoulos, to Eastman Kodak Co. Block copolymers of polycarbonates from bisphenol A and 4,4'-bis(hydroxyphenyl)-mono-halophenylmethanes or methyl substituted derivatives thereof, the latter compounds per se and homopolymers thereof. 3,106,545, 10-8-63, Cl. 260-47.
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- Laakso, Thomas M., D. A. Buckley, and J. R. King, to Eastman Kodak Co. Polyesters of carbonyldichlorides and process for polymerization and dope making. 3,110,698, 11-12-63, Cl. 260-47.
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- Labino, Dominick, to Johns-Manville Fiber Glass Inc. Method for producing a gaseous blast and for producing glass fibers. 3,084,392, 4-9-63, Cl. 18-47.3.
- Labino, Dominick, to Johns-Manville Corp. Method of producing a battery separator and product thereof. 3,085,126, 4-9-63, Cl. 136-146.
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- Labino, Dominick, to Johns-Manville Fiber Glass Inc. Process of making essentially pure silica fiber bats. 3,092,531, 6-4-63, Cl. 156-24.
- Labino, Dominick, to Johns-Manville Corp. Method of producing redispersible fibers and mat product. 3,114,939, 12-24-63, Cl. 19-156.3.
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- La Boda, Mitchell A., and C. R. Wiese, to General Motors Corp. Method and composition for etching titanium. 3,082,137, 3-19-63, Cl. 156-18.
- La Boda, Mitchell A., and C. R. Wiese, to General Motors Corp. Electrolytic machining of metal surfaces. 3,088,889, 5-7-63, Cl. 204-143.
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- La Cas, George A., to Philip Morris Inc. Razor blade dispenser. 3,080,998, 3-12-63, Cl. 221-232.
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- Lacker, Robert F., to The Black-Clawson Co. Centrifuge. 3,092,582, 6-4-63, Cl. 233-2.
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- La Combe, Edward M., and P. D. Berry, to Union Carbide Corp. Dyeable fiber-forming compositions of an acrylonitrile-containing polymer and a cyanoethyl acrylate ester/alkyl acrylate ester copolymer. 3,113,122, 12-3-63, Cl. 260-45.5.
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- Ladd, Elbert C., to United States Rubber Co. N,N'-thiodimaleimide and N,N'-dithiodimaleimide. 3,071,592, 1-1-63, Cl. 260-326.3.
- Ladd, Glenn W., to S. Nussbaum. Douche apparatus. 3,104,664, 9-24-63, Cl. 128-229.
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- Ladell, Joshua, and N. Spielberg, to North American Philips Co., Inc. X-ray spectral analysis. 3,072,789, 1-8-63, Cl. 250-51.5.
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- Laegeler, Julius C., Jr.: *See—*  
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- Laemmle, David C. Chair bed with expandable side frames. 3,077,611, 2-19-63, Cl. 5-52.
- Laemmle, David C. Convertible Ottoman bed. 3,085,257, 4-16-63, Cl. 5-29.
- La Fabrique Nationale d'Arms de Guerre: *See—*  
Cobert, Arthur J. 3,079,777.
- La Falce, Palmerino C. Stretchable wash strap. 3,072,946, 1-15-63, Cl. 15-222.
- La Fave, Ivan V., to Chicago Bridge & Iron Co. Insulating foundation for cryogenic storage tank. 3,076,317, 2-5-63, Cl. 61-36.
- Lafayette Radio Electronics Corp.: *See—*  
Morgillo, Pellegrino J. 3,089,562.
- Lafferty, James M., to General Electric Co. Gas generating switching tube. 3,087,092, 4-23-63, Cl. 315-330.
- Lafferty, James M., to General Electric Co. Gas generating switching tube. 3,093,767, 6-11-63, Cl. 313-174.
- Lafferty, James M., to General Electric Co. Magnetron type ionization gauges. 3,109,115, 10-29-63, Cl. 13-7.
- Lafferty, James M., and T. A. Vanderslice, to General Electric Co. Ionic pump. 3,093,298, 6-11-63, Cl. 230-69.
- Lafferty, William L., Jr.: *See—*  
Child, Edward T., Lafferty, Millendorf, and Bos. 3,109,041.
- Laffetay, Louis A., and A. M. Boutin, to Progil, S. A. Volatile solid insecticidal and bactericidal composition. 3,097,129, 7-9-63, Cl. 167-30.
- Lafikas, Harry P.: *See—*  
Knapp, Eugene J., and Lafikas. 3,113,667.
- Knapp, Eugene J., and Lafikas. 3,114,457.
- Lafitte, Carl W.: *See—*  
Poorman, Frank, Jr., and Lafitte. 3,083,729.
- Lafitte, Théodore. Starter for internal combustion engines. 3,089,344, 5-14-63, Cl. 74-6.
- La Flame, Frank E., to General Motors Corp. Reversible pump-motor assembly for a dishwasher. 3,099,992, 8-6-63, Cl. 134-182.
- La Fleur, George: *See—*  
Gallagher, William H., and La Fleur. 3,091,487.
- La Fleur, Hector. Catalog holder structure. 3,079,725, 3-5-63, Cl. 45-60.
- La Fleur, Kermit S., to Deering Milliken Research Corp. Method for processing textile materials. 3,080,259, 3-5-63, Cl. 117-141.
- La Flure, William R.: *See—*  
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- Schless, Robert A., Jr. 3,097,901.
- Lafon, Louis, to Societe Anonyme dite: Orsymonde. Phlorophenone derivatives for hepatic and nephritic colic. 3,079,300, 2-26-63, Cl. 167-65.
- Lafon, Louis. Method of relieving pain employing 1,3,5-trihydroxybenzene. 3,093,544, 6-11-63, Cl. 167-65.
- Lafont, Pierre, and Y. Bonnet, to Usines Chimiques Rhone-Poulenc Societe des. Cyclododecylacetic acid esters, derivatives thereof and intermediates therefor. 3,085,107, 4-9-63, Cl. 260-468.
- Lafont, Pierre, and Y. Bonnet, to Usines Chimiques Rhone-Poulenc Societe des. Cycloundec-1-ene-1 carboxylic acids and their salts and esters. 3,085,109, 4-9-63, Cl. 260-514.
- Lafont, Pierre, and Y. Bonnet, to Rhone-Poulenc S.A. 2,3-dihydroxy-cyclododecyl-1-ene-1-carboxylic acid - a - lactone. 3,101,347, 8-26-63, Cl. 260-343.3.
- La Force, Walter P., to Thomas Industries Inc. Reciprocating saw blade. 3,109,464, 11-5-63, Cl. 143-133.
- Laforest, Pierre: *See—*  
Gagnon, Pierre, and Laforest. 3,105,596.
- La Forge, Arthur A., to E. I. du Pont de Nemours and Co. Casting wheel. 3,071,810, 1-8-63, Cl. 18-15.
- La Forge, Arthur A., to E. I. du Pont de Nemours and Co. Spinneret pack. 3,104,419, 9-24-63, Cl. 18-8.
- Lafortezza, Michael: *See—*  
Curran, Irene S., Glielmi, and Lafortezza. 3,078,989.
- Lafosse, Andre, and C. Bazzini, to Ateliers de Constructions Electriques des Charleroi (ACEC). Condenser. 3,085,181, 4-9-63, Cl. 317-242.
- La Foy, Eugene L.: *See—*  
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- Lafuze, David L., to General Electric Co. Magnetic amplifier circuit. 3,110,357, 11-12-63, Cl. 323-89.
- Lagace, Edouard. Door operating mechanism. 3,076,675, 2-5-63, Cl. 296-44.
- Lagally, Herta: *See—*  
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- Lagally, Paul, to Brockway Glass Co., Inc. Aqueous solution of a polymer of vinyl alkoxy silane, maleic anhydride and vinyl ester of a fatty acid and process for protecting glass therewith. 3,108,920, 10-29-63, Cl. 156-310.
- Lagally, Paul, and H., to Linden Laboratories. Process for treating cellulose and other materials. 3,074,843, 1-22-63, Cl. 162-181.
- Laganis, Deno, to Schenectady Chemicals, Inc. Composition comprising polyester phenol formaldehyde resin and aldehyde condensate of urea melamine or acetone and metal surface coated therewith. 3,108,083, 10-22-63, Cl. 260-14.
- Lagarias, John S., to Koppers Co., Inc. Oscillating shearing device for the removal of precipitated dry dust. 3,114,615, 12-17-63, Cl. 55-121.
- Lager, Samuel E. Object recovery device. 3,084,652, 4-9-63, Cl. 114-5.
- Lager, Samuel E. Water marking device. 3,095,851, 7-2-63, Cl. 116-124.
- Lagamarsino, Emilio, to Lagomarsino Fai S.p.A. Calculating machine adapted to perform divisions. 3,104,812, 9-24-63, Cl. 235-63.
- Lagamarsino Fai S.p.A.: *See—*  
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- Lagoudarde, Jean E., to Usines Dehousse, Societe Anonyme. Corn-harvester. 3,088,261, 5-7-63, Cl. 56-18.
- La Grange, Lee D.: *See—*  
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- Lagucki, Edward B.: *See—*  
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- Lagucki, Edward B., to Shell Oil Co. Pumpable well tool. 3,090,440, 5-21-63, Cl. 166-155.
- Lahive, Gordon F. Adjustable paint brush holder. 3,104,762, 9-24-63, Cl. 211-65.
- Lahr, Gilbert M., to General Motors Corp. Mounting and lubrication supply means for engine valve actuating mechanism. 3,095,948, 7-2-63, Cl. 184-6.
- La Hue, Herbert C., 50% to R. C. La Hue. Surgical glove. 3,110,035, 11-12-63, Cl. 2-168.
- La Hue, Robert C.: *See—*  
La Hue, Herbert C. 3,110,035.
- Laich, Alberto L.: *See—*  
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- Laiderman, Donald D., to The Gillette Co. Shampoo composition. 3,072,580, 1-8-63, Cl. 252-152.
- Laidig, Alfred H., to Westinghouse Electric Corp. Lamp-fabricating apparatus. 3,103,397, 9-10-63, Cl. 316-27.
- Laidlaw, William R.: *See—*  
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- Lainchbury, David M.: *See—*  
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- Laine, Edward A., to Allegheny Ludlum Steel Corp. Picking apparatus. 3,087,505, 4-30-63, Cl. 134-105.
- Laine, Edward A., to Allegheny Ludlum Steel Corp. Method of making flexible joints. 3,091,844, 6-4-63, Cl. 29-437.
- Laine, Gosta H. A. Insulator sleeve. 3,113,998, 12-10-63, Cl. 174-138.
- Laing, David D.: *See—*  
Ashley, Paul R., and Laing. 3,100,140.
- Laing, David H., and J. D. Jones. Fluid metering device. 3,095,892, 7-2-63, Cl. 137-101.11.
- Laing, Ian W.: *See—*  
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- Laing, Nikolaus.: *See—*  
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- Laing, Nikolaus. Flow machines. 3,116,011, 12-31-63, Cl. 230-45.
- Laing, Robert L. Composition and device for treating trees. 3,074,207, 1-22-63, Cl. 47-57.5.
- Lainson, John J., to Western Plastics Corp. Apparatus for irradiation of plastics. 3,102,303, 9-3-63, Cl. 18-14.
- Lair, Julien J. B., to International Telephone and Telegraph Corp. Pulse amplitude modulated to pulse position modulated converter. 3,104,360, 9-17-63, Cl. 332-1.
- L'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procédes Georges Claude.: *See—*  
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- Laird, Cammell, & Co. (Shipbuilders & Engineers) Ltd.: *See—*  
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- Laird, Glenn D. Film identification unit for race cameras. 3,082,424, 3-19-63, Cl. 346-107.
- Laird, Ray H. Small boat dock. 3,096,623, 7-9-63, Cl. 61-48.
- Laitner Brush Co.: *See—*  
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- Lakatos, Emory.: *See—*  
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- Pidhayny, Denny D., Lakatos, and Goodell. 3,074,061.
- Lakatos, Emory, to Thompson Ramo Wooldridge Inc. Collision direction determining and indication system. 3,112,480, 11-26-63, Cl. 343-9.
- Lake, Donald B., and G. Mamantov, to E. I. du Pont de Nemours and Co. Production of peroxyphosphoric acid and a salt thereof. 3,085,856, 4-16-63, Cl. 23-107.
- Lake, Francis K., to Addressograph-Multigraph Corp. Printing machines. 3,112,698, 12-3-63, Cl. 101-415.1.
- Lake Erie Machinery Co.: *See—*  
Cady, Percy L., Jr. 3,078,903.  
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- Lakes, Lee J.: *See—*  
Hancock, James L., and Lakes. 3,100,933.
- Lakeshire Products, Inc.: *See—*  
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- Lake Shore, Inc.: *See—*  
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- Lakeside Industries, Inc.: *See—*  
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- Lakeville Creameries, Inc.: *See—*  
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- Lakewood Mfg. Co.: *See—*  
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- Lakey, Arthur B.; deceased (by E. S. Lakey, executrix), and J. F. Spiegel, to Kingsbury Machine Works, Inc. Bearing lubricating means. 3,107,130, 10-15-63, Cl. 308-127.
- Lakey, Edna S.: *See—*  
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- Lakin, A., & Sons, Inc.: *See—*  
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Lakin, Lewis G. 3,111,742.  
Lakin, Lewis G. 3,112,024.
- Lakin, Ira W.: *See—*  
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- Lakin, Lewis G., to A. Lakin & Sons, Inc. Impact cushioning device. 3,107,642, 10-22-63, Cl. 114-219.
- Lakin, Lewis G., to A. Lakin & Sons, Inc. Disc construction for rolls. 3,111,742, 11-26-63, Cl. 29-125.
- Lakin, Lewis G., to A. Lakin & Sons, Inc. Roll construction. 3,112,024, 11-26-63, Cl. 198-127.
- Lakins, Franklin D., to Lipe-Rollway Corp. Work receiver for bar working machines. 3,074,528, 1-22-63, Cl. 193-39.
- Lakins, Franklin D., to Lipe-Rollway Corp. Control system for stock bar feeds. 3,081,522, 3-19-63, Cl. 29-37.
- Lakins, Franklin D., and G. B. Lanphere, to Lipe-Rollway Corp. Bar feed apparatus. 3,092,288, 6-4-63, Cl. 221-298.
- Lako, Samuel, and L. B. Aguerre. Time controlled electric barrier for feed troughs. 3,112,731, 12-3-63, Cl. 119-51.12.
- Lakritz, Julian.: *See—*  
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- Lakritz, Julian, and R. G. Adams, to Esso Research and Engineering Co. Reinforced plastic from an open cure technique with a graft polymer. 3,099,293, 7-30-63, Cl. 138-141.
- Lalak, George A., to Radio Corp. of America. Brazing jig for electron tube fabrication. 3,097,621, 7-16-63, Cl. 113-99.
- Lalak, George A., to Radio Corp. of America. Brazing jig. 3,099,081, 7-30-63, Cl. 29-423.
- La Lande, William A., Jr., to Pennsalt Chemicals Corp. Fluorination and oxidation of uranium tetrafluoride to uranium hexafluoride by perchloryl fluoride. 3,086,842, 4-23-63, Cl. 23-14.5.
- Lalick, Michael J. Artificial Christmas trees. 3,101,291, 8-20-63, Cl. 161-24.
- L'Allemand, Charles C.: *See—*  
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- Lallemant, Claude.: *See—*  
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- Lalley, Gerald J. Receptacle for storing film and the like. 3,091,327, 5-28-63, Cl. 206-1.
- Lallier, Betty.: *See—*  
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- Lally, James J. Portable shock splint with traction. 3,094,986, 6-25-63, Cl. 128-84.
- Lally, Vincent E., to American Bosch Arma Corp. Inflation of balloon. 3,109,607, 11-5-63, Cl. 244-1.
- Laloe, Michel F., and A. G. Marechal, to C. Michelson. Image interpolator for motion picture films and the like. 3,104,586, 9-24-63, Cl. 88-24.
- Lam, Tat C., to Tektronix, Inc. Signal energy take off device. 3,071,737, 1-1-63, Cl. 333-8.
- Lamač, Miroslav.: *See—*  
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- Lamade, Ralph M., Jr.: *See—*  
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- Laman, William H., and J. B. Norris, to International Business Machines Corp. Paper type movement detection device. 3,103,656, 9-10-63, Cl. 340-259.
- La Manna, Richard J., V. H. Wilson, V. T. Pogorzelski, and M. Pivovonsky, to Monroe Calculating Machine Co. Simple general purpose digital computer. 3,116,410, 12-31-63, Cl. 235-157.
- Lamantia, Nicola F.: *See—*  
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- Lamar, Charles C., to Harper-Wyman Co. Gas valves. 3,073,526, 1-15-63, Cl. 236-99.
- La Marche Mfg. Co.: *See—*  
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- Lamazou, Jean M.: *See—*  
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- Lamb, Charles M. Floating dock for marinas. 3,073,274, 1-15-63, Cl. 114-43.5.
- Lamb, Charles P., to Merla Tool Corp. Gas lift valve. 3,092,131, 6-4-63, Cl. 137-155.
- Lamb, Douglas J.: *See—*  
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- Lamb, Douglas J., to Monsanto Chemical Co. Traversing device. 3,093,344, 6-11-63, Cl. 242-158.4.
- Lamb, F. Jos., Co.: *See—*  
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- Lamb, Frank G., to Lamb-Weston, Inc. Viner truck body. 3,080,187, 3-5-63, Cl. 296-14.



- Lamb, Frank G., and J. E. Howard, to Lamb-Weston, Inc. Feed mechanism for hydraulic cutter assembly. 3,108,625, 10-29-63, Cl. 146-162.
- Lamb, Frank G., and A. R. Davidson, to Lamb-Weston, Inc. Vegetable slicing apparatus. 3,109,468, 11-5-63, Cl. 146-78.
- Lamb, Glentworth, to American Cyanamid Co. Dodecylguanidine salts of boric acid. 3,116,326, 12-31-63, Cl. 260-564.
- Lamb, Glentworth, and I. M. Voynick, to American Cyanamid Co. Fungitoxic compositions containing 9,10-phenanthrenequinone oximes. 3,073,739, 1-15-63, Cl. 167-30.
- Lamb Grays Harbor Co., Inc.: See—
- Mead, Gile A., Dale, and Davis. 3,090,505.
- Lamb, Harold W., to Crossley Machine Co., Inc. Valve unit for piston free pumps. 3,078,868, 2-26-63, Cl. 137-512.
- Lamb, Harold W., to Crossley Machine Co., Inc. Automatic thickness control means for flat products. 3,079,661, 3-5-63, Cl. 25-56.
- Lamb Industries, Inc.: See—
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- Thomson, Byron C. 3,090,185.
- Thomson, Byron C. 3,102,349.
- Lamb, Jefferson P.: See—
- Burton, Robert G., Lamb, and Schopper. 3,103,626.
- Lamb, Jefferson P., to Dresser Industries, Inc. Time-sharing electrical logging system with subsurface commutation apparatus. 3,075,141, 1-22-63, Cl. 324-1.
- Lamb, Joe D.: See—
- Malone, Joe W., Sr., and Lamb. 3,096,702.
- Lamb, Joe H. to P. A. Mallinckrodt. Protectively housed, extendible and retractable cover apparatus for swimming pools. 3,076,975, 2-12-63, Cl. 4-172.
- Lamb, Kenneth, to Coast Metals Inc. Surfacing torch with external powder feed. 3,096,199, 7-2-63, Cl. 117-46.
- Lamb, Lee F. Vibrating plow. 3,103,250, 9-10-63, Cl. 172-40.
- Lamb, Lyle N. Anchor device for hollow masonry type walls. 3,108,404, 10-29-63, Cl. 50-103.
- Lamb, Raymond J.: See—
- Von Wranau, Guido, and Phillips. 3,095,311.
- Lamb, Russell F.: See—
- Hanstock, Raymond F., Godwin, Lumb, and Williams. 3,091,959.
- Lamb-Weston, Inc.: See—
- Kruger, Herbert W. 3,115,773.
- Lamb, Frank G. 3,080,187.
- Lamb, Frank G., and Davidson. 3,109,468.
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- Lambach, Adolph H. Armored vehicle tire. 3,111,973, 11-26-63, Cl. 152-204.
- Lambert, Arthur, and J. H. Wild, to Imperial Chemical Industries Ltd. Process for preparing foamed polyurethane materials. 3,108,975, 10-29-63, Cl. 260-25.
- Lambert Brake Corp.: See—
- Kershner, Osborn A. 3,094,194.
- Kershner, Osborn A. 3,106,990.
- Kershner, Osborn A., and Matrau. 3,088,553.
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- Zindler, Roger R., and Kershner. 3,081,842.
- Lambert, Donovan E. C., and E. H. Grover, to International Standard Electric Corp. Electron velocity modulation tubes. 3,104,342, 9-17-63, Cl. 315-551.
- Lambert Engineering Co.: See—
- Thorp, James T. 3,079,111.
- Lambert, Eunice F. Gas stove. 3,107,663, 10-22-63, Cl. 126-85.
- Lambert, Harry E., to Packaging Corp. of America. Egg carton cushion separator. 3,108,689, 10-29-63, Cl. 206-65.
- Lambert, Henri: See—
- Leblon, Emile, and Lambert. 3,109,706.
- Lambert, Jordan W., G. Spens, and H. E. Wilson. Vibrating screen clamp mechanism. 3,092,573, 6-4-63, Cl. 209-403.
- Lambert, Marc H. J.: See—
- Liegeon, Bernard L. J., and Lambert. 3,075,819.
- Lambert, Milton: See—
- Lacks, Hyman, and Lambert. 3,106,247.
- Lambert, Richard H., and D. R. Krombos, to Allis-Chalmers Mfg. Co. Knife blade type switch. 3,083,271, 3-26-63, Cl. 200-2.
- Lambert, Robert F.: See—
- Hankes, Elmer J., Firehammer, and Lambert. 3,076,957.
- Lambert, Robert M. Can crimper. 3,095,029, 6-25-63, Cl. 153-70.
- Lambert, Roger-Emile: See—
- Chan, Andre D. H., and Lambert. 3,081,209.
- Lambert, Rogers F., to Ethyl Corp. Diarylarsine manganese tetracarbonyl compounds. 3,080,407, 3-5-63, Cl. 260-429.
- Lambert, William H. Aerosol dispenser. 3,107,821, 10-22-63, Cl. 222-70.
- Lamberti, Battista. Stepladder with folding elements. 3,084,760, 4-9-63, Cl. 182-160.
- Lamberti, Vincent, and R. A. Haass, to Lever Brothers Co. Purification of sodium isethionate. 3,094,555, 6-18-63, Cl. 260-513.
- Lamberti, Vincent, and G. J. McCrimlisk, to Lever Brothers Co. Process for the preparation of amides. 3,107,258, 10-15-63, Cl. 260-404.
- Lamberts, Kurt: See—
- Pungs, Leo, Lamberts, and Griesbach. 3,109,080.
- Lamberty, Matthias, to Mannesmann Aktiengesellschaft. Lubrication method for hot-extrusion press. 3,097,742, 7-16-63, Cl. 207-10.
- Lambhill Ironworks Ltd.: See—
- Kubik, Marian L. 3,115,257.
- Lambrech, Joseph A., to Union Carbide Corp. Indanyl N-methyl carbamate. 3,084,096, 4-2-63, Cl. 167-30.
- Lamburn, Alan S., and H. E. W. Foster. Heating and ventilating apparatus for vehicles. 3,072,339, 1-8-63, Cl. 237-123.
- La Mere, Frank J. Incinerator disposal unit for human waste. 3,103,017, 9-10-63, Cl. 4-131.
- Lameris, Herman, to Werkspoor N.V. Nozzle or guide blade supporting structure with nozzles or guide blades for a turbine and method for assembling such parts. 3,072,381, 1-8-63, Cl. 253-78.
- Lamford Paper International Ltd.: See—
- Cortez, Jose C. 3,079,270.
- Lamin, Leonard: See—
- Paulaitis, Edward M. and Lamin. 3,083,265.
- Lamkin, James E., 17½% to W. W. Lowrey, Jr., and 17½% to W. M. Majors, Jr. Control for water softening apparatus. 3,092,736, 6-4-63, Cl. 307-118.
- Lamkin Leather Co.: See—
- Sullivan, Arthur M. 3,087,729.
- Lamlein, Walter E.: See—
- Koesh, Victor A., and Lamlein. 3,088,502.
- Lamm, Russell K. Airplane. 3,084,891, 4-9-63, Cl. 244-139.
- Lämmler, Georg: See—
- Söder, Alfons, Lämmler, Ross, and Kempe. 3,098,006.
- Lamneck, William J.: See—
- Fredericks, George W., and Lamneck. 3,090,034.
- Lamneck, William J., and W. T. Wichman, to Bell Telephone Laboratories, Inc. Traffic monitoring circuit. 3,115,549, 12-24-63, Cl. 179-8.
- Lamont, John, to Canadian National Railway Co. Refrigerator car. 3,092,979, 6-11-63, Cl. 62-239.
- La Mont Steam Generators, Inc.: See—
- Stabenow, Georg. 3,081,749.
- Lamoureux, Raymond A., Jr., to Sprague Electric Co. Terminal assembly. 3,091,656, 5-28-63, Cl. 174-52.
- La Moy, Elwin F.: See—
- Wald, David, Lombard, and La Moy. 3,090,654.
- Lamp, James K., Jr., and B. A. Phillips, to Whirlpool Corp. Flame position and heat conduction responsive control. 3,104,698, 9-24-63, Cl. 158-140.
- Lampe, Frederick W., to Esso Research and Engineering Co. Method for producing atomic hydrogen. 3,092,561, 6-4-63, Cl. 204-154.
- Lampe, Jerome K.: See—
- Robbins, James D., and Lampe. 3,080,036.
- Lamphear, Walter E., to On Mark Couplings, Inc. Fluid conduit coupling. 3,077,330, 2-12-63, Cl. 251-89.5.
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- Kammerer, Archer W., and Lamphere. 3,074,494.
- Lamphier, Walter C., to Sprague Electric Co. Series wound capacitor. 3,093,775, 6-11-63, Cl. 317-260.
- Lampo, Samuel H.: See—
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- Lamprecht, Merle W., to The Hill Acme Co. Forging machine. 3,089,361, 5-14-63, Cl. 78-99.
- Lamprey, Headlee: See—
- Koehler, James O., and Lamprey. 3,098,041.
- Lamson Corp.: See—
- Irish, Frank L. 3,078,009.
- Lamson, Edward R., and M. J. Devine. Lubricated bearings. 3,079,204, 2-26-63, Cl. 308-187.
- Lamson Paragon Ltd.: See—
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- Lamy, Richard C., to International Business Machines Corp. Magnetic storage devices. 3,085,232, 4-9-63, Cl. 340-174.
- Lan, Edwin H., to Polaroid Corp. Photographic diffusion transfer process. 3,087,816, 4-30-63, Cl. 96-29.
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- Lanahan, John H., to The Bendix Corp. Test apparatus having a regenerative system for loading rotating devices. 3,112,643, 12-3-63, Cl. 73-162.
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- Lancaster Chemical Corp.: See—
- Lockshin, Herbert, and Bascom. 3,085,075.
- Lancaster Cleft Palate Clinic, Inc.: See—
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- Calder, Peter H., and Lancaster. 3,099,134.
- Lancaster Research and Development Corp.: See—
- Geschwender, Robert C. 3,074,387.
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- Miller, William R., and Lance. 3,099,282.
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- Land, Warren W. Building wall and method of construction. 3,083,795, 4-2-63, Cl. 189-34.
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- Orthner, Ludwig, Keuter, and Landauer. 3,086,986.
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- Landauer, Rolf W., to International Business Machines Corp. Superconductive parametric amplifier. 3,111,628, 11-19-63, Cl. 330-4.5.
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- Wilson, Rex C. 3,112,446.
- Landes, Benjamin D., and J. A. Morris, to Coors Porcelain Co. Ball mills. 3,110,448, 11-12-63, Cl. 241-182.
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- Pheil, Leslie V. 3,097,454.
- Price, Ralph E. 3,073,074.
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- Landquist, Justus K., to Imperial Chemical Industries Ltd. Heterocyclic compounds. 3,074,954, 1-22-63, Cl. 260-294.8.
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- Landrum, Ira T., S. C. Kennedy, H. N. Shanklin, R. Cummins, L. K. Steward, O. L. Boulware, W. H. Kleypas, and D. W. Evans, to Shirlow Corp. Apparatus for performing work on the internal wall of piping. 3,106,735, 10-15-63, Cl. 15-104.06.
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- Landry, Henry J. Folding play yard center leg. 3,110,913, 11-19-63, Cl. 5-99.
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- Lane, Clayton A., and R. John, to Associated Electrical Industries (Woolrich) Ltd. Manufacture of thermionic valve grids. 3,113,596, 12-10-63, Cl. 140-71.5.
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- Lane, Munson H., Sr.: See—  
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- Lang, Dickson S., to Consumers Cooperative Association. Insecticide applicator. 3,074,379, 1-22-63, Cl. 119—157.
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- Lang, Ernest U., to National-Standard Co. Cut-off mechanism for tire bead building machine. 3,076,617, 2-5-63, Cl. 242—56.
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- Lang, John L., C. Jones, and A. F. Roche, to The Dow Chemical Co. Copolymers of styrene and methyl methacrylate. 3,080,348, 3-5-63, Cl. 260—86.7.
- Lang, John R., and G. F. Arkless, to G. & J. Weir, Ltd. Turbine-driven centrifugal pump. 3,103,176, 9-10-63, Cl. 103—87.
- Lang, Joseph C., to Bocil Corp. Strip fasteners and method of making same. 3,072,008, 1-8-63, Cl. 85—11.
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- Langdon, Samuel W., to R. R. Kiefer. Packaging machine. 3,097,462, 7-16-63, Cl. 53—180.
- Langdon, William K., and M. Kokorudz, to Wyandotte Chemicals Corp. Chlorination of alkylpyrazines. 3,096,331, 7-2-63, Cl. 260—250.
- Langdon, William K., and W. W. Lewis, Jr., to Wyandotte Chemicals Corp. Method for destroying nematodes. 3,104,199, 9-17-63, Cl. 167—22.
- Langdon, William K., W. W. Lewis, Jr., and J. B. Skaptason, to Wyandotte Chemicals Corp. N-( $\alpha$ -methylacetoneitrile)-morpholine as insect fumigant for stored products. 3,104,200, 9-17-63, Cl. 167—33.
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- Lange, Ferdinand. Folding containers. 3,071,308, 1-1-63, Cl. 229—37.
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- Lange, Karl E., and G. F. Lukowski. Food can of synthetic material. 3,108,710, 10-29-63, Cl. 220—67.
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- Lange, Le Roy J., to American Totalisator Co., Division of Universal Controls, Inc. Totalisator system. 3,080,114, 3-5-63, Cl. 235—92.
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- Langenberg, Adrianus: See—  
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- Langer, John F. Adjustable mobile scaffold. 3,112,009, 11-26-63, Cl. 182—14.
- Langer, Konrad, and F. Penn, to Vereinigte Oesterreichische Eisen- und Stahlwerke Aktiengesellschaft. Tilting crucible with smoke seal means. 3,083,957, 4-2-63, Cl. 266—36.
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- Langevin, Lloyd P. Automatic counting and weighing scale. 3,115,202, 12-24-63, Cl. 177-200.
- Langevin, William J., Jr., D. R., and L. P., to National Scale Co. Scale. 3,072,206, 1-8-63, Cl. 177-30.
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- Langrod, Kasimir, to Sylvania Electric Products Inc. Method for producing high density uranium oxide. 3,094,377, 6-18-63, Cl. 23-14.5.
- Langsetmo, Peder K., to The Strong-Scott Mfg. Co. Balancing device. 3,074,293, 1-22-63, Cl. 74-573.
- Langstaff, Albert L. Insulation cutter. 3,097,557, 7-16-63, Cl. 83-434.
- Langstaff, Witt L.: *See*—  
Jarrett, Charles A., and Langstaff. 3,080,611.
- Langston, Claude C. Multiple color thread dyeing device. 3,098,373, 7-23-63, Cl. 68-27.
- Langston, Claude C. Multiple color thread dyeing device. 3,098,374, 7-23-63, Cl. 68-27.
- Langston, Samuel M.: *See*—  
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- Langston, Samuel M., Co.: *See*—  
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Ward, William F. and H. D., Jr. 3,077,159.
- Langstroth, Theodore A., to Sun Chemical Corp. Bromination of fluorescein. 3,111,528, 11-19-63, Cl. 260-335.
- Langtree, Michael, to The Australian Coastal Shipping Commission. Equipment for handling cargo. 3,112,039, 11-26-63, Cl. 214-15.
- Langwell, John D.: *See*—  
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- Langwell, John D., to Waldes Kohinoor, Inc. Method of and apparatus for manufacturing slide fasteners. 3,078,558, 2-26-63, Cl. 29-408.
- Lanham, Edward H., to Northern Electric Co. Ltd. Time division junction circuit for a transmission line. 3,071,655, 1-1-63, Cl. 179-170.
- Lanham, William M., to Union Carbide Corp. Flame-resistant urethane foams and process for preparing same. 3,075,927, 1-29-63, Cl. 260-2.5.
- Lanham, William M., to Union Carbide Corp. Preparation of flame-resistant urethane foams. 3,075,928, 1-29-63, Cl. 260-2.5.
- Lanham, William M., to Union Carbide Corp. Hydroxyalkyl polyphosphates. 3,099,676, 7-30-63, Cl. 260-461.
- Lanham, William M., to Union Carbide Corp. Method of drying phosphorus-containing acids. 3,113,063, 12-3-63, Cl. 159-48.
- Lanier, Harold S., to La-chap, Inc. Storage cabinet. 3,093,428, 6-11-63, Cl. 312-255.
- Lanius, James C., Jr., to Illinois Tool Works Inc. Visible inspection fastener. 3,072,093, 1-8-63, Cl. 116-114.
- Lankenau, Malcolm G. Vacuum cleaning machine. 3,112,511, 12-3-63, Cl. 15-350.
- Lannacher Heilmittel Gesellschaft m.b.H.: *See*—  
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- Lanne, Bengt: *See*—  
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- Lannen, Joseph P., to Micro-Poise Engineering and Sales Co. Automatic universal balance testing machine. 3,091,970, 6-4-63, Cl. 73-483.
- Lanner, Manne G. Machine for transferring templet contours to a textile fabric or the like. 3,113,041, 12-3-63, Cl. 118-500.
- Lannert, James W.: *See*—  
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- Lanore, Raymond, to Usines Decouffe. Method of forming a continuous tobacco filler. 3,088,467, 5-7-63, Cl. 131-20.
- Lanphere, Gerald B.: *See*—  
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- Lanski, Harry. Protractor for layout work. 3,080,657, 3-12-63, Cl. 33-94.
- Lansky, Zdenek J., and J. D. Scalbom, to Parker-Hannifin Corp. Pulse lubricator. 3,076,525, 2-5-63, Cl. 184-55.
- Langston Industries, Inc.: *See*—  
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- Lanteigne, Lyvin. Artificial hand. 3,090,049, 5-21-63, Cl. 3-12.7.
- Lantos, Peter R., to E. I. du Pont de Nemours and Co. Composition comprising polytetrafluoroethylene particles admixed with polystyrene containing dimethyl phthalate. 3,074,901, 1-22-63, Cl. 260-31.8.
- Lantz, Alpha D., to The Ohio Brass Co. Suspension apparatus for bundle conductors. 3,076,866, 2-5-63, Cl. 174-149.
- Lantz, Alpha D., and R. W. Harmon, to The Ohio Brass Co. Suspension apparatus for bundle conductors. 3,076,863, 2-5-63, Cl. 174-141.
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- Lantz, Dae C., Jr., to Pan American Resources, Inc. Rotary refuse converter. 3,098,458, 7-23-63, Cl. 110-14.
- Lantz, Dae C., Jr., to Pan American Resources, Inc. Apparatus for condensation and flashback prevention for carbonizing and/or destructive distillation operations. 3,103,426, 9-10-63, Cl. 55-222.
- Lantz, George H., and M. E. Drobilits, to Sterling Faucet Co. Strainer fitting with stopper. 3,104,400, 9-24-63, Cl. 4-287.
- Lantz, Kurt D., to Turbin Aktiebolaget de Laval-Ljungstrom. Machine for honing the flanks of gear teeth. 3,099,112, 7-30-63, Cl. 51-48.
- Lanyon, Charles E.: *See*—  
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- Lanz, Alfred, to Tarex S.A. Thread cutting lathe with deburring cutter actuated at start and end of threading operation. 3,106,727, 10-15-63, Cl. 10-101.
- Lanz, George T., to Ralston Purina Co. Apparatus for closing filled bags. 3,091,198, 5-28-63, Cl. 112-11.
- Lanz, George T., to Ralston Purina Co. Apparatus for manufacturing stable pelleted foods. 3,101,040, 8-20-63, Cl. 99-235.
- Lanzanova, Renato. Fruit and vegetable comminutor and separator. 3,109,467, 11-5-63, Cl. 146-76.
- Lanzenberger, Horst, to H. and F. W. Deckel. Machine tool for machining cylindrical and conical bores in workpieces. 3,105,413, 10-1-63, Cl. 90-14.
- Lanzilotti, Anthony E.: *See*—  
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- Lanzone, William L. Auxiliary brake pedal for a vehicle. 3,075,602, 1-29-63, Cl. 180-77.
- La Patka, Lawrence T., and W. P. Schmidt, to Burroughs Corp. Magnetic core assembly. 3,071,743, 1-1-63, Cl. 336-92.
- Laperouse, Robert M., to Imperial Sugar Co. Method for making soft or brown sugar. 3,074,821, 1-22-63, Cl. 127-63.
- Lapeyre, Fernand S., to The Peelers Co. Pressure finger loading device for a shrimp peeling machine. 3,070,832, 1-1-63, Cl. 17-2.
- Lapham, Edmund F., and I. H. McLaren, to The Bendix Corp. Seeker system. 3,081,050, 3-12-63, Cl. 244-14.
- Lapham, Edmund F., Jr., to The Bendix Corp. Directional antenna. 3,081,048, 3-12-63, Cl. 244-14.
- Lapham, Ella M. Convertible box. 3,110,398, 11-12-63, Cl. 206-45.
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- La Pierre, Thomas H., deceased; M. J. Crabtree, executrix, to E. L. Keathley. Support stand. 3,098,568, 7-23-63, Cl. 211-60.
- La Pierre, William H. Adjustable temple piece holder. 3,109,641, 11-5-63, Cl. 269-254.
- Lapof, Ray, to Torjesen Inc. Floor seal. 3,086,261, 4-23-63, Cl. 20-68.
- Lapof, Ray C., to Bar-Ray Products, Inc. Transfer device. 3,095,797, 7-2-63, Cl. 95-89.
- La Pointe, Gabriel M., to R & A Machine Co., Inc. Valve actuator. 3,085,781, 4-16-63, Cl. 251-67.
- Lapointe, Lloyd J. Decimal point mechanism for calculators. 3,087,673, 4-30-63, Cl. 235-161.
- Lapointe Machine Tool Co., The: *See*—  
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- Laporté Chemicals Ltd.: *See*—  
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- Laporté, Eugene F., to North American Aviation, Inc. Position indicator system. 3,075,190, 1-22-63, Cl. 343-10.
- Laporté, Fernand R., to United States Rubber Co. Overshoe heel. 3,071,817, 1-8-63, Cl. 18-58.
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- Laporté, Francis L. Temperature regulating control. 3,102,396, 9-3-63, Cl. 62-156.
- La Porte, Gordon G. Shelter. 3,091,056, 5-28-63, Cl. 50-48.
- Laporté, Guy. Automatically controlled levelling plough for cultivating in rows. 3,111,994, 11-26-63, Cl. 172-5.



- La Porte, Joseph M. Bow guide. 3,107,568, 10-22-63, Cl. 84-283.
- Laporte Titanium Ltd.: See—
- Bristow, Howard A. S. 3,102,785.
- Walmsley, Anthony. 3,109,708.
- Wigginton, Raymond J. 3,094,386.
- Wigginton, Raymond J., and Leighton. 3,073,712.
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- De Wald, Lee H., and Lapota. 3,089,766.
- Lapp, Douglas N.: See—
- Brosh, Amnon, and Lapp. 3,094,682.
- Lapp Insulator Co., Inc.: See—
- Corey, Charles E. 3,070,867.
- Lapp, Roger H.: See—
- Floyd, J. F. Rabardy, and Lapp. 3,084,506.
- Lapp, Roger H., and A. F. Hogrefe, to United States of America, Navy. Inductive link infrared fire detection and water injection system. 3,090,197, 5-21-63, Cl. 60-35.6.
- Lappin, Gerald R.: See—
- Tholstrup, Clarence E., and Lappin. 3,103,500.
- Lappin, Gerald R., J. W. Tamblin and J. A. Van Allan, to Eastman Kodak Co. Thiazolidones as light stabilizers for plastic compositions. 3,097,100, 7-9-63, Cl. 106-176.
- Lappin, James B., Jr. Absorbent device to absorb grease from articles. 3,070,899, 1-1-63, Cl. 34-95.
- Lappin, Richard J., and I. T. Wurn, to Brunswick Corp. Folding bleacher and operator therefor. 3,094,186, 6-18-63, Cl. 180-19.
- Lappin, Richard J., and J. E. Marshall, to Brunswick Corp. Mobile foldable bleacher. 3,103,707, 9-17-63, Cl. 20-126.
- Lapray, Judith M. E. By-passing device with a trap for land irrigation and other applications. 3,079,939, 3-5-63, Cl. 137-128.
- Lapsley, Robert, to Clark Equipment Co. Shifter mechanism. 3,111,040, 11-19-63, Cl. 74-346.
- Larbig, Wolfgang: See—
- Köster, Roland, and Larbig. 3,100,219.
- Larbre, Jean, to Institut Français du Pétrole des Carburants et Lubrifiants. Double injection device for internal combustion engines. 3,085,559, 4-16-63, Cl. 123-139.
- Larcan, Jan A., to Atlas Copco Aktiebolag. Rock drilling mechanisms. 3,085,638, 4-16-63, Cl. 175-129.
- Larchar, Arthur W.: See—
- Albright, Clayton M., Jr., and Larchar. 3,073,719.
- Larchar, Trescott B.: See—
- Clark, Sheldon L., Duke, Larchar, and Taft. 3,093,687.
- Larchar, Trescott B., Sr., to Olin Mathieson Chemical Corp. Method for preparing tetraalkyl quaternary ammonium borohydrides. 3,108,139, 10-22-63, Cl. 260-567.6.
- Larcher, Silvio, to Polymer Industrie Chimiche S.p.A. Steam fraction. 3,114,983, 12-24-63, Cl. 38-77.
- Lard, Edwin W.: See—
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- Lardelli, Guido, P. H. Begemann, P. D. Harkes, and A. S. M. van der Zijden, to Lever Brothers Co. Unsaturated butyrolactones and process for their production. 3,075,998, 1-29-63, Cl. 260-343.6.
- Larder, Marquand G. Replaceable ladder rung. 3,092,207, 6-4-63, Cl. 182-228.
- Larderello Società per Azioni per lo Struttamento delle Forze Endogene: See—
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- Lardner, William E.: See—
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- Larsen, Delmar H. Method of logging wells. 3,115,197, 12-24-63, Cl. 175-50.
- Larsen, Elmer J., to Western Electric Co., Inc. Methods of improving extrusion properties of lead-antimony alloys. 3,113,020, 12-3-63, Cl. 75-135.
- Larsen, Frank R., to Air Logistics Corp. Attachment steering apparatus for towable vehicles. 3,114,426, 12-17-63, Cl. 180-79.2.
- Larsen, Paul V., to Esco Corp. Dragline bucket trunnion. 3,112,572, 12-3-63, Cl. 37-135.
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- Smith, Frances M. 3,094,991.
- Larkin, Alfred F., Jr., to Chain Belt Co. Method of providing controlled interference fit of a chain pin in a pin plate. 3,092,957, 6-11-63, Cl. 59-8.
- Larkin Coils, Inc.: See—
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- Larkin, Cyril S., to Adhesive Tapes Ltd. Tape-applying machine. 3,079,977, 3-5-63, Cl. 156-353.
- Larkin, Daniel C. Refuse container for motor vehicle body. 3,109,537, 11-5-63, Cl. 206-19.5.
- Larkin, Mark E.: See—
- Vesper, Daniel M., and Larkin. 3,092,765.
- Larkin, Mark E., to Phillips Petroleum Co. Automatic self cleaning filter apparatus. 3,077,989, 2-19-63, Cl. 210-98.
- Larkin, Robert G., to General Motors Corp. Torquemeter. 3,084,540, 4-9-63, Cl. 73-136.
- Larkin Specialty Mfg. Co.: See—
- Dieguez, Lloyd E. 3,106,332.
- Larkworthy, Alan W., to Sciaky Electric Welding Machines Ltd. Welding electrodes. 3,109,087, 10-29-63, Cl. 219-120.
- Larham, Roy, and G. R. Stevens, to General Precision Systems Ltd. Driving training devices. 3,107,437, 10-22-63, Cl. 35-11.
- Larner, Bernard, to Allied Chemical Corp. Highway maintenance of elevated structures. 3,110,981, 11-19-63, Cl. 50-102.
- La Rocque, Ovila J. Drain cleaner. 3,085,585, 4-16-63, Cl. 134-169.
- La Roi, Geertruida M.: See—
- Ter Borg, Arne P., Van Helden, and La Roi. 3,084,194.
- Larrick, Benjamin F.: See—
- Murphy, Maurice F., and Larrick. 3,110,638.
- Larrieu, Leslie J., to Morris P. Kirk & Son, Inc. Alloy and method for the improvement of zinc base alloys. 3,083,096, 3-26-63, Cl. 75-178.
- Larry, George A., to Star Cutter Co. Hole forming or enlarging assembly. 3,071,030, 1-1-63, Cl. 77-62.
- Larsen, Aubrey A., to Sterling Drug Inc. Acylated 3,5-diaminopolyhalobenzoic acids. 3,076,024, 1-29-63, Cl. 260-490.
- Larsen, Aubrey A., to Sterling Drug Inc. Derivatives of 2,4,6-triiodobenzoyloxyalkanoic acids and preparation thereof. 3,097,228, 7-9-63, Cl. 260-471.
- Larsen, Ben H. Can carton. 3,083,825, 4-2-63, Cl. 206-65.
- Larsen, Charles T., and D. O. McGraw, to The Denver Publishing Co. Mat processing equipment. 3,072,774, 1-8-63, Cl. 219-34.
- Larsen, Delmar H., to National Lead Co. Higher alkyl onium salts of graphitic oxide. 3,084,172, 4-2-63, Cl. 260-348.
- Larsen, Eric R., to The Dow Chemical Co. Inhalation anesthetic: 2,2-dichloro-1,1-difluoroethyl methyl ether. 3,104,202, 9-17-63, Cl. 167-52.
- Larsen, Eric R., E. M. Ilgenfritz, and R. P. Ruh, to The Dow Chemical Co. 3,3-difluoroallyl esters. 3,080,405, 3-5-63, Cl. 260-408.
- Larsen, Eric R., and M. R. Broadworth, to The Dow Chemical Co. Inhalation anesthetic: 2-bromo-1,1,2-trifluoroethyl methyl ether. 3,095,354, 6-25-63, Cl. 167-52.
- Larsen, Ezra B.: See—
- Swerdlow, Jack, Larsen, and Troeleman. 3,093,142.
- Larsen, Henry M.: See—
- Hagner, Lawrence R., and Larsen. 3,082,859.
- Larsen, Henry M., to Western Electric Co., Inc. Multiple station machine tool. 3,082,856, 3-26-63, Cl. 198-33.
- Larsen, Lee D. Bowling glove device. 3,098,654, 7-23-63, Cl. 273-54.
- Larsen, Lester J.: See—
- Shutt, Paul B., Larsen, Barnes, and Pullano. 3,077,283.
- Larsen, Ludolph: See—
- Blomquist, Arthur G., Larsen, and Wermager. 3,098,132.
- Larsen, Lyle V., and T. Kaups, to Chicago Bridge & Iron Co. Storage tank. 3,112,044, 11-26-63, Cl. 220-18.
- Larsen, Norman B., to Corrosion Reaction Consultants, Inc. Metal protective coating composition. 3,093,491, 6-11-63, Cl. 106-14.
- Larsen, Norman B., to Corrosion Reaction Consultants Inc. Metal protective coating composition. 3,093,492, 6-11-63, Cl. 106-14.
- Larsen, Paul V., P. Eyolfson, G. W. Hill, and E. W. Dils, Jr., to Esco Corp. Ground-working tooth and method. 3,079,710, 3-5-63, Cl. 37-142.
- Larsh, Everett P. Gear members and method of producing same. 3,076,352, 2-5-63, Cl. 74-443.
- Larsh, Everett P. Winding apparatus. 3,102,698, 9-3-63, Cl. 242-1.1.
- Larson, Alpheus W. Combined memo pad and pencil holder. 3,102,739, 9-3-63, Cl. 281-15.
- Larson, Alvin R., to The S. H. Pomeroy Co. Sash balance connector. 3,070,831, 1-1-63, Cl. 16-197.
- Larson, B. Frances: See—
- Larson, Dale H. 3,071,197.
- Larson, Bennett I.: See—
- Cohrs, Arthur H., and Larson. 3,097,851.
- Larson, Chas. O., Co.: See—
- Larson, Charles O. 3,078,956.
- Larson, Charles O. 3,078,957.
- Larson, Charles O. 3,082,025.
- Larson, Charles O., to Chas. O. Larson Co. Collapsible sawhorse bracket assembly. 3,078,956, 2-26-63, Cl. 182-225.
- Larson, Charles O., to Chas. O. Larson Co. Collapsible sawhorse bracket assembly. 3,078,957, 2-26-63, Cl. 182-226.
- Larson, Charles O., to Chas. O. Larson Co. Folding table leg brackets. 3,082,025, 3-19-63, Cl. 287-14.
- Larson, Clifford B., and H. M. Flexible spot rinsing head for shower baths. 3,112,073, 11-26-63, Cl. 239-446.
- Larson, Dale H., deceased; B. F. Larson, executrix. Headland corrugator. 3,071,197, 1-1-63, Cl. 172-99.
- Larson, Dale L.: See—
- Hay, William J., and Larson. 3,085,755.
- Larson, Daniel A., to Westinghouse Electric Corp. Multiple envelope high pressure mercury vapor discharge lamp. 3,110,833, 11-12-63, Cl. 313-26.
- Larson, Daniel A., and P. J. Walsh, to Westinghouse Electric Corp. Electric discharge device. 3,089,972, 5-14-63, Cl. 313-34.
- Larson, Daniel H.: See—
- Higgins, Edward F., Jr., and Larson. 3,096,591.
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- Larson, Edwin E.: See—
- Brenton, William P., Jr. 3,114,155.
- Larson, Ernest O. and R. Apparatus for the guidance of granular material and the like. 3,095,073, 6-25-63, Cl. 193-33.
- Larson, Fred. Retractable landing gear. 3,088,699, 5-7-63, Cl. 244-102.
- Larson, Gerald W., and P. A. Mallak, to Minnesota Mining and Mfg. Co. Apparatus for coating discrete solid material. 3,110,626, 11-12-63, Cl. 118-303.



- Larson, Gordon D. Automobile passenger safety retainer. 3,105,702, 10-1-63, Cl. 280-150.
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- Moore, Carl E., Larson, and Meinstein. 3,074,908.
- Larson, Hugo R.: *See*—  
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- Larson, John E., and S. T. Ichikawa, to Shell Oil Co. Method of killing nematodes with hydrocarbon monothiois. 3,103,464, 9-10-63, Cl. 167-22.
- Larson, John F.: *See*—  
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- Larson, Lee R.: *See*—  
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- Larson, Leslie B. Attachments for an envelope handling machine. 3,106,877, 10-15-63, Cl. 93-62.
- Larson, Louis F., and W. C. George, to Riegall Paper Corp. Container and method of forming same. 3,082,583, 3-26-63, Cl. 53-29.
- Larson, Melvin L., to American Metal Climax, Inc. Molybdenum benzophenone compounds. 3,094,544, 6-18-63, Cl. 260-429.
- Larson, Olaf A.: *See*—  
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- Larson, R. V.: *See*—  
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- Larson, Raymond G. Foldable teaching aid. 3,077,041, 2-12-63, Cl. 35-73.
- Larson, Robert L., and W. W. Ervin, to General Motors Corp. Dynamoelectric machine. 3,076,110, 1-29-63, Cl. 310-194.
- Larson, Robert W. Skidder means. 3,086,666, 4-23-63, Cl. 214-85.5.
- Larson, Roy: *See*—  
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- Larson, Russell H.: *See*—  
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- Larson, Russell H., to International Business Machines Corp. Data translating system. 3,083,903, 4-2-63, Cl. 235-61.6.
- Larson, Victor J., to Hercules Powder Co. Nonpigmented cellulose ether coating composition and process. 3,071,484, 1-1-63, Cl. 106-172.
- Larson, Vincent H., and R. D. Holmberg, to United States of America, Air Force. Rapid opening valve. 3,095,901, 7-2-63, Cl. 137-522.
- Larson, Wesley S.: *See*—  
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- Larson, William M., and T. G. Mastin; said Larson assor. to The Goodyear Tire & Rubber Co. Composition comprising a polyester, dichlorobenzidine and 3,3'-dimethyl-4,4'-diphenylene diisocyanate and tire made therefrom. 3,107,235, 10-15-63, Cl. 260-75.
- Larsson, Bert G., and K. T. Ostmark, to Ingenjorsfirma T. Ostmark & Co. Wire bundle holder for electrical wiring. 3,082,984, 3-26-63, Cl. 248-68.
- Larsson, Bert R., to Von Tell Trading Co. AB. Hatch covers having hydraulic means for moving the sections. 3,107,722, 10-22-63, Cl. 160-188.
- Larsson, Bjorn E.: *See*—  
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- Larsson, Karl B., to Svenska Aktiebolaget Bromsregulator. Air brake cylinder with a built-in automatic brake slack adjuster. 3,100,032, 8-6-63, Cl. 188-196.
- Larsson, Karl-Eric, and O. S. Johansson, to Leje & Thurne Aktiebolag. Apparatus for dewatering suspensions and drying of the dry substance contained therein. 3,111,082, 11-19-63, Cl. 100-147.
- Larsson, Nils E. B. Valve for machines having a reciprocating piston. 3,112,063, 11-26-63, Cl. 230-229.
- Larsson, Nils E. B., and K. V. B. Lundvik, to Svenska Turbin Aktiebolaget Ljungstrom. Method of and means for combined operation of automatically capacity regulated compressors. 3,074,619, 1-22-63, Cl. 230-2.
- Larue, Albert D., to Varian Associates. Tunable cavity resonator. 3,093,804, 6-11-63, Cl. 333-83.
- La Rue, Mervin W., Jr., to Bell & Howell Co. Exposure control device for a photographic camera. 3,073,220, 1-15-63, Cl. 95-10.
- La Rue, Mervin W., Jr., to Bell & Howell Co. Backlighting and reflectance error compensation devices. 3,105,428, 10-1-63, Cl. 95-10.
- Larue, Napoleon L.: *See*—  
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- La Rue, Phillip G., to Calculator Corp. Door operating mechanism. 3,088,425, 5-7-63, Cl. 110-178.
- Lasak, Frank J.: *See*—  
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- La Salle Machine Tool, Inc.: *See*—  
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- La Salle Steel Co.: *See*—  
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- Lasar, William. Safety switch device. 3,081,390, 3-12-63, Cl. 200-172.
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- Lasher, Gordon J., and P. P. Sorokin, to International Business Machines Corp. Four spin flip maser with single maser action. 3,072,859, 1-8-63, Cl. 330-4.
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- Lawrence, Allan K., to Deere & Co. Alarm system for hay balers and the like. 3,083,681, 4-2-63, Cl. 116-60.
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Foltz, Robert E. 3,083,402.
- Lawrence, Donald M.: *See*—  
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De Muth, Russell T., and Lawrence. 3,074,688.
- Lawrence, Frank L., to Aerialmatic Engineering Ltd. Pump mounting. 3,104,620, 9-24-63, Cl. 103-218.
- Lawrence, Franklin I. L., to Kendall Refining Co. Lubricating composition. 3,083,162, 3-26-63, Cl. 252-33.4.
- Lawrence, Frederick R.: *See*—  
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- Lawrence, Herbert R., to United Aircraft Corp. Vector control system. 3,092,963, 6-11-63, Cl. 60-35.54.
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- Lawrence, Joyce M.: *See*—  
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- Lawrence Paper Co., The: *See*—  
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Kell, Waldo R. 3,109,217.
- Lawrence, Philip L.: *See*—  
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- Lawrence, Philip L., to Socony Mobil Oil Co., Inc. First break controlled inverse seismic filtering. 3,076,176, 1-29-63, Cl. 340-15.5.
- Lawrence, Philip L., and M. R. Foster, to Socony Mobil Oil Co., Inc. Elimination of instrumentation distortion. 3,076,177, 1-29-63, Cl. 340-15.5.
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- Lawrence, Ray V.: *See*—  
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- Lawrence, Roy: *See*—  
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- Lawry, Frank R. E., and C. C. Gaither; said Gaither assor, to Charles C. Gaither, Inc. Extractor tool. 3,071,848, 1-8-63, Cl. 29-267.
- Laws, Malcolm H., to Birch and Birch. Pelvic cavity treating device and medicament therefor. 3,086,524, 4-23-63, Cl. 123-173.
- Laws, Malcolm H., to Birch and Birch. Pressurized means for body cavity treatment. 3,104,663, 9-24-63, Cl. 123-224.
- Laws, Peter. Expansion turbines. 3,115,331, 12-24-63, Cl. 253-82.



- Lawson, Andrew L., and J. J. Maurin, to Chicago Bridge & Iron Co. Shell for fluid-cooled reactors. 3,105,808, 10-1-63, Cl. 204-193.2.
- Lawson, Colin G.: *See—*  
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- Lawson, David E. Foam plastic article of furniture. 3,084,980, 4-9-63, Cl. 297-455.
- Lawson, Ernest E., Jr. Automatic livestock feeder. 3,115,866, 12-31-63, Cl. 119-56.
- Lawson, F. H., Co., The: *See—*  
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- Lawson, George A.: *See—*  
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- Lawson, Gustaf R.: *See—*  
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- Lawson, Gustaf R., to General Electric Co. Flasher switch. 3,089,934, 5-14-63, Cl. 200-122.
- Lawson, Harry W., Jr., to Caledonia Electronics and Transformer Corp. Electrical transformer. 3,102,245, 8-27-63, Cl. 336-84.
- Lawson, Ivar S. Power control for presses. 3,099,175, 7-30-63, Cl. 78-39.
- Lawson, Joseph M., to Lawson Stacker Co., Inc. Automatic stick placer for lumber stacks. 3,081,888, 3-19-63, Cl. 214-6.
- Lawson, Shelby D., to Phillips Petroleum Co. Catalytic conversion. 3,071,538, 1-1-63, Cl. 208-120.
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- Lawton, Elliott J., and H. C. Woodruff, to General Electric Co. Process for improving the crocking and color-fastness of pigment-printed fibrous sheets by irradiation. 3,097,960, 7-16-63, Cl. 117-38.
- Lawton, Emil A., and J. Q. Weber, to North American Aviation, Inc. Preparation of chlorodifluoramine. 3,077,377, 2-12-63, Cl. 23-14.
- Lawton, Emil A., and J. Q. Weber, to North American Aviation, Inc. Difluoramine-ether propellant. 3,103,456, 9-10-63, Cl. 149-1.
- Lawton, Emil A., and D. Pilipovich, to North American Aviation, Inc. Method of preparing difluorodiazine. 3,109,711, 11-5-63, Cl. 23-205.
- Lawton Printing Co.: *See—*  
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- Lawton, William R., and E. F. Lopez, to Nashua Corp. Heat developable copy sheet and compositions useful therefor. 3,076,707, 2-5-63, Cl. 96-75.
- Lawton, William R., H. A. Smith, and J. N. Copley, to Nashua Corp. Heat sensitive marking papers and methods for making same. 3,090,697, 5-21-63, Cl. 117-36.7.
- Lawton, William R., and E. F. Lopez, to Nashua Corp. Heat activatable adhesive compositions containing a crystal complex of a liquid plasticizer. 3,104,979, 9-24-63, Cl. 106-178.
- Laxalt, Joyce N. Powder brush. 3,100,315, 8-13-63, Cl. 15-558.
- Laxo, Ed. Bimber stabilizer for can body side seamer. 3,086,487, 4-23-63, Cl. 113-12.
- Lay, Carlton E. Resilient bumper block. 3,113,642, 12-10-63, Cl. 188-32.
- Layburn, Robert L., to General Dynamics Corp. Power supply system. 3,071,653, 1-1-63, Cl. 179-86.
- Laycak, John F., to Jones & Laughlin Steel Corp. Electronic surface inspection system. 3,096,443, 7-2-63, Cl. 250-219.
- Laycock, Alfred H., and T. J. Lees, to C. & J. Hampton, Ltd. Shank mounting means for a slidable outer jaw wrench. 3,085,456, 4-16-63, Cl. 81-101.
- Laycock Engineering Ltd.: *See—*  
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- Laycock, Thomas B., Jr.: *See—*  
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- Layman, Meredith J. Barbecue drip pan. 3,106,886, 10-15-63, Cl. 99-421.
- Laymon, Frank L.: *See—*  
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- Layne & Bowler Pump Co.: *See—*  
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- Layne-Central Co.: *See—*  
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- Layne-Franklin Co.: *See—*  
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- Layne, Gilbert S., and R. J. Teitel, to United States of America, Atomic Energy Commission. Uranium-molybdenum-aluminum ternary alloy. 3,093,742, 7-23-63, Cl. 75-122.5.
- Layne, Harold W., Sr., to Inland Container Corp. Packaging structure. 3,110,435, 11-12-63, Cl. 229-40.
- Layne, Mark B. Wellhouse. 3,080,619, 3-12-63, Cl. 20-1.
- Layton, Allen. Convertible article of furniture. 3,086,224, 4-23-63, Cl. 5-52.
- Layton, Charles L.: *See—*  
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- Layton, Gerald E. Retrievable casing tester. 3,086,387, 4-23-63, Cl. 73-40.5.
- Layton, Gerald E. Retrievable casing tester. 3,108,467, 10-29-63, Cl. 73-40.5.
- Layton, J. C., and J. L. Perrin, to Towlsaver, Inc. Apparatus for dispensing and automatically dismounting rolls of material. 3,073,541, 1-15-63, Cl. 242-55.53.
- Layton, James L., Jr. Sorting and distributing device. 3,115,961, 12-31-63, Cl. 193-36.
- Lazar, David M. Sprocket for motion picture apparatus. 3,111,249, 11-19-63, Cl. 226-85.
- Lazar, Michael, to Burndy Corp. Pin and socket connectors. 3,079,582, 2-26-63, Cl. 339-217.
- Lazarenko, Natalia I.: *See—*  
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- Lazaro, Anton. Electroplating apparatus. 3,096,270, 7-2-63, Cl. 204-213.
- Lazarus, Allan K.: *See—*  
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- Lazarus, Ralph E.: *See—*  
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- La-Z-Boy Chair Co.: *See—*  
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- Lazo, Luis R., and B. Barish, to Thompson Ramo Wooldridge Inc. Turbocharger fence ring. 3,073,512, 1-15-63, Cl. 230-133.
- Lazo, Luis R., and B. Barish, to Thompson Ramo Wooldridge Inc. Turbocharger flexible nozzle ring. 3,112,096, 11-26-63, Cl. 253-55.
- Lazzarini, Louis P., 1/2 to G. I. Magnuson, and 1/2 to G. I. Magnuson, R. Magnuson, and L. J. Fox, as trustees. Rotary solenoid. 3,072,830, 1-8-63, Cl. 317-197.
- Lea, Kenneth R.: *See—*  
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- Lea, Lawrence N. Selective phonograph apparatus. 3,105,690, 10-1-63, Cl. 274-9.
- Lea, Lawrence N., to A. L. Oehrig. Leveling devices. 3,106,024, 10-8-63, Cl. 33-207.
- Lea, Lawrence N. One-point control selective phonograph apparatus. 3,109,655, 11-5-63, Cl. 274-9.
- Lea, Stanley T. Tire valve removing tool. 3,100,335, 8-13-63, Cl. 29-221.5.
- Leach, Burleigh H., and H. P. Nowak, to Sylvania Electric Products Inc. Bulb orienting apparatus. 3,105,585, 10-1-63, Cl. 198-33.
- Leach, Edward B., to Audley Engineering Co. Ltd. Thrust applying mechanism. 3,079,750, 3-5-63, Cl. 60-6.
- Leach, George A., to United Shoe Machinery Corp. Automatic bobbin winding machine. 3,086,720, 4-23-63, Cl. 242-20.
- Leach, Harold E.: *See—*  
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- Leach, Irby H., and F. H. Bickford. Plastic mold. 3,097,397, 7-16-63, Cl. 18-38.
- Leach, John M. Boat cleaning brush. 3,085,541, 4-16-63, Cl. 114-222.
- Leach, Sam L., to Pid Corp. Embossing apparatus and method for adjusting the length of an embossing roll. 3,100,439, 8-13-63, Cl. 101-32.
- Leach, Willis: *See—*  
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- Leader, Forest, to L & B Welding Equipment, Inc. Apparatus for replacing grouters and the like. 3,110,278, 11-12-63, Cl. 113-123.
- Leader, Forest D., and J. C. Lindgren, to L & B Welding Equipment, Inc. Means for controlling on and off periods of welding equipment in refacing link tracks and the like. 3,114,032, 12-10-63, Cl. 219-125.
- Leadon, Roland E.: *See—*  
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- Leafe, Percy S. H., to Needle Industries Ltd. Tool for the ripping of seams and like purposes. 3,100,935, 8-20-63, Cl. 30-294.
- Leak, H. J., & Co. Ltd.: *See—*  
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- Leak, Robert J., and M. C. Throckmorton, to Texaco Inc. Catalyst preparation. 3,111,494, 11-19-63, Cl. 252-470.
- Leake, Bernard W., and D. A. MacDonald, to Raytheon Co. Directional filters. 3,092,790, 6-4-63, Cl. 333-10.
- Leakey, David M., to The General Electric Co., Ltd. Low cross-talk delay circuit. 3,098,976, 7-23-63, Cl. 328-55.
- Leaman, Wilbur K.: *See—*  
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- Leaming, Robert R., to Metal & Thermit Corp. Electric welding apparatus and control system. 3,093,727, 6-11-63, Cl. 219-130.
- Leaming, Robert R., and W. W. Coffeen, to M & T Chemicals Inc. Electrode feeding mechanism for welding apparatus. 3,093,285, 6-11-63, Cl. 226-184.
- Leandri, Giuseppe, to Montecatini, Societa Generale per l'Industria Mineraria e Chimica. Polymeric compositions stabilized against heat, aging and light. 3,108,090, 10-22-63, Cl. 260-45.7.
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Imperi, Aldo P. 3,086,631.  
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Kutsche, Robert O. 3,103,230.  
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 Stoyke, Ludwig T. 3,092,153.  
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 Ware, Willard O. and R. C. 3,111,122.
- Lear, William P.: *See*—  
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- Lear, William P., to Lear Siegler, Inc. Combination clutch flywheel, and electric generator rotor. 3,103,604, 9-10-63, Cl. 310-78.
- Lear, William P., Sr., to Motorola, Inc. Altitude controller. 3,075,889, 1-29-63, Cl. 73-386.
- Learmont, Robert K.,  $\frac{1}{2}$  to C. J. Williams. Apparatus for loading, and storing articles. 3,094,940, 6-25-63, Cl. 104-98.
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- Learmont, Robert K., and J. J. Woods. Internal reinforced construction of trailers. 3,105,716, 10-1-63, Cl. 296-28.
- Learn, Arthur J.: *See*—  
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- Learn, Leland L.: *See*—  
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- Learner, Sydney E., A. J. and H. O. Bennett, and A. Davis, to Brewing Patents Ltd. Method for the continuous boiling of wort and extraction of hops. 3,113,027, 12-3-63, Cl. 99-52.
- Leary, Joseph A.: *See*—  
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- Leary, Ralph J., to Eosso Research and Engineering Co. Preparation of polyaminomethyl aromatic compounds. 3,081,347, 3-12-63, Cl. 260-570.9.
- Leasure, John K., to The Dow Chemical Co. Method for the control of undesired vegetation. 3,074,790, 1-22-63, Cl. 71-2.3.
- Leatham, Earl, and A. H. Pack, to Harbison-Walker Refractories Co. Production of dead burned magnesia. 3,091,514, 5-28-63, Cl. 23-201.
- Leathard, John F., to Wm. Cory & Son Ltd. Marine tankers. 3,076,423, 2-5-63, Cl. 114-74.
- Leather Industries Research Institute: *See*—  
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- Leather Research Corp.: *See*—  
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- Leather, William J. Two-speed gearbox. 3,102,438, 9-3-63, Cl. 74-764.
- Leathercraft, Inc.: *See*—  
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- Leathers, Clarence H. Drill string stabilizer. 3,103,391, 9-10-63, Cl. 308-4.
- Leatherwood Mfg. Co., Inc.: *See*—  
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- Leavenworth, Max H. Sound producing device. 3,094,972, 6-25-63, Cl. 116-147.
- Leaver, Eric W.: *See*—  
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- Leaver, Ralph H., and E. Knibbs, to Rolls-Royce Ltd. Engine starting systems. 3,071,125, 1-1-63, Cl. 123-179.
- Leavitt, Frederick C., and F. Johnson, to The Dow Chemical Co. Organo-tin metallic compounds. 3,116,307, 12-31-63, Cl. 260-429.7.
- Leaycraft, Edgar C., and G. H. Morris, Jr., to International Business Machines Corp. Method of producing ferrite bodies. 3,083,164, 3-26-63, Cl. 252-62.5.
- Le Baud, Pierre M., J. Lacour, and V. Ralevski, to Commissariat à l'Energie Atomique. Nuclear reactor control. 3,079,315, 2-26-63, Cl. 204-154.2.
- Lebeaux, Jacob M., and C. E. Ballard, to FMC Corp. Tubing hanger assembly. 3,072,420, 1-8-63, Cl. 285-137.
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- Le Bell, Clarence E.: *See*—  
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- Leber, Henry, to Ched-O-Matic Corp. Method for making cheese. 3,078,170, 2-19-63, Cl. 99-116.
- Lebherz, Robert W., Jr.: *See*—  
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- Le Blan, Louis, to North American Philips Co., Inc. Signal transmission and receiving system, more particularly for use in television. 3,095,479, 6-25-63, Cl. 179-15.
- Le Blanc, Allan J. Plastic collapsible sun hat. 3,097,363, 7-16-63, Cl. 2-177.
- Leblanc, G., Corp.: *See*—  
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- Le Blanc, Gerard J., and W. G. Martin. Tablet dispenser. 3,079,043, 2-26-63, Cl. 221-265.
- Le Blanc, John R., and J. G. Murray, to Monsanto Chemical Co. Preparation of methylene bis(monocarboxy-substituted aryl) compounds. 3,113,148, 12-3-63, Cl. 260-515.
- Leblanc, Leon, to G. Leblanc Corp. Clarinet. 3,079,828, 3-5-63, Cl. 84-382.
- Leblanc, Prosper J. Combination rake-mower. 3,094,830, 6-25-63, Cl. 56-24.
- Le Blanc, Robert B., to The Dow Chemical Co. Preparation of the ferric chelate of hydroxyethyliminodiacetic acid. 3,080,410, 3-5-63, Cl. 260-439.
- Le Blanc, Robert E., to The Hamilton Watch Co. Automatic timekeeping regulators. 3,114,238, 12-17-63, Cl. 58-85.5.
- Le Blanc, Walter J.: *See*—  
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- Leblans, Leopold M. L. J.: *See*—  
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- Leblon, Emile, and H. Lambert, to Solvay & Cie. Method for producing sodium perborate. 3,109,706, 11-5-63, Cl. 23-60.
- Le Blond, R. K., Machine Tool Co., The: *See*—  
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- Lebourg, Maurice P., to Borg-Warner Corp. Method and apparatus for detonating explosive devices in bore holes. Re. 25,407, 6-25-63, Cl. 166-35.
- Lebourg, Maurice P., to Schlumberger Well Surveying Corp. Well completion equipment. 3,080,925, 3-12-63, Cl. 166-236.
- Lebourg, Maurice P., to Schlumberger Well Surveying Corp. Fluid sampling apparatus. 3,104,713, 9-24-63, Cl. 166-142.
- Lebourg, Maurice P., to Schlumberger Well Surveying Corp. Sample taking apparatus. 3,107,730, 10-22-63, Cl. 166-100.
- Lebourg, Maurice P., to Schlumberger Well Surveying Corp. Well perforating method and apparatus. 3,110,257, 11-12-63, Cl. 102-20.
- Lebow Associates, Inc.: *See*—  
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- Lebow, Milton J., to Lebow Associates, Inc. Torque meter. 3,111,028, 11-19-63, Cl. 73-136.
- Lebow, Ralph H., to Parker-Hannifin Corp. Valve assembly seal means. 3,095,179, 6-25-63, Cl. 251-333.
- Le Brasse, Gordon J.: *See*—  
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- Le Bron, Andre. Combination cabinet bar unit. 3,110,533, 11-12-63, Cl. 312-222.
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- Le Brun, Eugene J., Jr.: *See*—  
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- Le Brusque, Rene, to H. Ernault Batignolles S.A. Fluid power system. 3,103,148, 9-10-63, Cl. 121-41.
- LeBus, Franklin L., Sr.: *See*—  
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- Le Bus, Franklin L., Sr., to Le Bus Royalty Co. Fleet angle correction apparatus. 3,078,060, 2-19-63, Cl. 242-157.1.
- Le Bus, Franklin L., Sr., to Wash Overshot and Spear Engineers, Inc. Combined wash-over and well tubing retriever apparatus. 3,082,831, 3-26-63, Cl. 175-315.
- Le Bus, Franklin L., Sr., to Le Bus Royalty Co. Braking apparatus and slack line control device. 3,095,183, 6-25-63, Cl. 254-175.
- Le Bus, Franklin L., Sr., to Le Bus Royalty Co. Unlatching joint apparatus. 3,097,001, 7-9-63, Cl. 285-361.
- Le Bus, Franklin L., Sr., and R. A. Crowley, to Le Bus Royalty Co. Cable reeving apparatus. 3,079,130, 2-26-63, Cl. 254-190.
- Le Bus, Jake H.: *See*—  
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- Le Caine, Hugh, to National Research Council. Keyboard for a monophonic instrument with improved sound-sustaining means. 3,095,466, 6-25-63, Cl. 81-1.11.
- Lechene, Leo L. Disposable gutter broom assembly. 3,074,094, 1-22-63, Cl. 15-180.
- Lecher, Hans Z.: *See*—  
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- Leckner, Russell E. Latching mechanism. 3,110,438, 11-12-63, Cl. 232-41.4.
- Leclabart, Jean. Device for ventilating heating sleeves for hair waving. 3,071,142, 1-1-63, Cl. 132-48.
- Le Clair, Hugh G., to E. I. du Pont de Nemours and Co. Process of coating irradiated polymer substrates. 3,111,424, 11-19-63, Cl. 117-47.
- Le Clear, Robert L., to T & S Equipment Co. Manually operated dockboard. 3,071,790, 1-8-63, Cl. 14-71.
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- Leclerc, Jacqueline, to Societe d'Etudes Chimiques Pour l'Industrie et l'Agriculture. Method of removing starch size from cellulose fabric with aqueous alkaline medium containing alkali metal bromides, alkali metal hypobromites or mixtures thereof. 3,083,072, 3-26-63, Cl. 8-138.
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- Lecomte, Robert P.: *See*—  
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- Le Counte, Roy D., and R. L. Cole. Floor or like sweeping means. 3,106,733, 10-15-63, Cl. 15-49.
- Lecrone, Dale S., to Alto Corp. Roll slicing machine. 3,112,780, 12-3-63, Cl. 146-73.
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- Ledel, Alvin L.: *See*—  
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- Lederer, Ernest A., to Westinghouse Electric Corp. Device for converting thermal energy into electrical energy. 3,093,757, 6-11-63, Cl. 310-4.
- Lederer, Joseph: *See*—  
Birnbaum, Hermann, and Lederer. 3,102,129.
- Lederer, Kurt, to Agfa Aktiengesellschaft. Built-in exposure metering arrangement for a single lens reflex camera. 3,093,044, 6-11-63, Cl. 95-10.
- Lederle, Rembe,  $\frac{1}{2}$  to Societal Anonima Cros. Process for the preparation of N,N'-ethylene-bis-2-(O-hydroxyaryl) glycine ferric chelates. 3,095,297, 6-25-63, Cl. 71-1.
- Lederman, Albert,  $\frac{1}{2}$  to Packard-Bell Electronics Corp. Radar systems. 3,114,148, 12-10-63, Cl. 343-17.1.
- Lederman, Sol J.: *See*—  
Prah, Walter H., Lederman, and Lichtblau. 3,073,868.
- Ledex, Inc.: *See*—  
Leland, Gerald H. 3,092,740.
- Leland, Gerald H., and Davis. 3,075,395.
- Ledford, Glenn J.: *See*—  
Broadrick, Ed B., and Ledford. 3,074,362.
- Broadrick, Ed B., Ledford, and McDowell. 3,103,903.
- Ledford, Glenn J., and H. S. McDowell, to James Lees and Sons Co. Control means for the backing fabric feed in a pile tufting machine. 3,100,466, 8-13-63, Cl. 112-79.
- Ledford-Todd Corp.: *See*—  
Anderson, Donald C. 3,106,176.
- Bennett, Elmer F. 3,088,214.
- Lednicer, Daniel, to The Upjohn Co. 17 $\beta$ -Dialkylamino-17-cyanosteroids and their 17 $\alpha$ -alkyl, alkylene and alkylene derivatives. 3,107,254, 10-15-63, Cl. 260-397.3.
- Ledoga S.p.A.: *See*—  
Bellucci-Sessa, Carlo. 3,086,834.
- Bellucci-Sessa, Carlo. 3,114,589.
- Le Duc, Joseph A. M., to Diamond Alkali Co. Process of electropolishing zinc. 3,088,886, 5-7-63, Cl. 204-140.5.
- Le Duc, Joseph A. M., to Diamond Alkali Co. Electropolishing of zinc-copper alloys. 3,088,887, 5-7-63, Cl. 204-140.5.
- Leduc, René. Stable hydraulic servo device. 3,099,940, 8-6-63, Cl. 91-49.
- Le Duc, William J.: *See*—  
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- Ledwith, Walter A.: *See*—  
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- Ledwith, Walter A., to United Aircraft Corp. Rocket igniter. 3,073,122, 1-15-63, Cl. 60-39.82.
- Ledwith, Walter A., to United Aircraft Corp. Oxidizer inlet and igniter for a rocket. 3,106,059, 10-8-63, Cl. 60-35.6.
- Ledwith, Walter A., and M. C. Benedict, to United Aircraft Corp. Injector head for liquid rocket. 3,071,925, 1-8-63, Cl. 60-39.46.
- Ledwith, Walter A., A. Hasbrouck, and F. Lattanzio, to United Aircraft Corp. Injector head for rockets. 3,115,009, 12-24-63, Cl. 60-35.6.
- Lee, Arthur L., and A. B. Coval, to Consolidation Coal Co. Constant mesh transmission and automatic brake therefor. 3,073,423, 1-15-63, Cl. 192-4.
- Lee, Arthur L., and A. B. Coval, to Consolidation Coal Co. Constant mesh transmission and hydraulic actuating circuit therefor. 3,080,773, 3-12-63, Cl. 74-732.
- Lee, Arthur L., and A. B. Coval, to Consolidation Coal Co. Fluid seal. 3,090,629, 5-21-63, Cl. 277-95.
- Lee, Arthur L., and A. B. Coval, to Consolidation Coal Co. Fluid seal. 3,100,647, 8-13-63, Cl. 277-59.
- Lee, Arthur L., and A. B. Coval, to Consolidation Coal Co. Fluid seal. 3,100,648, 8-13-63, Cl. 277-59.
- Lee, Bock W., to Bell Telephone Laboratories, Inc. Line concentrating telephone system. 3,073,906, 1-15-63, Cl. 179-18.
- Lee, Brian M.: *See*—  
Prestige, Harry T., Eade, Hale, Lee, Lovelock, Smith, and Teacher. 3,093,887.
- Lee, Burton D.: *See*—  
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- Lee, Charles A., to Bell Telephone Laboratories, Inc. Circuit employing negative resistance asymmetrically conducting devices connected in series randomly or sequentially switched. 3,109,109, 10-29-63, Cl. 307-88.5.
- Lee, Charles A., and H. G. White, to Bell Telephone Laboratories, Inc. Fabrication of PN junction devices. 3,082,127, 3-19-63, Cl. 148-1.5.
- Lee, Cheoy, Shipyard: *See*—  
Lo, To. 3,111,696.
- Lee, Clarence I. Ileostomy device. 3,081,771, 3-19-63, Cl. 128-283.
- Lee Co., The: *See*—  
Lee, Leighton, II. 3,109,459.
- Lee, Don N., to Ampex Corp. Circuit for sensing signal output of a magnetic-core memory. 3,096,510, 7-2-63, Cl. 340-17.4.
- Lee, Emerson H., to Monsanto Chemical Co. Dehydrogenation catalyst. 3,100,234, 8-6-63, Cl. 260-669.
- Lee Foundation for Nutritional Research: *See*—  
Lee, Royal. 3,107,934.
- Lee, Frank H.: *See*—  
Fisher, James C., Clark, and Lee. 3,081,871.
- Lee, Fred, to Sylvania Electric Products Inc. Sweep generation by constant current capacitive discharge through transistor. 3,109,107, 10-29-63, Cl. 307-88.5.
- Lee, Fred C. Patient transfer apparatus. 3,115,646, 12-31-63, Cl. 5-81.
- Lee, Fred G. H., and J. J. Svarz, to Nalco Chemical Co. Water-dispersible amido-quaternary ammonium salts. 3,072,690, 1-8-63, Cl. 260-404.5.
- Lee, Fred G. H., and J. J. Svarz, to Nalco Chemical Co. Treatment of cellulosic fibrous materials with diamide quaternaries and the resulting articles. 3,074,815, 1-22-63, Cl. 117-143.
- Lee, Ga Ken (formerly known as Lee Ga Ken). Grass and plant mower. 3,094,832, 6-25-63, Cl. 56-26.5.
- Lee, Georgia W.: *See*—  
Weaver, Elmer C. 3,098,431.
- Lee, Gerald W., to Weyerhaeuser Co. Process for making traffic markers. 3,114,597, 12-17-63, Cl. 18-58.
- Lee, Herbert C.: *See*—  
Fletcher, Ewan W. 3,075,698.
- Lee, Herbert P. Abrasive belt finishing machine. 3,095,674, 7-2-63, Cl. 51-141.
- Lee, Herbert S., to United States of America, Army. Aircraft propeller trailer. 3,116,070, 12-31-63, Cl. 280-38.
- Lee, James. Cat and bird game. 3,098,652, 7-23-63, Cl. 273-1.
- Lee, John E.: *See*—  
Carmellini, Andrew E., Lee, and Hornkohl. 3,107,818.
- Lee, John W.: *See*—  
Phillips, Robert A., and Lee. 3,071,514.
- Lee, John W. G. Instant hot water system. 3,097,661, 7-16-63, Cl. 137-335.
- Lee, Leighton, II., to The Lee Co. Fluid resistor. 3,109,459, 11-5-63, Cl. 138-40.
- Lee, Lieng-Huang, and H. Keskkula, to The Dow Chemical Co. Ether terminated polycarbonates. 3,080,342, 3-5-63, Cl. 260-47.
- Lee, Lieng-Huang, and H. Keskkula, to The Dow Chemical Co. Alkyl amine terminated polycarbonates. 3,085,992, 4-16-63, Cl. 260-47.
- Lee, Louis J., to Eastman Kodak Co. Process for preparing a cooked cereal and the resulting product. 3,113,868, 12-10-63, Cl. 99-83.
- Lee, Louis J., to Eastman Kodak Co. Process for preparing an alimentary paste and the resulting product. 3,113,869, 12-10-63, Cl. 99-85.
- Lee, Maurice W., Sr. Aromatic pressure cooker. 3,078,783, 2-26-63, Cl. 99-259.
- Lee, Maurice W., Sr. Steak cooker and tenderizer. 3,098,426, 7-23-63, Cl. 99-339.
- Lee, Max M., to General Electric Co. Insulated conductor and method of producing same. 3,074,818, 1-22-63, Cl. 117-232.
- Lee, Max M., to General Electric Co. Resinous reaction product of (1) a polyglycidyl ether, (2) a boron ester and (3) a tertiary amine. 3,102,873, 9-3-63, Cl. 260-47.
- Lee, Mortimer, to Lockheed Aircraft Corp. Trace identification device. 3,081,458, 3-12-63, Cl. 346-45.
- Lee, Norman, to The Keelavite Co. Ltd. Relay apparatus. 3,084,312, 4-2-63, Cl. 317-158.
- Lee, Paul H.: *See*—  
Smith-Vaniz, William R., and Lee. 3,110,864.
- Smith-Vaniz, William R., and Lee. 3,110,869.
- Lee, Paul L.: *See*—  
Weaver, Elmer C. 3,098,431.
- Lee, Ralph J.,  $\frac{1}{2}$  to W. E. Stanfield, and  $\frac{1}{2}$  to P. J. Ullrich. Earth moving machine. 3,109,249, 11-5-63, Cl. 37-129.
- Lee, Richard J., to Armour and Co. Preparation of terminally unsaturated olefins from aliphatic carboxylic acids. 3,109,040, 10-29-63, Cl. 260-681.
- Lee, Robert A., and C. S. Marie, to The Bendix Corp. Television system utilizing beam pulsing to improve sensitivity at low light levels and coordinated means to eliminate flicker at the kinescope display. 3,090,829, 5-21-63, Cl. 178-6.8.
- Lee, Robert B. Z-drive water jet propulsion unit. 3,073,277, 1-15-63, Cl. 115-12.
- Lee, Robert C. K.: *See*—  
Falkner, Victor L., Hendrick, and Lee. 3,079,108.
- Lee, Robert C. K., to Minneapolis-Honeywell Regulator Co. Marine craft and control apparatus therefor. 3,081,729, 3-19-63, Cl. 114-66.5.
- Lee, Robert C. K., to Minneapolis-Honeywell Regulator Co. Aircraft automatic control apparatus. 3,113,749, 12-10-63, Cl. 244-77.
- Lee, Robert C. K., and A. L. Ljungwe, to Minneapolis-Honeywell Regulator Co. Control apparatus for aircraft. Re. 25,491, 12-3-63, Cl. 244-77.
- Lee, Robert H., to Basler Electric Co. Transistor converters. 3,089,075, 5-7-63, Cl. 321-45.
- Lee, Robert H., to Basler Electric Co. Converters. 3,089,076, 5-7-63, Cl. 321-45.
- Lee, Robert H., to Basler Electric Co. Transistor converters. 3,089,077, 5-7-63, Cl. 321-45.
- Lee, Royal. Combined internal combustion and steam engines. 3,074,228, 1-22-63, Cl. 60-16.



- Lee, Royal, to Lee Foundation for Nutritional Research. Safety door bolt. 3,107,934, 10-22-63, Cl. 292—150.
- Lee, Thomas H.: *See—*  
Greenwood, Allan N., and Lee. 3,082,307.
- Lee, Thomas H., to General Electric Co. Vacuum-type circuit interrupter. 3,071,667, 1-1-63, Cl. 200—144.
- Lee, Thomas J., L. M. Patrick, and A. W. Schultz, to R. L. Polk & Co. Camera apparatus. 3,078,775, 2-26-63, Cl. 95—34.
- Lee, Ting-Kuo: *See—*  
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- Lee, Tsium L., W. L. Stahl, and W. R. Vincent, to International Business Machines Corp. Counter circuits. 3,105,141, 9-24-63, Cl. 235—92.
- Lee, Warren G., to General American Transportation Corp. Process of treating nickel-phosphorus alloy coatings and the resulting modified coatings. 3,088,846, 5-7-63, Cl. 117—71.
- Lee, Wei H., and R. C. Good, to International Minerals & Chemical Corp. Amino acid synthesis. 3,087,863, 4-30-63, Cl. 195—47.
- Lee, William F., and J. B. Allen, to W. A. Quinn, and W. J. Wyatt. Cotton picking machines and the like. 3,106,356, 10-8-63, Cl. 242—55.1.
- Lee, William H. Adjustable speed brushless A.C. motor. 3,114,094, 12-10-63, Cl. 318—238.
- Lee, William T., D. W. Osmun, and J. L. Newman, to Bowen-Itco, Inc. Packer retrieving tool. 3,108,637, 10-29-63, Cl. 166—99.
- Lee, Willis L. Directly coupled transistor amplifier with positive and negative feedback. 3,096,487, 7-2-63, Cl. 330—17.
- Lee, Wing J. Shirt folding machine. 3,111,246, 11-19-63, Cl. 223—37.
- Lee, Yee. Hyperbolic hopper outlet means. 3,071,297, 1-1-63, Cl. 222—462.
- Leece-Neville Co. The: *See—*  
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- Leech, Donald J.: *See—*  
Quick, Desmond F. J., and Leech. 3,097,504.
- Leech, Donald J., and B. H. Rogers, to Normalair Ltd. Air conditioning. 3,097,508, 7-16-63, Cl. 62—402.
- Leech, Harry R., and F. Riding, to Imperial Chemical Industries Ltd. Surface treatment of titanium or titanium base alloy. 3,085,949, 4-16-63, Cl. 204—29.
- Leech, John G., and T. B. Fleischer, to West Virginia Pulp and Paper Co. Filler for paper and method of making the same. 3,099,570, 7-30-63, Cl. 106—288.
- Leech, Robert E., and J. K. Rose, to Union Carbide Corp. Polyester resins. 3,092,597, 6-4-63, Cl. 260—29.2.
- Leech, Robert E., and W. F. Goldsmith, to Union Carbide Corp. Stabilized cyanoethoxy alcohols. 3,100,793, 8-13-63, Cl. 260—465.6.
- Leech, Robert R., J. Weits, and H. J. Held, to The Ducon Co., Inc. Dust collector. 3,078,646, 2-26-63, Cl. 55—96.
- Leeder, Harry A., Jr., to R. E. Dietz Co. Flashing lamp circuit using a transistor oscillator. 3,113,242, 12-3-63, Cl. 315—200.
- Leedpak, Inc.: *See—*  
Leeds, Carl M., Connell, and Hurrey. 3,072,959.
- Leeds, Carl M., F. A. Connell, and R. C. Hurrey, to Leedpak, Inc. Machine for making plastic bottles. 3,072,959, 1-15-63, Cl. 18—4.
- Leeds, Harry R., to S. C. Johnson & Son, Inc. Printing members and method of making same. 3,101,668, 8-27-63, Cl. 101—401.1.
- Leeds, Laurence M., to General Electric Co. Two transistor gate circuit. 3,114,844, 12-17-63, Cl. 307—88.5.
- Leeds and Micallef: *See—*  
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- Leeds, Morton W.: *See—*  
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- Leeds, Morton W., J. P. Russell, and J. F. Vitcha, to Air Reduction Co., Inc. Preparation of acetylenic glycols. 3,108,140, 10-22-63, Cl. 260—635.
- Leeds and Northrup Co.: *See—*  
Cheng, Theodore, MacNabb, and List. 3,109,130.  
Cohn, Nathan. 3,076,898.  
Cohn, Nathan. 3,107,305.  
Cranch, Edward J., Davis, and Voorhoeve. 3,092,321.  
Davis, Frederick B., 3rd. 3,071,693.  
Davis, Raymond L., II. 3,084,999.  
Eynon, James U. 3,086,169.  
Hance, Richard J. 3,101,618.  
Hitt, James J. 3,107,309.  
Jakacki, Wallace B., and Harple. 3,091,726.  
Jenkins, Theron W., Jr. 3,109,102.  
Johnson, Curtis R. A., Garvin, Ruppenthal, Morris, and Binder. 3,071,772.  
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McFadden, Harold E., Staley, and Dawson. 3,103,123.  
Moore, John H. 3,076,137.  
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- Leeds, Winthrop M., to Westinghouse Electric Corp. Circuit interrupters. 3,071,671, 1-1-63, Cl. 200—148.
- Leeds, Winthrop M., to Westinghouse Electric Corp. Compressed-gas circuit interrupter. 3,073,931, 1-15-63, Cl. 200—148.
- Leeds, Winthrop M., to Westinghouse Electric Corp. Circuit interrupter of the fluid blast type. 3,091,678, 5-28-63, Cl. 200—150.
- Leeds, Winthrop M., and H. J. Lingal, to Westinghouse Electric Corp. Circuit interrupters. 3,071,669, 1-1-63, Cl. 200—145.
- Leedy, Nelson J.: *See—*  
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- Leeford (London) Ltd.: *See—*  
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- Leekley, Robert M., and R. L. Sorensen, to Time, Inc. Polyamide photographic printing plate and method of using same. 3,081,168, 3-12-63, Cl. 96—35.
- Leeming, John H., Jr., C. M. Kenrich, and R. C. Rice, Jr. Portable direction finder. 3,115,635, 12-24-63, Cl. 343—113.
- Leenders, Peter, and H. G. Creutz, to Allied Research Products, Inc. Process and composition for electroplating copper. 3,084,112, 4-2-63, Cl. 204—52.
- Leeper, Charles K., to United Nuclear Corp. Labyrinth control valve. 3,078,877, 2-26-63, Cl. 138—43.
- Leeper, Harold M., to Monsanto Chemical Co. Light colored tire sidewall impervious to migratory staining materials. 3,073,371, 1-15-63, Cl. 152—330.
- Lees, James, and Sons Co.: *See—*  
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Ballard, Hyde W. 3,095,840.  
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Kaffine, Heinrich O., and Oberholtzer. 3,080,837.  
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Oberholtzer, Robert E., and Kaffine. 3,112,721.  
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- Lees, Nathaniel P., to The Singer Co. Looper mechanism for sewing machines. 3,099,973, 8-6-63, Cl. 112—199.
- Lees, Sidney. Integrating linear accelerometer. 3,101,000, 8-20-63, Cl. 73—503.
- Lees, Sidney. Polar accelerometer. 3,101,003, 8-20-63, Cl. 73—517.
- Lees, Thomas J.: *See—*  
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- Leeser, Werner M., to Steelcraft Mfg. Co., Inc. Sectional metal door frames. 3,103,263, 9-10-63, Cl. 189—46.
- Leeson, David B.: *See—*  
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- Leesona Corp.: *See—*  
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Landon, Herbert. 3,098,932.  
Lieb, Harry C. 3,078,327.  
Lieb, Harry C., and De Rosa. 3,096,218.  
Miller, Harry B. 3,102,702.  
Moos, Anthony M. 3,083,251.  
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Stoddard, Nicholas J., and Seem. 3,077,724.  
Stoddard, Nicholas J., and Seem. 3,091,912.  
Stoddard, Nicholas J., and Seem. 3,112,600.
- Leetmaa, Juri G., and G. S. Uebele, to Hughes Aircraft Co. Ferrite circulator with conductive plate of uniform thickness having tapered angular apexes for broad banding. 3,104,361, 9-17-63, Cl. 333—1.1.
- Leeville Shipyard Corp.: *See—*  
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- Lefebvre, Arthur H., to Rolls-Royce Ltd. Combustion chamber. 3,080,715, 3-12-63, Cl. 60—39.65.
- Le Febvre, Arthur H., to The Bendix Corp. Barometric altitude sensitive signal control mechanism. 3,083,343, 3-26-63, Cl. 336—30.
- Lefebvre, Arthur H., and R. A. Rice, to Rolls-Royce Ltd. Reheat combustion equipment of gas-turbine engines. 3,085,401, 4-16-63, Cl. 60—39.72.
- Lefebvre, Arthur H., and S. C. Miller, to Rolls-Royce Ltd. Reducing smoke in gas turbine engine exhaust. 3,088,280, 5-7-63, Cl. 60—39.55.
- Lefebvre, Fredrick L. Sectional oven unit. 3,102,942, 9-3-63, Cl. 219—35.
- Lefebvre Freres Limitee: *See—*  
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- Lefebvre & Martin, Etablissements: *See—*  
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- Lefebvre, Paul A.: *See—*  
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- Lefebvre, Paul A., and R. O. Collapsible tent. 3,073,326, 1-15-63, Cl. 135—1.
- Lefebvre, Reine D.: *See—*  
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- Lefebvre, Reine D. and P. A. Shelter. 3,084,703, 4-9-63, Cl. 135-1.
- Lefevre, Richard M., to Baker Perkins Inc. Oven loader. 3,109,391, 11-5-63, Cl. 107-57.
- Lefevre, Lorin. Hydraulic engine. 3,090,364, 5-21-63, Cl. 121-158.
- Le Fevre, Walter J., and D. P. Sheetz, to The Dow Chemical Co. Emulsion polymerization with amino alcohol esters as cationic comonomers. 3,108,979, 10-29-63, Cl. 260-29.6.
- Leff, Jerry, to International Business Machines Corp. Methods of etching a semiconductor device. 3,088,888, 5-7-63, Cl. 204-143.
- Leffeld, Nathan. Rotatable merchandise display. 3,088,599, 5-7-63, Cl. 211-13.
- Leffert, Charles B.: *See*—  
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- Leffingwell Chemical Co.: *See*—  
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- Leffler, Charles L., Jr., and T. R. Curran, to Mine Safety Appliances Co. Breathing apparatus canister holder. 3,111,947, 11-26-63, Cl. 128-191.
- Le Fiehl Co.: *See*—  
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- Le Fleming, Richard C.: *See*—  
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- Leflet, Herbert A., Jr.: *See*—  
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Carson, Frank J., and Leflet. 3,086,376.  
Carson, Frank J., and Leflet. 3,087,317.  
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- Leflet, Herbert A., Jr., to Libbey-Owens-Ford Glass Co. Apparatus for cleaning glass sheets. 3,074,258, 1-22-63, Cl. 65-159.
- Leflet, Herbert A., Jr., to Libbey-Owens-Ford Glass Co. Apparatus for bending glass sheets. 3,086,377, 4-23-63, Cl. 65-290.
- Lefnaer, Otto. Bag lock and packing means. 3,072,986, 1-15-63, Cl. 24-16.
- Lefort, Alfred P.: *See*—  
Boch, Robert F. E., Rios, and Lefort. 3,085,720.  
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- Lefort & Cie, Societe: *See*—  
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- Le Fort, Edmond. Adjustable fireplace grill. 3,111,123, 11-19-63, Cl. 126-137.
- Lefrancois, Bernard: *See*—  
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- Lefrancois, Bernard, and G. Lepoutre, to Houilleres du Bassin du Nord et du Pas-de-Calais and Commissariat a l'Energie Atomique. Method for preparing amides of potassium, rubidium or cesium. 3,082,158, 3-19-63, Cl. 204-59.
- Le Francois, John E.: *See*—  
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- Leftwich, Richard F.: *See*—  
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- Legator, Marvin. W. A. Kreutzer, and S. B. Soloway, to Shell Oil Co. Soil fungicide. 3,080,274, 3-5-63, Cl. 167-22.
- Legatski, Harold R., to Phillips Petroleum Co. Treatment of potash ores. 3,080,220, 3-5-63, Cl. 23-312.
- Legatski, Harold R., to Phillips Petroleum Co. Refrigeration of liquefied gases. 3,096,625, 7-9-63, Cl. 62-54.
- Legatski, Theodore W., to Phillips Petroleum Co. Initiating and controlling underground combustion. 3,091,225, 5-28-63, Cl. 122-156.
- Legatti, Raymond H.: *See*—  
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- Leger, Alton, Jr., to Minneapolis-Honeywell Regulator Co. Hall effect electrical apparatus. 3,099,792, 7-30-63, Cl. 323-94.
- Legg, Harvey H. Sandpaper backing disk. 3,111,792, 11-26-63, Cl. 51-177.
- Legg, James B.: *See*—  
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- Legg, Lawrence E. Locked wheel detector for use on railroads. 3,110,463, 11-12-63, Cl. 246-246.
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- Legler, Bobby, to The Dow Chemical Co. Apparatus for curing foamed materials. 3,112,524, 12-3-63, Cl. 18-6.
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- Legler, Ernst, to Fernseh G.m.b.H. Cinematographic film transport apparatus. 3,114,489, 12-17-63, Cl. 226-3.
- Legnani, Umberto. Writing instrument. 3,103,205, 9-10-63, Cl. 120-42.03.
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- Le Goff, Lucien, to Societe d'Electricite Mars, Societe Anonyme dite: Devices for displaying information. 3,106,794, 10-15-63, Cl. 40-28.
- Legrand, Karlheinz: *See*—  
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- Lehman, Louis H. Auxiliary towel rod assembly. 3,096,731, 7-9-63, Cl. 108-29.
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- Lehmann, Donald E. Fence winding apparatus. 3,106,358, 10-8-63, Cl. 242-56.
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- Lehmann, Ernest H., and R. W. Gundlach, to Xerox Corp. Cascade development improvement. 3,105,770, 10-1-63, Cl. 117-17.5.
- Lehmann, Fred E., to Erie Resistor Corp. Capacitor. 3,111,612, 11-19-63, Cl. 317-242.
- Lehmann, Guenther W. Maritime salvage equipment. 3,080,844, 3-12-63, Cl. 114-54.
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- Leibee, Joseph B., to E. I. du Pont de Nemours and Co. Tire construction. 3,115,921, 12-31-63, Cl. 152-361.
- Leiberman, Harry. Water tricycle. 3,091,209, 5-28-63, Cl. 115-2.
- Leibinger, Berthold, and E. Herb, to Messrs. Trumpf & Co. Work feed device for reciprocating machine tool. 3,076,367, 2-5-63, Cl. 83-227.
- Leibner, Robert. Pipe cleaning and coating apparatus. 3,106,491, 10-8-63, Cl. 118-2.
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- Leighton, Francis, and A. D. Herman, to Crane Co. Auxiliary spring powered safety actuator for brakes of the fluid operated type. 3,115,069, 12-24-63, Cl. 92-63.
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- Lemelson, Jerome H. Automatic measurement apparatus. 3,081,379, 3-12-63, Cl. 178-6.6.
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- Lemelson, Jerome H. Compression springs. 3,084,926, 4-9-63, Cl. 267-1.
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- Lemmens, Hendrikus J., J. Bloem, E. F. de Haan, and M. J. Jansen, to North American Philips Co., Inc. Method of manufacturing oxide cathodes and cathodes manufactured by such methods. 3,088,851, 5-7-63, Cl. 117-221.
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- Lengyel, Charles N., to Kropp Forge Co. Conveyor chain link. 3,095,753, 7-2-63, Cl. 74-248.
- Lengyel, John F., and E. H. Barlow, to Scovill Mfg. Co. Delayed action drain valve. 3,076,973, 2-12-63, Cl. 4-56.
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- Lenhart, Herbert S., to Fuller Co. Pneumatic conveying apparatus. 3,106,428, 10-8-63, Cl. 302-50.
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- Leniz, Joe A. Dispenser and applicator for thumb tacks. 3,101,477, 8-27-63, Cl. 1-46.
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Cubidge, James F., Drukker, Fernald, Lenk, Turner, Weeks, and Wiest. 3,080,512.
- Lenk, Wilhelm, to Barmer Maschinenfabrik Aktiengesellschaft. Balloon control for double twist apparatus. 3,077,726, 2-19-63, Cl. 57-58.83.
- Lenke, Paul W.: *See*—  
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- Lenkurt Electric Co., Inc.: *See*—  
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- Kuhn, Henry. 3,114,005.
- Salibi, Jalal T. 3,074,000.
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- Lennartz, Walter. Assembly folder. 3,099,463, 7-30-63, Cl. 281-19.
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- Lennon, Fred A., and E. J. Cator, to Crawford Fitting Co. Packed wedge type coupling having positioning means. 3,075,793, 1-29-63, Cl. 285-342.
- Lennon, Fred A., and E. J. Zahuranec, to Crawford Fitting Co. Controlled phase sequential gripping device. 3,103,373, 9-10-63, Cl. 285-342.
- Lennon, George V., III, and H. Lins, Jr., to General Dynamics Corp. Automatic gain control circuit. 3,098,195, 7-16-63, Cl. 323-79.
- Lennon, George V., III, and H. Lins, Jr., to General Dynamics Corp. Step automatic gain control system. 3,116,453, 12-31-63, Cl. 325-319.
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- Lennon, John J., to Netteco Corp. Apparatus with sealed rotary impeller shaft. 3,115,333, 12-24-63, Cl. 259-107.
- Lennon, John J., to Netteco Corp. Container having means for preventing escape of fluid therefrom where a shaft enters the same. 3,115,347, 12-24-63, Cl. 277-59.
- Lennon, Robert J. Hose nozzle. 3,072,345, 1-8-63, Cl. 239-456.
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- Lenoir, Raymond. Rolling wheel toy. 3,080,677, 3-12-63, Cl. 46-220.
- Lense, Frederick T., to Esso Research and Engineering Co. Picking and ginning aid. 3,101,295, 8-20-63, Cl. 117-139.5.
- Lense, Frederick T., to Monsanto Chemical Co. Method and composition for fulling fabrics. 3,104,443, 9-24-63, Cl. 26-19.
- Lensner, Herbert W., and H. G. Farley, to Westinghouse Electric Corp. Pilot-wire systems. 3,114,140, 12-10-63, Cl. 340-213.
- Lent, Ralph C., to Hanawai Mfg. Co., Ltd. Irrigation unit. 3,099,393, 7-30-63, Cl. 239-97.
- Lent, Ralph C., to Hanawai Mfg. Co., Ltd. Vehicle coupler or hitch. 3,099,462, 7-30-63, Cl. 280-478.



- Lentini, Leo A., to Universal Oil Products Co. Cork borer. 3,074,162, 1-22-63, Cl. 30-142.
- Lents, Charles M., to John E. Mitchell Co. Machine for making an icy product with torque sensitive control. 3,108,449, 10-29-63, Cl. 62-70.
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- Lentz, Norman E., to Bell Telephone Laboratories, Inc. Blocking oscillator frequency divider. 3,108,198, 10-22-63, Cl. 307-88.5.
- Lenz, Bernhard: *See*—  
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- Lenz, Carl, deceased, by E. J. Aberle, executor, to Westinghouse Electric Corp. Article-transfer device. 3,096,795, 7-9-63, Cl. 140-71.6.
- Lenz, Carl, and R. Hasell, to Westinghouse Electric Corp. Wire-looping device. 3,074,442, 1-22-63, Cl. 140-71.6.
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- Leo, Bertrand, to Electricite de France-Service National. Method and means for locking and releasing in succession a load moving inside a channel. 3,100,029, 8-6-63, Cl. 187-76.
- Leo, Bertrand, J. Delpla, and P. Pounhet, to Electricite de France-Service National. Device for successively immobilizing and rendering mobile a load displaceable within a conduit. 3,109,516, 11-5-63, Cl. 187-76.
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- Leo, Robert E., to General Electric Co. Binary counter. 3,084,286, 4-2-63, Cl. 328-42.
- Leo, Robert E., to General Electric Co. General purpose document sorting system. 3,097,745, 7-16-63, Cl. 209-111.5.
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- Leon, Edward: *See*—  
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- Leon, Edward, to Hooker Chemical Corp. Diels alder adducts of perchlorocoumalin. 3,092,641, 6-4-63, Cl. 260-343.2.
- Leon, Ted J.: *See*—  
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- Leonard, Clarence E. Process and product for removing rust and coating materials. 3,097,118, 7-9-63, Cl. 148-6.15.
- Leonard, Daniel J. Golf putter hand grip. 3,077,349, 2-12-63, Cl. 273-81.4.
- Leonard, Edward C., Jr., and W. L. Wheelwright, to Union Carbide Corp. Process for preparing phosphorylated elastomeric copolymers of ethylene and propylene. 3,097,194, 7-9-63, Cl. 260-88.2.
- Leonard, Fred: *See*—  
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- Leonard, Henderson G. Demountable scaffolding for side mounting on columns. 3,082,843, 3-26-63, Cl. 182-82.
- Leonard, Henderson G. Suspension structure for demountable scaffolds. 3,096,064, 7-2-63, Cl. 248-323.
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- Leonard, James D., and G. T. Stropki, to North American Aviation, Inc. Microwave electrical thickness comparator utilizing a waveguide probe. 3,102,232, 8-27-63, Cl. 324-58.5.
- Leonard, James H., and F. E. Chabot, to I-T-E Circuit Breaker Co. Panelboard adapter. 3,095,524, 6-25-63, Cl. 317-117.
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- Leonard, Margaret S. Variable speed transmission. 3,099,925, 8-6-63, Cl. 74-372.
- Leonard, Merrill G., and W. A. Siefert, to Westinghouse Electric Corp. Progressive winding of coils. 3,071,845, 1-8-63, Cl. 29-155.57.
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- Leonard, Raymon R., and M. Krakauer, to Rowe Mfg. Co. Inc. Refrigerated-sandwich merchandising machine. 3,087,649, 4-30-63, Cl. 221-90.
- Leonard, Richard J. Patching plaster compositions. 3,100,715, 8-13-63, Cl. 106-110.
- Leonard, Ronald K., and W. F. Buchele. Machine and method for harvesting cucumbers. 3,084,496, 4-9-63, Cl. 56-327.
- Leonard, Roy F. Wire holder and dispenser assembly. 3,104,778, 9-24-63, Cl. 221-34.
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- Leonard, Wallace O., Inc.: *See*—  
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- Leonardos, Priscilla A. Contact lens remover and carrier. 3,091,328, 5-28-63, Cl. 206-5.
- Leoncini, Giovanni: *See*—  
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- Leone, Otto J. Blast furnace control system. 3,092,680, 6-4-63, Cl. 266-30.
- Leoni, Ray D., to United Aircraft Corp. Blade folding device. 3,101,785, 8-27-63, Cl. 170-160.12.
- Leopold, F. B., Co., Inc.: *See*—  
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- Leopold, Howard S.: *See*—  
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- Leopold, Wilbur R., Jr.: *See*—  
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- Leopoldi, Norbert. Sheet crimping device. 3,106,139, 10-8-63, Cl. 93-1.1.
- Leotta, Samuel S., to Kimberly-Clark Corp. Paper towel roll holder. 3,116,030, 12-31-63, Cl. 242-55.2.
- Le Page, Norman J.: *See*—  
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- Lepetit S.p.A.: *See*—  
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- Le Poole, Jan B., and J. Kramer, to North American Philips Co., Inc. Electron-diffracting device. 3,078,368, 2-19-63, Cl. 250-49.5.
- Lepoudre, Agnes M. L. T.: *See*—  
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- Lepoutre, Gérard: *See*—  
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- Leppert, George: *See*—  
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- Lepselter, Martin P., to Bell Telephone Laboratories, Inc. Semiconductor device fabrication. 3,106,489, 10-8-63, Cl. 117-217.
- Lerch, Brooke W., to Western Electric Co., Inc. Methods of and apparatus for extruding plastic materials. 3,071,809, 1-8-63, Cl. 18-13.
- Lerg, William A., to General Motors Corp. Independent front wheel suspension. 3,115,349, 12-24-63, Cl. 280-96.2.
- Lerick, Lester. Expansion bolt with nut actuated expansion wedges. 3,107,569, 10-22-63, Cl. 85-2.4.
- Lerma, Stephen. Buckle making machine. 3,087,227, 4-30-63, Cl. 29-3.
- Lerman, Frank, and J. Bohnlofink, to National Distillers and Chemical Corp. Liquid redistributor for towers. 3,099,697, 7-30-63, Cl. 261-97.
- Lerman, Leon, to Sylvania Electric Products Inc. Method of making cathode. 3,113,370, 12-10-63, Cl. 29-25.17.
- Lerner, Bernard J.: *See*—  
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- Lerner, Harold, to General Precision, Inc. Transistor and tube gating circuit. 3,105,196, 9-24-63, Cl. 328-91.
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- Lerner, Lovie E. Buoyant garment. 3,094,724, 6-25-63, Cl. 9-338.
- Lerner, Philip. Packaging apparatus. 3,076,299, 2-5-63, Cl. 53-184.
- Lerner, Robert W., to Stauffer Chemical Co. Adducts of aluminum monohydroxy diacetylsalicylate and ethyl acetate and preparation thereof. 3,082,152, 3-19-63, Cl. 167-65.
- Lerner, Sam. Printer's mixing paddle. 3,107,085, 10-15-63, Cl. 259-144.
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- Le Row, Charles E., Jr., and J. McDonald, to Westinghouse Electric Corp. High energy arc electrodes. 3,097,321, 7-9-63, Cl. 313-32.
- Leroy, René, A. Fortin, J. Vertut, and M. Fortin, to Commissariat à l'Energie Atomique. Ball and socket joints for remote controls. 3,082,045, 3-19-63, Cl. 308-2.
- Lerude, Leslie R. Gun carrying harness. 3,098,591, 7-23-63, Cl. 224-1.
- Lerwick, Howard P., to The Buehler Corp. Direction control device. 3,093,967, 6-18-63, Cl. 60-35.54.
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- Lesch, Hans: *See*—  
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- Leschen, John G., to General Electric Co. Titanium ceramic composite bodies. 3,113,846, 12-10-63, Cl. 29-195.
- Lescoa, Inc.: *See*—  
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- Lescuré, Henri. Coffee-pots of the pressure type. 3,111,079, 11-19-63, Cl. 99-295.
- Lesesne, Sherman D.: *See*—  
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- Lesinski, Chester A., and E. J. Sullivan, to The Dow Chemical Co. Method of employing dextrins. 3,085,853, 4-16-63, Cl. 23-52.
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- Leslie Co.: *See*—  
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- Leslie, Donald J. Speaker system for adding tremolo. 3,080,786, 3-12-63, Cl. 84-125.
- Leslie, Donald J. System for recording and reproducing electric organ music. 3,095,477, 6-25-63, Cl. 179-1.
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- Leslie, John W., to Signode Steel Strapping Co. Nail clip assembly. 3,082,425, 3-26-63, Cl. 1-56.
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- Leslie-Smith, Laurence. Vacuum containers. 3,076,575, 2-5-63, Cl. 215-13.
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- Lesnow, George. Garment fly construction. 3,110,901, 11-19-63, Cl. 2-96.
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- Lesser, Bertrand R. Rectangularly bent "square" tubing. 3,081,795, 3-19-63, Cl. 138-177.
- Lester, Jack, and L. H. Halber, to Atlas Novelty Co., Inc. Belt buckle assembly. 3,088,234, 5-7-63, Cl. 40-21.
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- Lester, Robert W., to Transilite Corp. Fluorescent tube fixture and hardware. 3,094,287, 6-18-63, Cl. 240-51.11.
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- Leston, Gerd, to Koppers Co., Inc. Preparation of M-cresol by a dealkylation process. 3,091,646, 5-28-63, Cl. 260-621.
- Leston, Theodore I.: *See*—  
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- Le Suer, William M., to The Lubrizol Corp. Reaction product of an aliphatic olefinpolymer-succinic acid producing compound with an amine and reacting the resulting product with a boron compound. 3,087,936, 4-30-63, Cl. 260-326.3.
- Le Suer, William M., to The Lubrizol Corp. Lubricant composition. 3,108,960, 10-29-63, Cl. 252-32.7.
- Le Suer, William M., and C. W. Stuebe, to The Lubrizol Corp. Preparation of halogen-containing stilbenes and bibenzyls. 3,084,203, 4-2-63, Cl. 260-649.
- Leszczynski, Martin E.: *See*—  
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- Le Tarte Co., Inc.: *See*—  
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- Le Tarte, Frank, to The Le Tarte Co., Inc. Method of forming a closed corner in a hollow rectilinear metal work-piece. 3,097,684, 7-16-63, Cl. 153-2.
- Leticia, Ilja, to I & G Mold Corp. Master die assembly. 3,103,705, 9-17-63, Cl. 18-42.
- Leto, Joseph R., and M. L. Fiene, to American Cyanamid Co. Method of polymerizing acetylene and certain substituted acetylenes using a nickel complex compound and products produced thereby. 3,076,016, 1-29-63, Cl. 260-468.
- Leto, Salvatore F. Insulated shaft coupling device. 3,112,625, 12-3-63, Cl. 64-8.
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- Kress, Ralph H. 3,076,680.
- Lott, Walter E. 3,110,118.
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- Lettenbauer, Gustav: *See*—  
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- Letter, Eugene C., to Bausch & Lomb Inc. Method of treating magnesium fluoride and pressed bodies made thereby. 3,114,601, 12-17-63, Cl. 23-88.
- Letteron, Henry A., to General Electric Co. Fire extinguishing means. 3,074,883, 1-22-63, Cl. 252-2.
- Letteron, Henry A., to General Electric Co. Process for mulching with mica. 3,099,897, 8-6-63, Cl. 47-9.
- Leu, James C., to The Emerson Electric Mfg. Co. Power unit with reverse locking device. 3,110,381, 11-12-63, Cl. 192-8.
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- Leuthner, Frank G., to Wilmot Castle Co. Sterilizer for bulk products. 3,088,179, 5-7-63, Cl. 21-91.
- Leuthner, Walter F. Fishing line reel. 3,072,356, 1-8-63, Cl. 242-84.5.
- Leutz, Koerner E., to Sun Oil Co. Transfer of granular solids. 3,085,669, 4-16-63, Cl. 193-2.
- Leutzing, Rudolph L. Radial jet engine. 3,103,325, 9-10-63, Cl. 244-12.



- Leva, Max. Gas-liquid contact tower. 3,075,572, 1-29-63, Cl. 261-113.
- Le Van, Ambrose E., and R. D. Waite, to Ametek, Inc. Indicator. 3,107,533, 10-22-63, Cl. 73-368.4.
- Le Van, Eugene B. Windows. 3,087,537, 4-30-63, Cl. 160-91.
- Levand, Victor A.: *See*—  
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- Levantin, Allen M.: *See*—  
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- Le Vantine, Allan D., to Litton Systems, Inc. Cooling garment. 3,079,765, 3-5-63, Cl. 62-259.
- Le Vaux, Rene G.: *See*—  
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- Leveque, Marcel: *See*—  
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- Leveque, Marcel, and M. Mabru, to Compagnie de Saint-Gobain. Apparatus for producing fibers from thermoplastic material. 3,084,380, 4-9-63, Cl. 18-2.5.
- Leveque, Marcel, and M. Charpentier, to Compagnie de Saint-Gobain. Manufacture of fibers from thermoplastic material, particularly glass fibers. 3,084,381, 4-9-63, Cl. 65-6.
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- Leven, Martin R.: *See*—  
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- Levene, Harold D., T. G. Stephenson, and E. Montes, to Fossil Fuels, Inc. Apparatus for feeding finely divided solids. 3,093,420, 6-11-63, Cl. 302-53.
- Levene, Martin L., to Radio Corp. of America. Data storage apparatus. 3,071,757, 1-1-63, Cl. 340-174.1.
- Levene, Martin L., to Radio Corp. of America. Tape drive mechanism. 3,111,252, 11-19-63, Cl. 226-187.
- Levene, Martin L., to Radio Corp. of America. Communication printer. 3,115,076, 12-24-63, Cl. 95-1.7.
- Levenson, Berl D.: *See*—  
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- Levenson, Leonard L.: *See*—  
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- Levenson, Leonard L., to United States of America, Atomic Energy Commission. Diffusion pump. 3,102,678, 9-3-63, Cl. 230-101.
- Levenson, Myron F. Device for cleaning teeth. 3,109,192, 11-5-63, Cl. 15-210.
- Levenson, Theodore: *See*—  
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- Leventhal, Robert S.: *See*—  
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- Lever Bias Machine Corp.: *See*—  
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- Lever Brothers Co.: *See*—  
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- Euwe, Gerrit E. 3,080,069.
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- Giddings, Ronald W., and Davies. 3,095,431.
- Hely, John F. 3,083,432.
- Kearns, John J., Jr. 3,095,305.
- Lamberti, Vincent, and Haass. 3,094,555.
- Lamberti, Vincent, and McCrimlisk. 3,107,258.
- Lardelli, Guido, Begemann, Harkes, and van der Zijden. 3,075,998.
- McLaughlin, James H. 3,079,944.
- Muys, Gerard T., Van der Ven, and De Jonge. 3,076,750.
- Sale, Anthony J. H. 3,110,794.
- Schoppmeyer, Werner R. L., and Schmidt. 3,112,985.
- Schram, Cornelius J. 3,085,015.
- Thompson, Stuart W. 3,102,814.
- Thompson, Stuart W. 3,108,015.
- Lever Brothers Ltd.: *See*—  
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- Davies, Harry S. 3,104,598.
- Leverenz, John H., to Gehl Bros. Mfg. Co. Double sickle mower. 3,108,421, 10-29-63, Cl. 56-297.
- Leverenz, Melvin E., to Diamond Crystal Salt Co. Timer. 3,078,394, 2-19-63, Cl. 317-130.
- Levering, Dewey R., to United States of America, Navy. Chlorination of nitroethane. 3,096,378, 7-2-63, Cl. 260-644.
- Levering, Dewey R., and L. G. Maury, to Hercules Powder Co. Preparation of nitrosamines. 3,090,786, 5-21-63, Cl. 260-293.
- Leverton, Walter F.: *See*—  
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- Leveski, Peter. Control system for automatic hydraulic elevators. 3,105,573, 10-1-63, Cl. 187-29.
- Levesque, Pascal, and F. C. Hawkes, to Raytheon Co. Method of age hardening magnetorstrictive cores. 3,084,082, 4-2-63, Cl. 148-120.
- Levesque, Paul E.: *See*—  
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- Levesque, Roger. Telephone index. 3,073,049, 1-15-63, Cl. 40-104.
- Levey, Fred'k H., Co., Inc.: *See*—  
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- Raybuck, William B. 3,092,022.
- Levey, Ralph P., Jr., and A. E. Smith, to United States of America, Atomic Energy Commission. Preparation of spherical uranium dioxide particles. 3,087,781, 4-30-63, Cl. 23-14.5.
- Levi, Daisy O., to D. O. and R. Levi. Reversible furniture cover or receptacle and method for making same. 3,109-474, 11-5-63, Cl. 150-52.
- Levi, Daisy O., to D. O. and R. Levi, jointly. Reversible furniture cover or receptacle. 3,111,154, 11-19-63, Cl. 150-52.
- Levi, Hans L. Kindling abrasive coating, method, and coated object. 3,089,797, 5-14-63, Cl. 149-30.
- Levi, Harry L. Radiographic attachment for positioning radio transparent scales containing radio opaque marks. 3,111,582, 11-19-63, Cl. 250-59.
- Levi, Renato: *See*—  
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- Levi, Daisy O. 3,111,154.
- Levi, Robert. Least cost consumption and production computer. 3,090,557, 5-21-63, Cl. 235-185.
- Leviell, Roger, to Degremont-Acfi. Automatic valve controlled gas dosing apparatus. 3,074,422, 1-22-63, Cl. 137-101.27.
- Levin, David. Water cooler. 3,086,374, 4-23-63, Cl. 62-391.
- Levin, Evert J.: *See*—  
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- Levin, Franklyn K., to Jersey Production Research Co. Seismic charge delay unit. 3,087,424, 4-30-63, Cl. 102-22.
- Levin, Fred A.: *See*—  
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- Levin, Martin E., to Eitel-McCullough, Inc. High frequency tube having a cathode electrode between the grid and anode terminals. 3,111,600, 11-19-63, Cl. 313-250.
- Levin, Morris J. Combination locks. 3,090,219, 5-21-63, Cl. 70-315.
- Levin, Nathan, to Textile Machine Works. Method of knitting suture. 3,096,633, 7-9-63, Cl. 66-43.
- Levin, Nathan, to Textile Machine Works. Patterned hosiery. 3,112,628, 12-3-63, Cl. 66-179.
- Levin, Roland M.: *See*—  
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- Levin, William S., to United States of America, Navy. Feedback control logarithmic amplifier. 3,108,197, 10-22-63, Cl. 307-88.5.
- Levine, Abraham, to Minneapolis-Honeywell Regulator Co. Pulse former utilizing minority carrier storage for stretching output and a delay controller controlling said output duration. 3,091,705, 5-28-63, Cl. 307-88.5.
- Levine, Alex. Element of apparel and method of making the same. 3,092,987, 6-11-63, Cl. 66-176.
- Levine, Arnold M., to International Telephone and Telegraph Corp. Cooling system. 3,080,816, 3-12-63, Cl. 102-50.
- Levine, Bernard B.: *See*—  
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- Levine, David I., to Spring Products Developing Co. Spring assembly. 3,084,353, 4-9-63, Cl. 5-248.
- Levine, Gerald A., to United States of America, Navy. Two-stage, two-fluid, uni-directional control valve. 3,086,553, 4-23-63, Cl. 137-625.38.
- Levine, Harold: *See*—  
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- Levine, Harold H., to Narmco Industries, Inc. Curable resin system, cured epoxy resin and process of forming the same. 3,092,604, 6-4-63, Cl. 260-37.
- Levine, Harry. Multiple board, easel and table combination. 3,107,442, 10-22-63, Cl. 35-63.
- Levine, John E., to Anetsberger Brothers, Inc. Shearproof metal punch. 3,086,418, 4-23-63, Cl. 83-635.
- Levine, Leonard, to The Dow Chemical Co. Process for making cinnamyl esters. 3,077,495, 2-12-63, Cl. 260-491.
- Levine, Martin W., to General Electronic Laboratories, Inc. Cavity type tuner. 3,090,920, 5-21-63, Cl. 325-468.
- Levine, Morris, to Pittsburgh Plate Glass Co. Coating system. 3,096,203, 7-2-63, Cl. 117-75.
- Levine, Myron: *See*—  
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- Levine, Samuel W., to Fairchild Camera and Instrument Corp. Cold cutting technique for half-tone electronic engraving. 3,075,042, 1-22-63, Cl. 178-6.6.
- Levine, Sol, to Dorset-Rex, Inc. Cosmetic mass holder. 3,091,329, 5-28-63, Cl. 206-56.
- Levines, Steven, to General Aniline & Film Corp. Photopolymerization of vinyl monomers by means of a radiation absorbing component in the presence of a diazonium compound. 3,099,558, 7-30-63, Cl. 96-35.
- Levinger, Paul: *See*—  
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- Levinn, Robert N., to American Thermostat Corp. Temperature control attachment for a utensil. 3,083,283, 3-26-63, Cl. 200-136.5.
- Levinn, Robert N., to American Thermostat Corp. Dual action thermostat having plural adjustment means. 3,114-812, 12-17-63, Cl. 200-138.



- Levinos, Steven, to General Aniline & Film Corp. Photopolymerization of monomers containing vinyl groups by means of silver compounds as catalysts. 3,075,907, 1-29-63, Cl. 204-158.
- Levinos, Steven. Photopolymerization of vinyl monomers by means of a radiation absorbing component in the presence of a diazonium compound. 3,099,558, 7-30-63, Cl. 96-35.
- Levinson, Donald B.: See—  
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- Levinson, Herbert H., to Felt Products Mfg. Co. Process for producing a vulcanized rubber gasket. 3,093,443, 6-11-63, Cl. 18-47.5.
- Levinson, John, to Bell Telephone Laboratories, Inc. Electron beam intensity control circuit. 3,090,889, 5-21-63, Cl. 315-20.
- Levinson, Louis E. Boats. 3,071,786, 1-8-63, Cl. 9-2.
- Levinson, Louis E., to Intercontinental Mfg. Co., Inc. Boats. 3,090,973, 5-28-63, Cl. 9-1.
- Levinson, Neville, to Neville Enterprises, Inc. Display stand. 3,094,951, 6-25-63, Cl. 108-103.
- Levinthal, Jay G.: See—  
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- Levis, William W., Jr.: See—  
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Langdon, William K., Levis, and Skaptason. 3,104,200.
- Levis, William W., Jr., and E. A. Weipert, to Wyandotte Chemicals Corp. Process for preparing bicyclic diquaternary dibromides and dinitrates. 3,112,321, 11-26-63, Cl. 260-268.
- Levison, Robert, and J. L. Voigt, to Onderzoekingsinstituut Research, N.V. Apparatus for extruding thermoplastic material. 3,078,513, 2-26-63, Cl. 18-12.
- Levitan, Maurice D., to General Binding Corp. Two element binding. 3,077,887, 2-19-63, Cl. 129-1.
- Leviton, Abraham, and M. J. Pallansch, to United States of America, Agriculture. Process for preparing high temperature-short time sterilized concentrate milk products. 3,072,491, 1-8-63, Cl. 99-212.
- Leviton Mfg. Co., Inc.: See—  
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- Levitt, Milton R., to The Scholl Mfg. Co., Inc. Nail clipper. 3,088,204, 5-7-63, Cl. 30-28.
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- Levitt, Semond: See—  
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- Levitt, Semond, E. Hindin, and A. Abolins, to Flexi-Van, Inc. Freight handling system. 3,112,040, 11-26-63, Cl. 214-38.
- Levkoff, David: See—  
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- Levkoff, David. Egg carton. 3,088,649, 5-7-63, Cl. 229-28.
- Levkoff, David. Egg carton. 3,088,650, 5-7-63, Cl. 229-28.
- Levkoff, David and H. S. Bottle carrier. 3,101,865, 8-27-63, Cl. 220-113.
- Levkoff, Evelyn G.: See—  
Levkoff, Henry S. and D. 3,074,547.
- Levkoff, Henry S.: See—  
Levkoff, David and H. S. 3,101,865.
- Levkoff, Henry S. Carton erecting machine. 3,071,048, 1-1-63, Cl. 93-49.
- Levkoff, Henry S. and D., 1/4 to E. G. Levkoff, and 1/4 to E. L. Sennet. Plastic container. 3,074,547, 1-22-63, Cl. 206-72.
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- Levy, Alex A., to Goldblatt Tool Co. Featheredge. 3,101,502, 8-27-63, Cl. 15-235.4.
- Levy, Annette, nee Amselle. Method and means for the photographic examination of the outline and shape of a body. 3,089,244, 5-14-63, Cl. 33-2.
- Levy, Dale F., and D. W. Gagle, to Phillips Petroleum Co. Cationic asphalt-in-water emulsion. 3,093,595, 6-11-63, Cl. 252-311.5.
- Levy, Donald J., to The Dow Chemical Co. Pickling of magnesium and magnesium-base alloy articles. 3,100,169, 8-6-63, Cl. 156-20.
- Levy, Donald J., to The Dow Chemical Co. Pickling magnesium articles. 3,100,170, 8-6-63, Cl. 156-20.
- Levy, Edward R.: See—  
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- Levy, Ernest, Jr., and R. D. Loucks, II, to Raytheon Co. Protective circuit for direct current voltage regulators. 3,098,192, 7-16-63, Cl. 323-22.
- Levy, Ernest S.: See—  
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- Levy, Eugene A. Kite. 3,116,043, 12-31-63, Cl. 244-153.
- Levy, Luis W. Process for the extraction of pyrethrins from pyrethrum flowers. 3,083,136, 3-26-63, Cl. 167-24.
- Levy, Marion I., to The Lau Blower Co. Method of making blower blade sheet. 3,095,637, 7-2-63, Cl. 29-156.8.
- Levy, Maurice M. Conveyors. 3,100,564, 8-13-63, Cl. 198-165.
- Levy, Maurice M., to Her Majesty The Queen in the right of Canada, as represented by the Postmaster General. Apparatus for minimizing coding errors. 3,102,254, 8-27-63, Cl. 340-146.1.
- Levy, Meir: See—  
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- Levy, Milton. Coin holders. 3,100,567, 8-13-63, Cl. 206-82.
- Levy, Morris, to David Kahn, Inc. Writing instrument. 3,095,859, 7-2-63, Cl. 120-42.03.
- Levy, Mortimer: See—  
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- Levy, Ralph, to The General Electric Co. Ltd. Apparatus for effecting rotation of the plane of polarisation of plane-polarised electromagnetic waves. 3,081,438, 3-12-63, Cl. 233-7.
- Levy, Robert M., and C. De Ganahl; said Levy assor. to Esso Research and Engineering Co. Pipe joint and coupling therefor. 3,097,868, 7-16-63, Cl. 285-95.
- Levy, Walter B., and G. N. Goller, to Armco Steel Corp. Alloy of stainless steel and articles. 3,082,083, 3-19-63, Cl. 75-128.
- Levy, William W., 1/2 to E. M. Andrews. Adjustable mirror. 3,072,017, 1-8-63, Cl. 88-97.
- Lew, Henry Y.: See—  
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- Lew, Robert B. Interchangeable revolving electric shaver head. 3,106,775, 10-15-63, Cl. 30-43.
- Lew, Wah B., to United States of America, Navy. Rotary shaft face seal. 3,095,383, 6-11-63, Cl. 277-92.
- Le Wan, Chester R.: See—  
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- Lewandowski, Adolph. Aquarium plant pruner. 3,110,963, 11-19-63, Cl. 30-248.
- Lewandowski, Stanley G. Line reel with brake. 3,090,477, 5-21-63, Cl. 242-96.
- Lewenstein, Mozes J. Analgesic compositions. 3,080,287, 3-5-63, Cl. 167-65.
- Lewerth, Josef, to Mitteldeutsche Emailierwerke M. Fratscher & Co., Firma. Double bowl, suitable as a lid for kitchen utensils or a serving bowl. 3,078,005, 2-19-63, Cl. 220-20.
- Lewiecki, Edward M., and M. J. Shnitler, to The Gillette Co. Aerosol dispensers. 3,095,122, 6-25-63, Cl. 222-146.
- Lewin, Gunnar E. W. Friction stay device for windows, doors and the like. 3,086,804, 4-23-63, Cl. 292-275.
- Lewin, Henry: See—  
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- Lewin, Howard: See—  
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- Lewin, Menachem, 1/2 to The Government of Israel on behalf of the State of Israel. Shrinkproofing and feltproofing with acid bromate wetting agent solution. 3,106,440, 10-8-63, Cl. 8-128.
- Lewin, Morton H., to Radio Corp. of America. Logic circuits employing negative resistance diodes. 3,078,376, 2-19-63, Cl. 307-88.5.
- Lewin, Morton H., to United States of America, Navy. Amplifier chain using tunnel diodes. 3,103,600, 9-10-63, Cl. 307-88.5.
- Lewin, Seymour Z., to Evans Research & Development Corp. Apparatus for use in determining particle size and distribution of particle size. 3,098,931, 7-23-63, Cl. 250-83.3.
- Lewin, Seymour Z., to Warner-Lambert Pharmaceutical Co. Molecularly dehydrated aluminum hydroxide derivatives. 3,115,387, 12-24-63, Cl. 23-14.
- Lewington, Michael H., and A. T. Scott, to Fisher & Ludlow Ltd. Coin-operated vending machines. 3,099,342, 7-30-63, Cl. 194-10.
- Lewinski, Julius, and A. Rashbaum, to Willcox & Gibbs Sewing Machine Co. Cutting device. 3,085,330, 4-16-63, Cl. 30-293.
- Lewinski, Julius, and A. Rashbaum, to Willcox & Gibbs Sewing Machine Co. Cutter. 3,097,430, 7-16-63, Cl. 30-273.
- Lewis, Albert A., deceased, by G. Lewis, administratrix. Automatic liquid filling device. 3,082,918, 3-26-63, Cl. 222-309.
- Lewis, Alfred G. Signal apparatus indicating flow through a pipe, avoiding false alarms during surges. 3,091,758, 5-28-63, Cl. 340-239.
- Lewis, Arnold S. Folding boat. 3,099,024, 7-30-63, Cl. 9-2.
- Lewis, B. Franklin: See—  
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Medlar, Lewis A. 3,114,879.
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- Lewis, Beverley W., and C. Boyars, to United States of America, Navy. Cool, nitrocellulose base, non-carbon forming propellant. 3,097,123, 7-9-63, Cl. 149-100.
- Lewis, Charles: See—  
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- Lewis, Charles E., to American Cyanamid Co. Metallized azo dyes from 2-aminopyridine-1-oxide. 3,100,766, 8-13-63, Cl. 260-146.
- Lewis, Charles E., to American Cyanamid Co. Aryloxypropionitrile and dye mixtures and dyeing hydrophobic fibers therewith. 3,114,588, 12-17-63, Cl. 8-93.
- Lewis, Charles T. Collapsible boat. 3,070,816, 1-1-63, Cl. 9-2.
- Lewis, Charles T. Portable collapsible boat. 3,075,207, 1-29-63, Cl. 9-2.
- Lewis, Charles T. Safety snap hook. 3,083,431, 4-2-63, Cl. 24-234.
- Lewis, Clifford J.: See—  
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- Lewis, Clifford J., to Phillips Petroleum Co. Uranium ore-carbonate leach process involving addition of chlorine, alkali metal hypochlorite or ammonium hypochlorite to pregnant liquor derived therefrom. 3,093,707, 7-23-63, Cl. 23-14.5.
- Lewis, Clifford J., and J. L. Drobnick, to General Mills, Inc. Liquid-liquid extraction recovery of vanadium and molybdenum values using a quaternary ammonium extractant. 3,083,085, 3-26-63, Cl. 23-312.
- Lewis, David. Dental floss holder and applicator. 3,094,996, 6-25-63, Cl. 132-92.
- Lewis, David J., to United States of America, Air Force. Apparatus for segregating harmonic power in a wave-guide system. 3,078,423, 2-19-63, Cl. 333-6.
- Lewis, Dennis H.: *See*—  
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- Lewis, Donald R., and J. van Steveninck, to Shell Oil Co. Low temperature phosphorescence analysis of crude oil. Re. 25,320, 1-8-63, Cl. 250-71.5.
- Lewis, Dwight C., and O. I. Steigerwalt, to Goodyear Aircraft Corp. Double tank diode parametric amplifier. 3,094,672, 6-18-63, Cl. 330-4.9.
- Lewis, Edward D. Coin collecting apparatus. 3,074,626, 1-22-63, Cl. 232-16.
- Lewis, Edward D. Coin displaying parking meter. 3,089,640, 5-14-63, Cl. 232-1.4.
- Lewis, Edward F.: *See*—  
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- Lewis, Edward L.: *See*—  
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- Lewis Engineering Co.: *See*—  
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- Lewis, Ernest E., to Gainesville Machine Co. Automatic poultry shackles. 3,113,341, 12-10-63, Cl. 17-44.1.
- Lewis, Franklin W., to General Electric Co. Welded electrical connection. 3,113,175, 12-3-63, Cl. 174-88.
- Lewis, G. B., Co.: *See*—  
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- Lewis, Gelder V.: *See*—  
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- Lewis, George R., to United States of America, Navy. Rectifier-amplifier with built in clipping. 3,109,110, 10-29-63, Cl. 307-88.5.
- Lewis, Gerald: *See*—  
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- Lewis, Gerald I.: *See*—  
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- Lewis, Harry S., and F. McGuirk, to Chamberlain & Hookham Ltd. Cyclically operated switch control apparatus. 3,109,073, 10-29-63, Cl. 200-38.
- Lewis, Harry S., and F. McGuirk, to Chamberlain & Hookham Ltd. Cyclically operated switch control apparatus. 3,109,074, 10-29-63, Cl. 200-38.
- Lewis, Hector E.: *See*—  
Biggs, Ernest R., Jr., and Lewis. 3,073,305.
- Lewis, Hector E., to Surgical Appliance Industries, Inc. Knee brace. 3,084,685, 4-9-63, Cl. 128-80.
- Lewis, James F. Railroad safety light. 3,085,238, 4-9-63, Cl. 340-366.
- Lewis, James M.: *See*—  
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- Sharp, Donald E., Dean, Babcock, and Montgomery. 3,078,692.
- Smith, Hugh R., Jr., and Colbert. 3,086,882.
- Sporer, Anthony G. 3,078,625.
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McArthur, Bruce E. 3,084,795.
- Light Metals Research Laboratory, Inc.: *See*—  
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Lightburn, Harold A. 3,081,007.
- Lightburn, Harold A., to Lightburn & Co. Ltd. Hydraulic jack. 3,081,007, 3-12-63, Cl. 222—318.
- Lightburn, Robert A. Carrying case. 3,081,807, 3-19-63, Cl. 150—52.
- Lightburn, Robert A. Sectional drawer cabinet. 3,107,131, 10-15-63, Cl. 312—107.
- Lightcap, Edward H.: *See*—  
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- Lighter, Stephen. Container for liquids and process of dispensing therefrom. 3,085,714, 4-16-63, Cl. 222—1.
- Lightfoot, Edwin N., Jr., to A. O. Smith Corp. Fuel cell power supply for sump pumps. 3,094,936, 6-25-63, Cl. 103—25.
- Lighting Products, Inc.: *See*—  
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- Lighting Specialties, Inc.: *See*—  
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- Lightolier Inc.: *See*—  
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- Sweetser, Donald A. 3,108,529.
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- Pretcelle, Maurice A. 3,105,202.
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- Lilienstein, Manfred, and D. F. Schaefer, to American Electronics, Inc. Control circuits for static inverters. 3,101,439, 8-20-63, Cl. 321—45.
- Liljenberg, Harry A., to The M. T. & D. Co. Velocipede frame structure. 3,106,412, 10-8-63, Cl. 280—287.
- Liljendahl, Sven A. J. Sewerage systems. 3,115,148, 12-24-63, Cl. 137—205.
- Lill, Melvin H.: *See*—  
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- Lilla Edets Pappersbruks Aktiebolag: *See*—  
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- Lilley, Geoffrey M.: *See*—  
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- Lillibridge, Harold R., to Field-Ernst Envelope Co. Envelope. 3,086,695, 4-23-63, Cl. 229—73.
- Lillie, Gordon E., to Bryant Chucking Grinder Co. Method and means for dressing internal grinding wheels. 3,102,529, 9-3-63, Cl. 125—11.



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Kenney, William D. 3,106,255.
- Lillsunde, Bernard: *See*—  
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- Lilly, Edward C. Continuous mining machine. 3,088,718, 5-7-63, Cl. 262-9.
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- Doran, Wilbur J., and Easton. 3,111,542.
- Easton, Nelson R., and Hennion. 3,079,440.
- Fink, Robert D. 3,077,106.
- Gerzon, Koert. 3,096,372.
- Kline, Granville B., and Thompson. 3,098,745.
- Murphy, Hubert W., Probst, and Stephens. 3,108,042.
- Perelman, Melvin, and Farkas. 3,086,027.
- Soper, Quentin F. 3,111,403.
- Stark, William M., Kleinschmidt, and Probst. 3,108,047.
- Traverso, John J., and Whitehead. 3,111,531.
- Lilly, James A. Apparatus for lining mine shafts. 3,074,237, 1-22-63, Cl. 61-41.
- Lilly, Leslie R. C., to Ricardo & Co., Engineers (1927) Ltd. Liquid-cooled cylinder heads for internal combustion engines. 3,074,389, 1-22-63, Cl. 123-41.73.
- Lilly, Mason M., to Harold Brown Co. Collar stop. 3,089,545, 5-14-63, Cl. 166-206.
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- Lily-Tulip Cup Corp.: *See*—  
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- Limberger, Walter, to Lumoprint Zindler K.G. Apparatus for making copies. 3,076,400, 2-5-63, Cl. 95-75.
- Limberger, Walter, to Lumoprint Zindler K.G. Device for preparing a copy by means of latent electrostatic images. 3,081,677, 3-19-63, Cl. 95-17.
- Limberger, Walter, to Lumoprint Zindler K.G. Photographic copying apparatus. 3,092,005, 6-4-63, Cl. 95-75.
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- Limberger, Walter, to Lumoprint Zindler K.G. Developing device for making copies. 3,103,153, 9-10-63, Cl. 95-89.
- Limberger, Walter, to Lumoprint Zindler K.G. Apparatus for producing copies. 3,110,490, 11-12-63, Cl. 271-26.
- Limberger, Walter, and G. Cranskens, to Lumoprint Zindler K.G. Apparatus for drying layer carriers. 3,108,863, 10-29-63, Cl. 34-155.
- Lime, Jean, to Societe Alsacienne de Construction Mecaniques. Device for the adjustment or "correlating" of the engraved rollers in rotary printing machines. 3,098,434, 7-23-63, Cl. 101-178.
- Limoges, Henri and M. P. Emergency control device for hydraulic or pneumatic braking systems. 3,093,213, 6-11-63, Cl. 188-106.
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- Limpert, Alexander S. and R. J. Proportioning pump. 3,100,451, 8-13-63, Cl. 103-150.
- Limpert, Dean J. Apparatus for manufacturing preserved fruits. 3,086,445, 4-23-63, Cl. 99-239.
- Limpert, Robin J.: *See*—  
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- Linabery, Linfred G. Post driving device. 3,115,199, 12-24-63, Cl. 175-152.
- Linares Freres, Etablissements: *See*—  
Flamant, Pierre L. V., and Linares. 3,093,524.
- Linares, Michel J.: *See*—  
Flamant, Pierre L. V., and Linares. 3,093,524.
- Linch, Adrian L., to United States of America, Atomic Energy Commission. Refining fluorinated compounds. 3,071,628, 1-1-63, Cl. 260-653.
- Lincoln, David, E. Rightor, Jr., and W. G. Wilson, to Kimberly-Clark Corp. Sheet feeder for printing machine. 3,072,051, 1-8-63, Cl. 101-227.
- Lincoln, Dwight C., and W. P. Shyluk, to Hercules Powder Co. Preparation of high viscosity water-soluble polycationics. 3,095,404, 6-25-63, Cl. 260-88.3.
- Lincoln, Frank H., W. P. Schneider, and G. B. Spero, to The Upjohn Co. 21-organic sulfonates of 11,17,21-triosygenated-3-keto pregnenes. 3,105,083, 9-24-63, Cl. 260-397.45.
- Lincoln, Hubert L., to Link-O-Matic Co., Inc. Valve plug for water softener. 3,109,453, 11-5-63, Cl. 137-590.
- Lincoln, John D., to Continental Can Co., Inc. Method for coating a honeycomb log. 3,098,759, 7-23-63, Cl. 117-95.
- Lincoln, Lewis L.: *See*—  
Heseltine, Donald W., and Lincoln. 3,094,418.
- Lincoln, Milan L.: *See*—  
Lehner, William L., and Lincoln. 3,094,651.
- Lincoln, Milan L., to Sylvania Electric Products Inc. Flux application. 3,081,535, 3-19-63, Cl. 29-495.
- Lincoln, Murray S. Spike-grip for interchangeable fur collars. Re. 25,378, 5-7-63, Cl. 2-98.
- Lincoln, Robert J., to Monsanto Chemical Co. Stabilizing agent. 3,108,356, 10-29-63, Cl. 28-74.
- Lincoln, Roland L., to Fuller Co. Dust collector. 3,097,410, 7-16-63, Cl. 24-270.
- Lincoln, Roland L., to Fuller Co. Dust collector control system. 3,097,936, 7-16-63, Cl. 55-273.
- Lincoln, Roland L., to Fuller Co. Gas-material separator. 3,097,937, 7-16-63, Cl. 55-292.
- Lincoln Tool and Machine Co., Inc.: *See*—  
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- Lincoln Park Engineering, Inc.: *See*—  
Mackinder, Harold C., and Zywicki. 3,073,610.
- Lind, Alfred L. Display device. 3,080,067, 3-5-63, Cl. 211-176.
- Lind, Alfred L. Apparatus for making perforated tubes. 3,111,873, 11-26-63, Cl. 83-98.
- Lind, Carl M. Garage door openers. 3,084,318, 4-2-63, Cl. 318-266.
- Lind, Charles J., and A. W. Sogn, to Allied Chemical Corp. Purification of n-dinitromonocyclic aryl compounds. 3,086,063, 4-16-63, Cl. 260-645.
- Lind, Erwin, and J. Munder, to Kalle Aktiengesellschaft. Reproduction process. 3,089,953, 5-14-63, Cl. 250-65.
- Lind, Evald T. G. Insert for vessels containing pills, tablets or the like. 3,075,667, 1-29-63, Cl. 215-81.
- Lind, James N., to General Electric Co. Coaxial line to waveguide transition. 3,086,181, 4-16-63, Cl. 333-34.
- Lind, Orbie E., Jr., and W. H. Trow, to Sylvania Electric Products Inc. Camera control mechanism. 3,098,417, 7-23-63, Cl. 95-10.
- Lind, Runar. Cutter work guide. 3,110,487, 11-12-63, Cl. 269-303.
- Linda, Frank R., and W. S. McDonald, to International Paper Co. Paperboard packaging container. 3,110,434, 11-12-63, Cl. 229-37.
- Lindaco Aktiebolag: *See*—  
Ziegler, Ernst L. T. 3,114,583.
- Lindae, Gerhard, to Robert Bosch, G.m.b.H. Headlamps. 3,083,315, 3-26-63, Cl. 313-117.
- Lindhall, Gustaf A. Magnetic mailbox signal. 3,080,107, 3-5-63, Cl. 232-35.
- Lindhall, Harold A., to The Pure Oil Co. Process for desorbing solid adsorbents. 3,083,245, 3-26-63, Cl. 260-676.
- Lindal, Benedict J. Vehicle lift. 3,102,714, 9-3-63, Cl. 254-88.
- Lindall, Reginald, to Unilever Ltd. Method of removing meat from bone. 3,089,775, 5-14-63, Cl. 99-107.
- Lindau, Eric S. Film cleaner. 3,077,625, 2-19-63, Cl. 15-77.
- Lindberg Engineering Co.: *See*—  
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- Wuczowski, Othmar R. 3,080,468.
- Lindberg, John E., Jr. Method and apparatus for transferring heat. 3,075,361, 1-29-63, Cl. 62-4.
- Lindberg, John E., Jr. Nuclear reactor heat exchange, moderation, and shielding system. 3,116,212, 12-31-63, Cl. 176-39.
- Lindberg, Karl G. H.: *See*—  
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- Lindberg, Robert H., to Isaacson Iron Works d.b.a. Young Iron Works. Two point log grapple. 3,082,031, 3-19-63, Cl. 294-111.
- Lindberg, Victor L.: *See*—  
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- Irland, Max J., and Lindberg. 3,083,294.
- Lindbergh Jon M., and J. W. Warren, Jr., to Explosive Engineering Corp. Method of expediting the removal of frozen masses. 3,104,186, 9-17-63, Cl. 134-17.
- Lindblad, Stig M. Attachments for automobile safety belts. 3,080,634, 3-12-63, Cl. 24-221.
- Lindblad, Stig M. Buckles for automobile safety belts and the like. 3,084,411, 4-9-63, Cl. 24-193.
- Lindblom, Frank W., to Welsh Mfg. Co. Headband assembly for welder's helmet. 3,075,201, 1-29-63, Cl. 2-8.
- Lindblom, Knut J. Stabilizing device for vehicles. 3,083,027, 3-26-63, Cl. 280-6.1.
- Linde, Hermann, to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft. Process for the decomposition of gases low in ethane preferably for the production of pure ethylene. 3,091,095, 5-28-63, Cl. 62-28.
- Linde, Robert E.: *See*—  
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- Lindell, Sigurd I., to S & C Electric Co. Circuit switching and protecting means. 3,094,598, 6-18-63, Cl. 200-114.
- Lindell, Sigurd I., and L. V. Chabala, to S & C Electric Co. High voltage switch having latch operated current interrupting means. 3,116,391, 12-31-63, Cl. 200-146.
- Lindeman, Charles A. Fused plug-in receptacle. 3,076,077, 1-29-63, Cl. 200-115.5.
- Lindemann, Hans, to Th. Calow & Co. Maschinenfabrik u. Eisengiesserei. Pipe feeding apparatus. 3,098,570, 7-23-63, Cl. 214-1.



- Lindemann, Hans, to Th. Calow, & Co. Bar scalping machine. 3,099,929, 8-6-63, Cl. 82-20.
- Lindemann, Hans, to Th. Calow & Co. Apparatus for producing seamless pipe. 3,103,718, 9-17-63, Cl. 22-57.2.
- Lindemann, Howard C.: *See*—  
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- Lindemann, Waldemar: *See*—  
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- Lindemuth, Francis L.: *See*—  
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- Linden, Gustave B., to Aerojet-General Corp. Polyhydroxy nitro compounds. 3,101,378, 8-20-63, Cl. 260-635.
- Linden, Herbert E., deceased; H. E. H. Linden, administrator. Renewable cutting edge for plowshares. 3,084,750, 4-9-63, Cl. 172-719.
- Linden, Herbert E. H.: *See*—  
Linden, Herbert E. 3,084,750.
- Linden Laboratories: *See*—  
Lagally, Paul and H. 3,074,843.
- Linden, Samuel, to Bunny Bear Inc. Baby chair-bed. 3,107,120, 10-15-63, Cl. 297-321.
- Lindenbaum, Irwin. Shower curtain rod cover. 3,083,494, 4-2-63, Cl. 45-68.
- Lindenblad, Gordon: *See*—  
Numerof, Paul, and Lindenblad. 3,074,406.
- Lindenblad, Nils E., to Radio Corp. of America. Thermoelectric heat pumps. 3,074,242, 1-22-63, Cl. 62-3.
- Lindenfors, Sven, to Mo och Domsjö Aktiebolag. Processes of treating water-soluble cellulose derivatives containing hydroxyethyl groups and product. 3,106,551, 10-8-63, Cl. 260-232.
- Lindenhall, John S.: *See*—  
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- Lindenmaier, Ernst, L. Gollbach, and H. Fischel, to Krebs & Co. Ltd. Electrolytic cell with anode adjusting device. 3,080,310, 3-5-63, Cl. 204-225.
- Lindenmann, Adolf J.: *See*—  
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Jucker, Ernst, Lindenmann, and Gmunder. 3,104,238.  
Jucker, Ernst, Lindenmann, and Gmunder. 3,108,110.
- Lindenmeyer, Carl W., to Barber-Greene Co. Flexible hose training device. 3,075,732, 1-29-63, Cl. 248-49.
- Lindenmeyer, Ray S.: *See*—  
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- Lindenschmidt, Robert E.: *See*—  
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- Lindenthal, Murray W., to Martin-Marietta Corp. Sequential sampling system using commutating devices providing control signals for biasing and switching of transistors. 3,089,091, 5-7-63, Cl. 328-104.
- Linder, Ernest G., to United States of America, Air Force. Radioactive power supply system. 3,093,788, 6-11-63, Cl. 322-2.
- Linder, Fritz. Hypodermic syringe. 3,073,306, 1-15-63, Cl. 128-215.
- Linder, Fritz. Arrangement for a steam-heated autoclave. 3,107,975, 10-22-63, Cl. 21-94.
- Linder, Jerome: *See*—  
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- Linder, Jerome, J. S. Newcomer, and K. J. Smith, to Hooker Chemical Corp. Compounds 4-chloro-m-phenylene dimethyl carbamate and N,N'-dichloroisophthalamide. 3,105,848, 10-1-63, Cl. 260-471.
- Linder, Josef M., to Crown Industries, Inc. Automatic door operator. 3,084,927, 4-9-63, Cl. 268-34.
- Linder, Kenneth C., to Automatic Electric Laboratories, Inc. Improved integrator. 3,109,987, 11-5-63, Cl. 325-38.
- Linder, Robert, Jr. Ladder bracket with paint bucket holder. 3,094,304, 6-18-63, Cl. 248-211.
- Linder, Solomon L., to Bell Telephone Laboratories, Inc. Electroluminescent storage systems. 3,085,231, 4-9-63, Cl. 340-173.
- Linderfelt, Hal R., to Douglas Aircraft Co., Inc. Door for pressurized cabin. 3,085,297, 4-16-63, Cl. 20-16.
- Linderfelt, Hal R. Hydrapulser motor. 3,107,486, 10-22-63, Cl. 60-35.6.
- Linderholm, Hakan: *See*—  
Johannisson, Dag, and Linderholm. 3,071,131.
- Linderme, Dorothy E.: *See*—  
Linderme, Theodore E. 3,091,102.
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- Linderoth, Hans. Cutting presses and cutting surfaces therefor. 3,095,803, 7-2-63, Cl. 100-50.
- Linderoth, Roger S., to Amerock Corp. Sash lock. 3,083,045, 3-26-63, Cl. 292-69.
- Lindet, Christian J.-L. A. J., to Societe d'Etudes de Manutention et d'Equipements Industriels S.E.M.E.I. Assembly of tubes and rods. 3,085,822, 4-16-63, Cl. 287-54.1.
- Lindgren, Harold A., to Minneapolis-Honeywell Regulator Co. Damping and aligning apparatus. 3,075,393, 1-29-63, Cl. 74-534.
- Lindgren, John C.: *See*—  
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- Lindgren, Nils K., to Electrolux, Aktiebolaget. Switching apparatus. 3,080,458, 3-5-63, Cl. 200-34.
- Lindgren, Nils K., to Electrolux, Aktiebolaget. Bearing mount for rotatable machines. 3,095,248, 6-25-63, Cl. 308-178.
- Lindgren, Robert F., to Daco, Inc. Torque limiter. 3,090,213, 5-21-63, Cl. 64-30.
- Lindgren, William L., to Turner Corp. Manually operable control valve. 3,101,190, 8-20-63, Cl. 251-221.
- Lindgren, William L., to Turner Corp. Propane container and method of making same. 3,115,283, 12-24-63, Cl. 222-394.
- Lindheim, Stephen W.: *See*—  
Schwartz, Robert A. D., and Lindheim. 3,085,152.
- Lindhgren, Per H. Storage apparatus. 3,080,204, 3-5-63, Cl. 312-199.
- Lindholm, Frank J.: *See*—  
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- Lindholm, Ralph, and A. Hayek. Direct reading precision gear checker. 3,077,671, 2-19-63, Cl. 33-179.5.
- Lindkvist, Gustav A., to Link-Belt Co. Article handling equipment. 3,095,984, 7-2-63, Cl. 214-1.
- Lindlar, Herbert: *See*—  
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- Lindley, Charles A. Thrust-supported and thrust-controlled device. 3,097,445, 7-16-63, Cl. 46-77.
- Lindley, Clarence W. Caulking iron. 3,079,816, 3-5-63, Cl. 78-47.
- Lindley & Co., Inc.: *See*—  
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- Lindley, Donald C.: *See*—  
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Gaskell, Merwin H., Lindley, and Perkins. 3,104,702.
- Lindley, Frank M., to Lindley's Electronic Enterprises, Inc. Pest control device. 3,113,304, 12-3-63, Cl. 340-38.4.
- Lindley's Electronic Enterprises, Inc.: *See*—  
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- Lindman, George E., to Mag-Powr Games, Inc. Magnetic game. 3,091,459, 5-28-63, Cl. 273-88.
- Lindmark, Howard C. Wire puller. 3,113,759, 12-10-63, Cl. 254-134.3.
- Lindner, Ernst: *See*—  
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Krohs, Walter, Schmitt, Ther, and Lindner. 3,116,330.  
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- Lindner, Herbert, Firma: *See*—  
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- Lindner, Lars A. M.: *See*—  
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- Lindner, Paul L., to Witco Chemical Co., Inc. Dispersant compositions and toxicant concentrates containing the same. 3,080,280, 3-5-63, Cl. 167-42.
- Lindner, Philip J., to Koehring Co. Safety stop for presses. 3,095,804, 7-2-63, Cl. 100-53.
- Lindner, Philip J., to Koehring Co. Hydraulic blanking press. 3,107,567, 10-22-63, Cl. 83-124.
- Lindquist, Robert M., and Z. Reyes, to International Business Machines Corp. Methods for making record materials. 3,111,407, 11-19-63, Cl. 96-27.
- Lindsay, Graham E., and S. J. Waldron, to United Kingdom Atomic Energy Authority. Arresting devices for falling bodies. 3,096,268, 7-2-63, Cl. 204-193.2.
- Lindsay, James E., Jr.: *See*—  
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- Lindsay, John D., to General Motors Corp. Transmission. 3,077,253, 2-12-63, Cl. 192-85.
- Lindsay, Kenneth L., to Ethyl Corp. Olefin dimerization. 3,104,271, 9-17-63, Cl. 260-683.15.
- Lindsay, Kenneth L., to Ethyl Corp. Manufacture of trichloroethylene and perchloroethylene. 3,115,529, 12-24-63, Cl. 260-654.
- Lindsay, Maurice E. Internal combustion engine with shifting cylinders. 3,084,678, 4-9-63, Cl. 123-51.
- Lindsay, Maurice E., to Spindle Specialty Co. Lug for doffer wheel. 3,093,950, 6-18-63, Cl. 56-41.
- Lindsay, Maurice E., to Spindle Specialty Co. Spindle drive for cotton pickers. 3,107,471, 10-22-63, Cl. 56-42.
- Lindsay, Paul G.: *See*—  
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- Lindsey, Ernest E. Sonic mixing apparatus and method. 3,081,979, 3-19-63, Cl. 259-1.
- Lindsey, Richard V., Jr.: *See*—  
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- Lindsey, William B., and P. J. Vanderhorst, to E. I. du Pont de Nemours and Co. Process for coating regenerated cellulose film with subcoat of cellulose nitrate and thermosetting resin and topcoat of vinylidene chloride copolymer. 3,085,901, 4-16-63, Cl. 117-76.
- Lindsey, William C.: *See*—  
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- Lindsay, Charles H., to American Enka Corp. Automatic titrator. 3,073,682, 1-15-63, Cl. 23-230.
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- Lindstrom, Bruce W., and N. E. Nilsson, to Telefonaktiebolaget L M Ericsson. Mono-stable switch and self-acting stepping chain using such switch. 3,083,306, 3-26-63, Cl. 307-88.5.
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- Lindstrom, Joubert, and F. W. Moore, to General Electric Co. Portable waste disposal apparatus. 3,094,291, 6-18-63, Cl. 2-41-258.
- Lindström, Olle, to Allmänna Svenska Elektriska Aktiebolaget. Series connected multiple extraction apparatus with open transfer lines. 3,102,791, 9-3-63, Cl. 23-270.5.
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- Lindström, Olov: See—
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- Lines, Carl H., to Design and Mfg. Corp. Sequential detergent dispenser. 3,102,664, 9-3-63, Cl. 222-70.
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- Linfield, Robert F.: See—
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- Becklund, Orville A., Hoch, Terbush, and Wortham. 3,076,095.
- Brown, James H. 3,090,954.
- Buddecke, Charles L. 3,109,890.
- Cassidy, William B. 3,092,104.
- Crissey, Jackson R., and Lansing. 3,112,765.
- Horak, Arnost A. 3,113,268.
- James, Duane A. 3,072,128.
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- Luton, William B. 3,083,473.
- Ross, James A. 3,087,328.
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- Sawyer, John M. 3,109,283.
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- Theodore, Charles. 3,078,418.
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- Leeds, Winthrop M., and Lingal. 3,071,669.
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- Jones, Albert C., Lingel, and Troup. 3,085,168.
- Lingg, Gerhard. Transport and storage arrangement for carriers. 3,099,228, 7-30-63, Cl. 104-172.
- Lingg, Thomas R., to AMP Inc. Connector mounting. 3,094,364, 6-18-63, Cl. 339-64.
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- Lingle, Harrison C., and A. Langas, to Signode Steel Strapping Co. Pneumatic fastening tool. 3,086,207, 4-23-63, Cl. 1-44.4.
- Lingley, Robert C., to Baxter Laboratories, Inc. Hypodermic needles in blister package. 3,075,639, 1-29-63, Cl. 206-43.
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- Linhart, George J. Reactor for nuclear fusion. 3,113,917, 12-10-63, Cl. 204-193.2.
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- Link, Karl P.: See—
- Schroeder, Collin H., and Link. 3,077,481.
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- Linkous, Clovis E., to General Electric Co. Rotor for use in a synchronous induction motor. 3,113,230, 12-6-63, Cl. 310-162.
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- Linn, Richard L., to R. L. Linn Corp. Electrical terminal block connection and terminal members therefor. 3,088,091, 4-30-63, Cl. 339-192.
- Linn, William J., to E. I. du Pont de Nemours and Co. Process for the preparation of carbonyl cyanide. 3,115,517, 12-24-63, Cl. 260-465.8.
- Linnander, Carl-Eric, to Pullmax Aktiebolag. Welding electrode mouthpiece. 3,108,180, 10-22-63, Cl. 219-130.
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- Debus, Karl. 3,107,771.
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- Linscott, Austin B., H. D. Bellamy, and W. Kober, to Missile Corp. Pilotless craft guidance method and means. 3,072,365, 1-8-63, Cl. 244-14.
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- Lipare, Frank. Elastic cradle grip for footwear. 3,095,656, 7-2-63, Cl. 36-2.5.
- Lipare, Frank T. Adjustable vamp shoe. 3,070,908, 1-1-63, Cl. 36-11.5.
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- Lipkins, Morton S. Spherical cutting method. 3,088,253, 5-7-63, Cl. 51-283.
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- Lipman, Elmer. Liquid container closure and dispensing means. 3,090,529, 5-21-63, Cl. 222-209.
- Lipman, Frank J., to Samuel Lipman Sons. Poultry breast cover device. 3,101,696, 8-27-63, Cl. 119-143.
- Lipman, Leonard M., to Warner Mfg. Corp. Door hinge. 3,077,630, 2-19-63, Cl. 16-128.
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- Lippman, Jordan H., to Harwood Electronics Co., Inc. Collapsible table and slide sorter. 3,103,900, 9-17-63, Cl. 108-119.
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- Lipscomb, Robert F., to Western Electric Co., Inc. Handling cards for components. 3,086,652, 4-23-63, Cl. 206-80.
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- Litchard, Alexander. Package filling machine. 3,112,807, 12-3-63, Cl. 177-120.
- Litchfield, Arthur K., to Raybestos-Manhattan, Inc. Gauge. 3,115,709, 12-31-63, Cl. 33-149.
- Litchfield, Harry R., and J. J. Schneider, to themselves jointly. Filters. 3,079,926, 3-5-63, Cl. 131-10.
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- Lovering, David W., and Poole. 3,085,040.
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- Little, Edwin D., and B. T. Poon, to Allied Chemical Corp. Production of tris-2-hydroxyalkyl isocyanurates. 3,088,948, 5-7-63, Cl. 260-248.
- Little, Edwin D., and B. T. Poon, to Allied Chemical Corp. Production of 2-oxazolidones. 3,108,115, 10-22-63, Cl. 260-307.
- Little, Ernest L., Jr.: *See*—  
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- Little, Ernest L., Jr., H. J. McCauley, and F. J. Penzoza, to E. I. du Pont de Nemours and Co. Refractory compact manufacture. 3,110,091, 11-12-63, Cl. 29-182.5.
- Little, Harold J.: *See*—  
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- Little, Harvey J. Evacuation ring for laminating process. 3,074,466, 1-22-63, Cl. 156-382.
- Little, Harvey J. Evacuation ring for laminating process. 3,074,838, 1-22-63, Cl. 156-104.
- Little, Harvey J., to Chrysler Corp. Glass bending mold. 3,098,736, 7-23-63, Cl. 65-291.
- Little, Jess C., to The Fanner Mfg. Co. Conductor vibration dampener. 3,105,866, 10-1-63, Cl. 174-42.
- Little, John R.: *See*—  
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- Little, Larry L. Switching circuits. 3,089,082, 5-7-63, Cl. 323-66.
- Little, Paul A., and M. Gambill, to United Chemical Corp. of New Mexico. Prevention of gypsum scale formation in water flood method of oil production. 3,091,291, 5-28-63, Cl. 166-9.
- Little, Randel Q., Jr., to Standard Oil Co. Process for preparing 2,5-bis(hydrocarbonyldithio)-1,3,4-thiadiazole. 3,087,932, 4-30-63, Cl. 260-302.
- Little, Thomas A. Pleat holding device for use in pressing. 3,101,560, 8-27-63, Cl. 38-12.
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- Little, William, III, and A. L. Schwartz, said Schwartz assor. to said Little. Automatic photographic film developing apparatus. 3,079,852, 3-5-63, Cl. 95-89.
- Little, William A., and S. B. Watelski, to Texas Instruments Inc. Method for fabricating transistors. 3,083,441, 4-2-63, Cl. 29-25.3.
- Little, William R., to United States of America, Navy. Low level semiconductor switch having or voltage regulating zener diode in a feedback path. 3,095,512, 6-25-63, Cl. 307-88.5.
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- Littleford, Frank: *See*—  
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- Littleford, Frank W., to United States of America, Army. Cartridge case for 20 mm. gun system. 3,089,420, 5-14-63, Cl. 102-43.
- Littler, Francis W., to Socony Mobil Oil Co., Inc. Agricultural spray emulsion concentrates and their method of manufacture. 3,093,789, 7-23-63, Cl. 167-42.
- Littler, Robert L.: *See*—  
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- Littleton, Leonidas R., to United States of America, Army. Mine clearing device. 3,114,316, 12-17-63, Cl. 102-22.
- Littlewood, Geoffrey, and J. S. Morton, to The British Iron and Steel Research Association. Continuous casting of metals. 3,088,181, 5-7-63, Cl. 22-57.3.
- Littley, John J., and R. Burns, to The Cincinnati Shaper Co. Powdered metal compacting press. 3,098,261, 7-23-63, Cl. 18-16.5.
- Littman, William I. Combination money clip and change holder. 3,100,494, 8-13-63, Cl. 133-6.
- Littmann, David, to Cardiosonics Medical Instrument Co. Stethoscope. 3,108,652, 10-29-63, Cl. 181-24.
- Littmann, Hans, to C. Zeiss. Adjusting device for optical instruments. 3,086,743, 4-23-63, Cl. 248-405.
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- Crownover, Joseph W. 3,074,034.
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- Goldberg, Harold. 3,112,481.
- Holcomb, Philo, Jr. 3,071,641.
- Le Vantine, Allan D. 3,079,765.
- Manley, Herbert A., and Crane. 3,115,314.
- Retzinger, Leo P., Jr. 3,106,644.
- Sawyer, Bruce A. 3,078,721.
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- Litz, Charles J., Jr., to United States of America, Army. Gas pressure operated device. 3,112,670, 12-3-63, Cl. 89-1.
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- Liu, John K., to General Dynamics Corp. Flexible deep sea buoy. 3,090,976, 5-28-63, Cl. 9-8.
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- Livermont, Frank W., deceased; M. S. Zimmerman, executor, to Reed Roller Bit Co. Torque measuring apparatus. 3,079,785, 3-5-63, Cl. 73-1.
- Livermont, Frank W., deceased; M. S. Zimmerman, executor, to Reed Roller Bit Co. Adaptor for wrench heads. 3,102,732, 9-3-63, Cl. 279-2.
- Livermore, Harry G. Ground-rooting tooth and its mounting. 3,085,635, 4-16-63, Cl. 172-699.
- Livermore, William T. Hydraulic pump and control valve assembly. 3,110,266, 11-12-63, Cl. 103-136.
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- Livesay, Robert H., to Sun Oil Co. Calculating apparatus for price and volume indicators. 3,081,031, 3-12-63, Cl. 235-160.
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- Livingston, Charles M. Liquid distributing mower blade. 3,090,187, 5-21-63, Cl. 56-295.
- Livingston, Dewey H., E. W. Brown, C. Van Deventer, III, and L. R. Wallrab. Field crates. 3,081,897, 3-19-63, Cl. 220-4.
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- Livingston, Jay G. Adapter and adapter combination. 3,078,014, 2-19-63, Cl. 222-110.
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- Livingstone, Jay G. Cover and container. 3,080,993, 3-12-63, Cl. 220-24.5.
- Livingstone, Jay G. Fitment for pouring spout. 3,089,621, 5-14-63, Cl. 222-148.
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- Li Volsi, Joseph. Eaves trough devices. 3,079,000, 2-26-63, Cl. 210-477.
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- Locher, Hans, to Zellweger Ltd. Apparatus for automatically controlling the drafting of elongate materials. 3,099,048, 7-30-63, Cl. 19-240.
- Locher, Hans, to Zellweger Ltd. Speed control means. 3,109,324, 11-5-63, Cl. 74-752.
- Locher, Ross E., to Zinsco Electrical Products. Multiple circuit breaker. 3,089,933, 5-14-63, Cl. 200-116.
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- Long, Florren E., to Continental Can Co., Inc. Method of bonding polymer plastics to substrate webs of dissimilar materials. 3,075,868, 1-29-63, Cl. 156-82.
- Long, George: *See*—  
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- Long, George B.: *See*—  
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- Long, George B., to General Motors Corp. Clothes dryer incorporating lint destroying means. 3,081,554, 3-19-63, Cl. 34-44.
- Long, George B., to General Motors Corp. Refrigerating apparatus for vehicles. 3,088,291, 5-7-63, Cl. 62-192.
- Long, George B., to General Motors Corp. Dry cleaner filtration arrangement. 3,110,170, 11-12-63, Cl. 68-12.
- Long, George, T. Tsuchiya, and A. Hum, to General Mills, Inc. Rotary valve. 3,101,853, 8-27-63, Cl. 214-17.
- Long, Harold H. Mechanism for indicating the relative mechanical load on a drive motor. 3,103,654, 9-10-63, Cl. 340-248.
- Long, Jack W. Method and apparatus for producing visual display. 3,089,256, 5-14-63, Cl. 35-12.
- Long, James A., A. L. Bush, Jr., and C. D. Pears, to Anderson Electric Corp. Electrical connector. 3,091,750, 5-28-63, Cl. 339-89.
- Long, James D., to United States of America, Navy. Circuit for maintaining a predetermined phase relationship between two voltage waves. 3,096,460, 7-2-63, Cl. 315-23.
- Long, James G., and R. J. Noschese, to Burndy Corp. Coaxial cable connector. 3,112,977, 12-3-63, Cl. 339-177.
- Long, Jasper J., to Santa Barbara Research Center. Infrared detector and method of manufacture thereof. 3,080,542, 3-5-63, Cl. 338-18.
- Long, John B., to Marmon-Herrington Co., Inc. Boring type continuous miner. 3,096,082, 7-2-63, Cl. 262-9.
- Long, John B., to Marmon-Herrington Co., Inc. Standards for belt conveyors. 3,105,588, 10-1-63, Cl. 198-192.
- Long, John B., to Marmon-Herrington Co., Inc. Articulating and telescoping conveying system. 3,107,776, 10-22-63, Cl. 198-89.
- Long, John B., and J. C. Clay, to Marmon-Herrington Co., Inc. Roof drilling and bolting machine and wrench extension therefor. 3,080,007, 3-5-63, Cl. 175-123.
- Long, John T., Jr.: *See*—  
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- Long, Joseph C., and C. B. Milton, to Union Carbide Corp. Apparatus for the oxidation of metal powders. 3,085,865, 4-16-63, Cl. 23-277.
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- Long, Laurence J., to E. I. du Pont de Nemours and Co. Chlorofluoroalkane compositions. 3,090,818, 5-21-63, Cl. 260-652.5.
- Long, Leonard D. Apparatus for making pre-cast cored building blocks. 3,083,434, 4-2-63, Cl. 25-45.
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- Long, Leonard H., to National Research Development Corp. Production of alkylated boranes. 3,092,666, 6-4-63, Cl. 260-606.5.
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- Long, Paul J., Jr., W. F. Schmitz, and B. P. Griffith, to General Motors Corp. Vehicle suspension system. 3,104,119, 9-17-63, Cl. 280-124.
- Long, Ralph W. Land leveler. 3,113,391, 12-10-63, Cl. 37-176.
- Long, Ray S., to The Dow Chemical Co. Preparation of lower tetraalkyl quaternary ammonium nitrate. 3,079,437, 2-26-63, Cl. 260-567.6.
- Long, Ray S., to The Dow Chemical Co. Preparation of lower tetraalkyl quaternary ammonium nitrate. 3,079,438, 2-26-63, Cl. 260-567.6.
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- Long, Robert B., and T. M. Rosenblatt, to Esso Research and Engineering Co. Recovery of oxygenated products. 3,081,312, 3-12-63, Cl. 260-348.5.
- Long, Robert S., H. T. Lacey, and R. E. Kourtz, to American Cyanamid Co. Reactive dyes containing methylolamide triazine groups. 3,072,454, 1-8-63, Cl. 8-54.2.
- Long, Selma H., and J. W. Tamblin, to Eastman Kodak Co. Ultraviolet light stabilized cellulose ester plastic composition. 3,100,717, 8-13-63, Cl. 106-194.
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- Long, William R., to Long Mfg. Co. Trailer for use in harvesting of tobacco. 3,095,230, 6-25-63, Cl. 296-5.
- Longenecker, Levi S. Suspended roof construction. 3,115,109, 12-24-63, Cl. 110-99.
- Longenecker, Levi S. Furnace construction. 3,115,336, 12-24-63, Cl. 263-46.
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- Longini, Richard L., A. I. Bennett, Jr., and H. F. John, to Westinghouse Electric Corp. Continuous process for producing semiconductor devices. 3,106,764, 10-15-63, Cl. 29-25.3.
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- Longmire, Richard L. Filtration and recirculation system for deep fat cooking apparatus. 3,107,601, 10-22-63, Cl. 99-330.
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- Looker, Olin L. Beam compass. 3,103,070, 9-10-63, Cl. 33-27.
- Looker, Robert, to Brown-Line Corp. Web end connectors. 3,074,136, 1-22-63, Cl. 24-165.
- Loomis, Martin. Loading ramp construction. 3,075,213, 1-29-63, Cl. 14-71.
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- Loomis, Robert C., and W. R. Drumm, to Econolite Corp. Tubular light grid assembly. 3,101,177, 8-20-63, Cl. 240-114.
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- Loomis, Robert F., to Fuller Co. Discharge means for storage vessels. 3,084,001, 4-2-63, Cl. 302-53.
- Loomis, Robert H., to United States of America, Navy. Range track aiding circuits. 3,089,135, 5-7-63, Cl. 343-7.3.
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- Looney, Mervyn H., one-half to G. W. Wertz. Bicycle exercising device. 3,107,915, 10-22-63, Cl. 272-73.
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- Loosanoff, Victor L., and C. L. MacKenzie, Jr., to United States of America, Interior. Method of treating oyster shells and other collectors to diminish predation. 3,103,202, 9-10-63, Cl. 119-4.
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- Loper, Douglas A., to Abbott Laboratories. Closure assembly. 3,087,638, 4-30-63, Cl. 215—6.
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- Lo Presti, Roy F., to Goodman Mfg. Co. Troughing idler assembly for low clearance installations. 3,083,815, 4-2-63, Cl. 198—192.
- Lo Presti, Roy F., to Goodman Mfg. Co. Troughing idler assembly having limited troughing movement for low clearance operations. 3,087,601, 4-30-63, Cl. 198—192.
- Lo Presti, Roy F., to Goodman Mfg. Co. Automatically reversible troughing idler assembly. 3,098,558, 7-23-63, Cl. 198—202.
- Lo Presti, Roy F., to Goodman Mfg. Co. Rope supported resilient sideframe conveyor. 3,100,042, 8-6-63, Cl. 198—192.
- Lo Presti, Roy F., to Goodman Mfg. Co. Troughing roller assembly. 3,101,144, 8-20-63, Cl. 198—192.
- Lo Presti, Roy F., to Goodman Mfg. Co. Roller assembly suspension structure. 3,107,003, 10-15-63, Cl. 198—192.
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- Lorentzen, Hans L. Tank vessel. 3,087,454, 4-30-63, Cl. 114—74.
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- Lorenz, Albert, to W. C. Heraeus, G.m.b.H. and Ruhrstahl Aktiengesellschaft. Immersion pipe for degassing metals by a vacuum. 3,071,362, 1-1-63, Cl. 266—34.
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- Lorenz, Albert, to W. C. Heraeus, G.m.b.H. Vacuum pump unit. 3,107,047, 10-15-63, Cl. 230—158.
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- Lorenz, Fritz, to Herberlein Patent Corp. Process for making metallic pattern effects on sheet material. 3,080,270, 3-5-63, Cl. 156—233.
- Lorenz, Jerome L., to Minneapolis-Honeywell Regulator Co. Fluid density sensitive apparatus. 3,087,114, 4-23-63, Cl. 324—71.
- Lorenz, Leo, to Anaconda Wire and Cable Co. Wire coiling apparatus. 3,111,286, 11-19-63, Cl. 242—83.
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- Lostetter, James A., to Minneapolis-Honeywell Regulator Co. Bridge type D.C. to A.C. inverter. 3,105,944, 10-1-63, Cl. 331—113.
- Lot, Leon C., to Xerox Corp. Xerographic fixing apparatus. 3,070,900, 1-1-63, Cl. 34—156.
- Lotgering, Frederick K.: *See—*  
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- Lotspeich, Charles A.: *See—*  
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- Lotspeich, Joseph F., to National Rejectors, Inc. Cup dispensers. 3,075,669, 1-29-63, Cl. 221—4.
- Lott, Heinz, E. Götz, and P. Boese, to Licentia Patent-Verwaltungs-G.m.b.H. Digital curve computer for use in controlling the path of a work tool or work piece. 3,109,092, 10-29-63, Cl. 235—164.
- Lott, John E., to American Mfg. Co. of Texas. Pumping unit with spring connected walking beam. 3,109,313, 11-5-63, Cl. 74—41.
- Lott, Thomas M.: *See—*  
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- Lott, Walter E., to LeTourneau-Westinghouse Co. Safety latch for earthmoving scrapers. 3,110,118, 11-12-63, Cl. 37—129.
- Lotter, William, to South Bend Range Corp. Broiler. 3,098,477, 7-23-63, Cl. 126—41.
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- Lotz, Lawrence C.: *See—*  
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- Lotzgesell, Rudolf, to Continental Elektroindustrie A.G., Askania-Werke. Target tracking instrument. 3,092,911, 6-11-63, Cl. 33—46.
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- Louckes, Lloyd W., to Crookston Millwork, Inc. Construction element. 3,082,490, 3-26-63, Cl. 20—11.
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- Louden, William C., and E. Homonnay, to General Electric Co. Method of making a ceramic-to-metal seal. 3,088,201, 5-7-63, Cl. 29—47.9.
- Loudon, John D., to J. Cousins. Fence fasteners. 3,082,993, 3-26-63, Cl. 256—12.5.
- Loudon, Robert E., to Clary Corp. Read-out system. 3,077,589, 2-12-63, Cl. 340—347.
- Loudon, Robert E., K. F. Oldenburg, W. R. Beall, C. A. Christoff, and J. M. Payton, Jr., to Clary Corp. Read-out and code translating system. 3,077,590, 2-12-63, Cl. 340—347.
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- Loughead, Howard B. Portable light. 3,091,686, 5-28-63, Cl. 240—8.18.
- Loughead, William A. E., to Ericsson Telephones Ltd. Driving circuit for square loop magnetic cores. 3,112,407, 11-26-63, Cl. 307—88.
- Loughlin, Bernard D., to Hazeltine Research, Inc. Electronic previewer for televised color pictures. 3,098,895, 7-23-63, Cl. 178—5.2.
- Loughlin, Bernard D., and E. M. Roschke, to Zenith Radio Corp. Subscription television system. 3,081,376, 3-12-63, Cl. 178—5.1.
- Loughman, Stephen R. Cuff link. 3,100,923, 8-20-63, Cl. 24—100.5.
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- Louth, George D., and M. J. Brock, to The Firestone Tire & Rubber Co. Method of preparing aminoazoledisulfides. 3,100,773, 8-13-63, Cl. 260—247.1.
- Louthan, Chester F., to General Motors Corp. Heating unit manufacture. 3,082,511, 3-26-63, Cl. 29—155.65.
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- Love, Phil P., to The Glacier Metal Co. Ltd. Hydrodynamic bearing assembly. 3,101,980, 8-27-63, Cl. 308—122.
- Love, Robert F., and T. S. Bernatis, to FMC Corp. Mining methods and systems including caving to relieve pressure. 3,097,830, 7-16-63, Cl. 262—1.



- Love, Robert F., and W. Z. Wenneborg, to FMC Corp. Method of mining irona using a continuous miner. 3,111,306, 11-19-63, Cl. 262-1.
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- Lovegrove, Henry J., to Sangamo Electric Co. Magnetic suspension bearing. 3,107,948, 10-22-63, Cl. 308-10.
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- Lovejcy, Rex E., to United States of America, Navy. Multiplex recording and playback system. 3,087,101, 4-23-63, Cl. 318-162.
- Loveland, Malcolm W., to Atlas Pacific Engineering Co. Cutter mechanism for peeling fruit. 3,115,171, 12-24-63, Cl. 146-43.
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- Loveland, Pratt R. Water fountain unit for attachment to a water faucet. 3,101,174, 8-20-63, Cl. 239-27.
- Loveland, Roger S., to Minneapolis-Honeywell Regulator Co. Gas-fueled pilot burner. 3,078,916, 2-26-63, Cl. 158-113.
- Loveland, Roger S., to Minneapolis-Honeywell Regulator Co. Thermostatic switch. 3,079,480, 2-26-63, Cl. 200-137.
- Lovell, Ernest E., to The Delman Co. Windshield cleaner control device. 3,095,595, 7-2-63, Cl. 15-250.01.
- Lovell, James A., and W. L. Hamilton, to Industrial Development Engineering Associates. Amplifier chassis. 3,082,356, 3-19-63, Cl. 317-101.
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- Lovering, David W., and A. B. Poole, to Arthur D. Little, Inc. Molded pulp product and process. 3,085,040, 4-9-63, Cl. 162-172.
- Lovering, Henry D. Combined garment and tow harness. 3,074,074, 1-22-63, Cl. 2-94.
- Loverings, Larry J. Audiometry equipment. 3,107,440, 10-22-63, Cl. 35-22.
- Lovett, John R., and J. M. Kelley, Jr., to Esso Research and Engineering Co. Polymerization process with a complex metal hydride-aluminum trialkyl-titanium halide catalyst. 3,075,960, 1-29-63, Cl. 260-93.7.
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- Lovinger, Daniel, to General Electric Co. Ballast apparatus for starting and operating gaseous discharge lamps. 3,089,979, 5-14-63, Cl. 315-85.
- Lovingham, Joseph J., to Thiokol Chemical Corp. Rotary injector for rocket powerplant. 3,097,482, 7-16-63, Cl. 60-35.6.
- Lovisek, Louis J., to General American Transportation Corp. Screw having roll-formed thread fully formed up to head thrust surface thereof. 3,073,207, 1-15-63, Cl. 85-48.
- Lovisek, Louis J., to General American Transportation Corp. Self-tapping screw having its thread interrupted by longitudinally extending and circumferentially spaced-apart flutes. 3,083,609, 4-2-63, Cl. 85-47.
- Lovrenich, Rodger T., to Ford Motor Co. Oscillatory digger. 3,084,817, 4-9-63, Cl. 214-138.
- Lovret, John E. Reamers. 3,080,777, 3-12-63, Cl. 77-72.
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- Low, Frank D., to General Electric Co. Automatic clothes washing machine with lid switch control. 3,111,830, 11-26-63, Cl. 68-12.
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- Low, Hans, W. W. Reynolds, and D. W. Schmullig, to Shell Oil Co. Ester base lubricant compositions. 3,093,585, 6-11-63, Cl. 252-37.2.
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- Lowe, William R., to Fruehauf Trailer Co. Sealing construction for trucks, trailers and the like. 3,075,802, 1-29-63, Cl. 296-29.
- Lowell, John A., H. L. Hatton, F. J. Glavis, and P. R. Buehler, to Rohm & Haas Co. Leather and method for producing it. 3,103,447, 9-10-63, Cl. 117-76.
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- Lowell Molding Corp.: *See—*
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- Lowensohn, Ralph S., to Flextemp Corp. Trailer refrigeration apparatus. 3,100,384, 8-13-63, Cl. 62-156.
- Lowenstein, Mark G., and E. W. Ascheimer, to Barnes Engineering Co. A.C. biased thermistor bolometers. 3,096,650, 7-9-63, Cl. 73-355.
- Lowenthal, Hans, to Colibri Lighters Ltd. Gas-burning cigarette lighters. 3,114,249, 12-17-63, Cl. 67-7.1.
- Lowenthal, Herman, to General Scientific Corp. Symmetrical high speed objective. 3,079,841, 3-5-63, Cl. 88-57.
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- Lowery, Donald G., to The Frank G. Hough Co. Bucket construction for tractor loaders. 3,079,019, 2-26-63, Cl. 214-145.
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- Cusic, John W., and Lowrie. 3,112,310.
- Lowrie, Harman S., to G. D. Searle & Co. Substituted 10-(4-carbalkoxy-4-phenylpiperidinoalkyl)-phenothiazines. 3,112,308, 11-26-63, Cl. 260-243.
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- Lowther, Robert R., and F. Sell, to Electric & Musical Industries Ltd. Automatic control of machine tools. 3,086,154, 4-16-63, Cl. 318-162.
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- Norman, George R., Le Suer, and Mastin. 3,076,008.
- Palm, Bert E. 3,114,661.
- Smalheer, Calvin V., and Le Suer. 3,089,867.
- Upham, Wesley B. 3,116,178.
- Wurstner, Robert G., and Jahnke. 3,093,610.
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- Lucas, Christopher: *See*—
- Burner, Willard C., Hersh, and Lucas. 3,093,052.
- Lucas, Edward J.: *See*—
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- Lucas, Glennard R.: *See*—
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- Lucas, Henry M. Electric lawn edger. 3,106,251, 10-8-63, Cl. 172-16.
- Lucas, Homer C., and T. W. Abel. Mat. 3,091,779, 6-4-63, Cl. 4-185.
- Lucas, Joseph, (Industries) Ltd.: *See*—
- Freeman, Frank G. 3,076,671.
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- Gold, Richard L. 3,092,392.
- Haigh, Richard W. 3,076,312.
- Steele, Henry J. 3,091,910.
- Warne, Eugene R. 3,090,199.
- Watkins, Sidney C. 3,091,926.
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- Lucke, William H. Magnetic amplifier commutating and Co. Method of destroying microorganisms employing a phenylmercaptoalkyl isothiocyanate. 3,085,045, 4-9-63, Cl. 167-30.
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- Lucker, Laurence H., Jr. Plate clamps. 3,071,406, 1-1-63, Cl. 294-104.
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- Ludewig, Heinz A., to Continental Gummi-Werke Aktiengesellschaft. Mold for producing flexible belts with teeth. 3,103,703, 9-17-63, Cl. 18-36.
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- Ludlow, Edmund, and B. H. Irwin, to Arvin Industries, Inc. Sound attenuating gas pipe. 3,104,734, 9-24-63, Cl. 181-48.
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- Luedicke, Alexander H., Jr., to Applied Power Industries, Inc. Tram gage. 3,095,651, 7-2-63, Cl. 33-158.
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- Luedtke, Ralph E., to The Procter & Gamble Co. Method of making pastry. 3,116,149, 12-31-63, Cl. 99-92.
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- Luenberger, Frederick O., to The Emerson Electric Mfg. Co. Submersible electric motor. 3,072,810, 1-8-63, Cl. 310-87.
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- Luketa, Frank J. Lines for trawl nets. 3,102,357, 9-8-63, Cl. 43-9.
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- Lund, Anders E., J. V. Dennis, and J. M. Irvine, to Koppers Co., Inc. Woodpecker repellent methods. 3,103,449, 9-10-63, Cl. 117-147.
- Lund, Frank M., to Pratt, Read & Co. Keyboard chassis assembly. 3,087,368, 4-30-63, Cl. 84-423.
- Lund, James K.: See—  
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- Lund, Johan, to Formsprag Co. Sprag-clutch and retainer structure. 3,075,623, 1-29-63, Cl. 192-45.1.
- Lund, Johan, to Formsprag Co. Torque limiting sprag mechanism. 3,094,195, 6-18-63, Cl. 188-82.2.
- Lund, Johan, to Formsprag Co. Two-directional torque coupling and clutch mechanism. 3,102,618, 9-3-63, Cl. 192-8.
- Lund, Martin A., and J. Alsenz, to FMC Corp. Pivoted check valve. 3,092,138, 6-4-63, Cl. 137-514.
- Lund, Richard I., to The B. F. Goodrich Co. Mixing mill accumulating shelf. 3,083,404, 4-2-63, Cl. 18-2.



- Lund, Robert: *See*—  
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- Lund S.A.: *See*—  
Feldin, Karl F. 3,105,617.
- Lundahl, Ernest W. Hygienic device. 3,110,311, 11-12-63, Cl. 128-225.
- Lundahl, Lennart V. S. Method of and apparatus for making and filling flexible-walled tubes. 3,070,927, 1-1-63, Cl. 53-29.
- Lundahl, Ossian: *See*—  
Ensign, George G., Soper, and Lundahl. 3,075,345.
- Lundberg, Henry L.: *See*—  
Fahlström, Per A. H. H., Lundberg, and Holmberg. 3,094,289.
- Lundberg, Lennart A., to American Cyanamid Co. Process for the production of high molecular weight polymerizable ortho-phthalate polyesters. 3,079,368, 2-26-63, Cl. 260-75.
- Lundberg, Lennart A., J. C. Schlegel, and J. E. Carpenter, to American Cyanamid Co. Resinous composition. 3,091,936, 6-4-63, Cl. 61-36.
- Lundberg, Ralph L.: *See*—  
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- Lundberg, Richard: *See*—  
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- Lundblad, Erik, to Allmanna Svenska Elektriska Aktiebolaget. High pressure vessel with punch. 3,096,544, 7-9-63, Cl. 18-16.5.
- Lunde, John. Inclination measuring instrument. 3,079,697, 3-5-63, Cl. 33-206.
- Lunde, Theodore G. Breather cap heater. 3,084,706, 4-9-63, Cl. 137-80.
- Lunde, Thomas T. Automatic pivoted latching hook for swinging lever dual swinging door operating mechanism. 3,077,841, 2-19-63, Cl. 105-255.
- Lunde, Thomas T., and F. L. Lindemuth, to The William B. Pollock Co. Dumping operation control for tilting railway dump cars. 3,072,074, 1-8-63, Cl. 105-1.
- Lundebjerg, Frederick N. Ellipse guide. 3,085,341, 4-16-63, Cl. 33-30.
- Lundeen, Stanley A. Water softener control valve and baffle. 3,079,949, 3-5-63, Cl. 137-599.1.
- Lunden, Clarence D., to Boeing Airplane Co. Labyrinthine septum wave guide. 3,090,020, 5-14-63, Cl. 333-95.
- Lunden, Sidney L., and D. E. Mosely, to Bitco, Inc. Lumber separator. 3,104,005, 9-17-63, Cl. 198-21.
- Lundgren, Claes E. G.: *See*—  
Arborelius, Måns M., and Lundgren. 3,096,778.
- Lundgren, Donald G., and A. E. Krikszens, to Allied Chemical Corp. Method of preserving nitrite corrosion inhibitors. 3,087,777, 4-30-63, Cl. 21-2.7.
- Lundgren, Frederick A.: *See*—  
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- Lundgren, Rudolf A. I., B. O. G. Oom, and B. Järnhäll, to Astra, Apotekarnes Kemiska Fabriken, Aktiebolaget. Laminated hypodermic syringe ampul. 3,075,528, 1-29-63, Cl. 128-272.
- Lundi, Axel J. Fuel preheater and economizer. 3,110,296, 11-12-63, Cl. 123-122.
- Lundin, Robert S., and C. J. Goodhouse, to General Time Corp. Switching motor. 3,080,494, 3-5-63, Cl. 310-68.
- Lundquist, Ingemar H., to International Postal Supply Corp. Postage metering machine. 3,107,854, 10-22-63, Cl. 235-101.
- Lundquist, Ingemar H., W. Schaefer, and C. S. Balaz, to Friden, Inc. Postage meter. 3,107,911, 10-22-63, Cl. 271-8.
- Lundquist, Richard C., to Goodman Mfg. Co. Bumper construction. 3,104,003, 9-17-63, Cl. 198-1.
- Lundquist, Wilbur V. Combined retaining weight and deodorizer for garbage can covers. 3,102,661, 9-3-63, Cl. 220-87.
- Lundstrom, Elizabeth F.: *See*—  
Foutz, Clinton R. 3,096,257.
- Lundstrom, Milton A. Display device. 3,107,648, 10-22-63, Cl. 116-173.
- Lundvik, Karl V. B.: *See*—  
Larsson, Nils E. B., and Lundvik. 3,074,619.
- Lundy, Warren A.: *See*—  
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- Lünenschloss, Franz, G.m.b.H., Schilder- und Signalgerätefabrik: *See*—  
Lünenschloss, Franz A. 3,084,354.
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- Luning, Alfred O. Coasters—vacuum cup. 3,094,235, 6-18-63, Cl. 215-100.5.
- Lunn, Royston C., and F. L. Theyleg, to Ford Motor Co. Synchronized multiple speed power transmission mechanism. 3,115,047, 12-24-63, Cl. 74-360.
- Lunt, Willis R.: *See*—  
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- Luongo, Joseph: *See*—  
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- Lupfer, Dale E., to Phillips Petroleum Co. Process control system. 3,085,000, 4-9-63, Cl. 23-260.
- Lupfer, Dale E., to Phillips Petroleum Co. Stream blending method and apparatus. 3,095,887, 7-2-63, Cl. 137-8.
- Lupfer, Dale E., to Phillips Petroleum Co. Method of and apparatus for integrating pneumatically. 3,104,810, 9-24-63, Cl. 235-61.
- Lupkas, Raymond R., to General Time Corp. Shaft rocking mechanism. 3,071,010, 1-1-63, Cl. 74-1.
- Lurex Mfg. Co.: *See*—  
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- Lurie, William B., and R. M. Pincus, to General Precision, Inc. Doppler navigator altitude error corrector. 3,105,234, 9-24-63, Cl. 343-8.
- Lursen, Wert. Tool for scribing lines on siding. 3,113,382, 12-10-63, Cl. 33-42.
- Lusa, George, to Armco Steel Corp. Differentially coated galvanized strip. 3,112,213, 11-26-63, Cl. 117-51.
- Luscher, Jakob, to Robert Bosch, G.m.b.H. Generator control arrangement. 3,074,003, 1-15-63, Cl. 322-25.
- Luscher, Jakob, to Robert Bosch, G.m.b.H. System of voltage and current regulation for rotary generators. 3,105,930, 10-1-63, Cl. 322-25.
- Luscher, Jakob, to Societe Suisse pour l'Industrie Harlogere S.A. Integrated structure electronic semi-conductor device comprising at least one bistable electric circuit. 3,109,942, 11-5-63, Cl. 307-88.5.
- Lüscher, Paul, to Sodeco, Societe des Compteurs de Geneve. Telephone fee counter. 3,097,266, 7-9-63, Cl. 179-7.
- Lush, Gerald W. M., and F. G. C. Whittall, to Dowty Technical Developments Ltd. Vehicle suspension. 3,074,708, 1-22-63, Cl. 267-64.
- Lusher, Kenneth G., to Owens-Illinois Glass Co. Article handling apparatus. 3,083,813, 4-2-63, Cl. 198-131.
- Lusher, Kenneth G., to Owens-Illinois Glass Co. Vented plastisol coated container. 3,083,854, 4-2-63, Cl. 215-56.
- Lusie, Rudolph F., to North American Aviation, Inc. Electron tube shield. 3,109,050, 10-29-63, Cl. 174-35.
- Lusine a Idees, Societe Anonyme dite: *See*—  
Ruby, Charles. 3,098,940.
- Lusink, Clarence L., and H. Winther, to Symington Wayne Corp. Side frame for cartridge bearings. 3,110,269, 11-12-63, Cl. 105-221.
- Lusk, George E., and J. H. Nicholas, to G & W Electric Specialty Co. Inorganic shielded cable termination system. 3,080,447, 3-5-63, Cl. 174-73.
- Luskin, Leo S.: *See*—  
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- Luskin, Leo S., to Rohm & Haas Co. Process for making acrylic acid esters of 3-hydroxymethyloxetanes. 3,105,838, 10-1-63, Cl. 260-333.
- Luskin, Leo S., and S. Y. Wang, to Rohm & Haas Co. Composition comprising aqueous dispersion of aminoplast condensate and an oxetane. 3,074,898, 1-22-63, Cl. 260-29.4.
- Lustenader, Edward L., and D. H. Brown, to General Electric Co. Vapor recirculation distillation process and apparatus. 3,099,607, 7-30-63, Cl. 202-64.
- Lusti, John, to Otis Elevator Co. Elevator dispatching and control system. 3,073,417, 1-15-63, Cl. 187-29.
- Lustman, Benjamin, E. F. Losco, H. J. Snyder, and R. R. Eggleston, to United States of America, Atomic Energy Commission. Alloy composition for neutronic reactor control rods. 3,074,871, 1-22-63, Cl. 204-193.2.
- Lutch, Robert H.: *See*—  
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- Luten, Daniel B., Jr.: *See*—  
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- Luten, Daniel B., Jr., and F. G. Helfferich, to Shell Oil Co. Purification of sulfolene. 3,077,479, 2-12-63, Cl. 260-332.1.
- Lutes, Harriet W.: *See*—  
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- Lutes, Keene, deceased, by J. C. Lewis, administrator, to R. Zealey. Folding baby crib. 3,094,714, 6-25-63, Cl. 5-99.
- Luther, Herbert G., and J. R. De Zeeuw, to Chas. Pfizer & Co., Inc. Animal feeds. 3,092,496, 6-4-63, Cl. 99-2.
- Luther, James H.: *See*—  
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- Luthi, Oscar: *See*—  
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- Luton, William B., to Ling-Temco-Vought, Inc. Space flight environmental simulator. 3,083,473, 4-2-63, Cl. 35-12.
- Lutsch, Gene C.: *See*—  
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- Lutscher, Simon. Pipe cutter. 3,097,428, 7-16-63, Cl. 30-102.
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- Luttinger, Joyce R., J. Lein, and A. Gourevitch, to Bristol-Myers Co. Process for the preparation of derivatives of 6-aminopenicillanic acid. 3,094,519, 6-18-63, Cl. 260-239.1.
- Luttinger, Lionel B., to American Cyanamid Co. New catalyst system for linear and cyclic polymerization of mono substituted acetylenes. 3,098,843, 7-23-63, Cl. 260-94.1.
- Luttrell, John L., to United States of America, Navy. Acceleration and velocity meter. 3,109,309, 11-5-63, Cl. 73-492.
- Luttrell, Ravon D. Printing plates. 3,109,368, 11-5-63, Cl. 101-376.
- Lutts, William M., Sr. Portable dismountable ramp. 3,076,569, 2-5-63, Cl. 214-85.
- Lutwack, Wilton J. Portfolio with detachable mailing card. 3,082,932, 3-26-63, Cl. 229-72.
- Lutz, Felix J. Amusement device. 3,074,717, 1-22-63, Cl. 272-74.



- Lutz, Otto: *See*—  
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- Lutz, Wilson B.: *See*—  
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- Luvisi, George W., to Nalco Chemical Co. Colloidal silica compositions. 3,108,970, 10-29-63, Cl. 252-309.
- Luvisi, John P., to Universal Oil Products Co. Insecticidal compositions of matter and method of preparation therefor. 3,102,143, 8-27-63, Cl. 260-578.
- Luvisi, John P., to Universal Oil Products Co. Cycloalkadienyl derivatives of alkynylalkoxy tetrahydropyran and method of preparation thereof. 3,116,302, 12-31-63, Cl. 260-345.9.
- Luvisi, John P., and L. Schmerling, to Universal Oil Products Co. Dehalogenation of halogenated aromatic compounds. 3,075,021, 1-22-63, Cl. 260-650.
- Luvisi, John P., and J. J. Louvar, to Universal Oil Products Co. N-halocycloalkenic derivatives of arylamines. 3,094,560, 6-18-63, Cl. 260-566.
- Luwa AG.: *See*—  
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- Luxembourgeoise de Brevets & de Participations: *See*—  
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- Luxl, Frank C., to Leeds and Northrup Co. Atmosphere sampling probe. 3,106,843, 10-15-63, Cl. 73-421.5.
- Luxon, Lester L.: *See*—  
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- Luzarreta, Emmanuel J. F.: *See*—  
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- Luze, Dwayne C.: *See*—  
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- Lyall, Charles E., and E. A. Morrison, to Culligan, Inc. Safety shut-off valve. 3,105,512, 10-1-63, Cl. 137-416.
- Lyall, Richard G., to Yuba Consolidated Industries, Inc. Quick opening closure mechanism. 3,098,580, 7-23-63, Cl. 220-40.
- Lyckhyk, George S., to Automatic Electric Laboratories, Inc. Electromagnetic miniature relays. 3,109,903, 11-5-63, Cl. 200-87.
- Lydard, Martin L., to Eastern Products Corp. Pleater-and-hanger device for drapes or the like. 3,081,819, 3-19-63, Cl. 160-348.
- Lydard, Martin L., to Eastern Products Corp. Ceiling construction. 3,085,666, 4-16-63, Cl. 189-86.
- Lydard, Martin L., to Eastern Products Corp. Suspended ceiling clip. 3,102,614, 9-3-63, Cl. 189-35.
- Lyden, Frank J. Brush assembly. 3,113,337, 12-10-63, Cl. 15-604.
- Lydic, William K.: *See*—  
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- Lydle, John E. Tire changing tool. 3,100,011, 8-6-63, Cl. 157-122.
- Lykkeberg, Alfred. Machine for slicing meat. 3,089,526, 5-14-63, Cl. 146-153.
- Lyle, Charles A.: *See*—  
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- Lyle, Charles A., to The Air Preheater Corp. Rotor construction. 3,088,519, 5-7-63, Cl. 165-10.
- Lyle, John M., to Ruud Mfg. Co. Two temperature hot water tank fitting. 3,075,549, 1-29-63, Cl. 137-597.
- Lyman, Frank, Jr., to Cambridge Thermionic Corp. Holder for electrical components, such as batteries. 3,088,992, 5-7-63, Cl. 136-173.
- Lyman, Frank, Jr., to Cambridge Thermionic Corp. Self-locking plug and jack type electrical connector. 3,101,986, 8-27-63, Cl. 339-255.
- Lynam, John E., to Automatic Braiding Co. (Nottingham) Ltd. Composite elastic bands for garments incorporating such bands. 3,078,469, 2-26-63, Cl. 2-338.
- Lynam, John E., to Automatic Braiding Co. (Nottingham) Ltd. Tubular fabric. 3,114,193, 12-17-63, Cl. 29-217.
- Lynch, Arnold C., to Her Majesty's Postmaster General. Magnetic strip material. 3,089,228, 5-14-63, Cl. 29-194.
- Lynch, Arnold C., to Her Majesty's Postmaster General. Magnetic translators. 3,093,819, 6-11-63, Cl. 340-347.
- Lynch Corp.: *See*—  
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- Lynch, Edward E.: *See*—  
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- Lynch, Edward I., to General Electric Co. Cathode ray tube system with an index control. 3,099,769, 7-30-63, Cl. 315-22.
- Lynch, Edward I., and T. T. True, to General Electric Co. Cathode ray tube system using indexing signals. 3,098,896, 7-23-63, Cl. 173-54.
- Lynch, Edward I., and T. T. True, to General Electric Co. Cathode ray tube system using secondary emission indexing signals. 3,109,955, 11-5-63, Cl. 315-12.
- Lynch, George J., and W. J. Ormston, to Mycalex Electronics Corp. Switching mechanisms. 3,098,129, 7-16-63, Cl. 200-11.
- Lynch, Harriett R.: *See*—  
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- Lynch, Jack F., to J. N. Zark. Roll up window screen. 3,105,542, 10-1-63, Cl. 160-28.
- Lynch, Matthew J., to Abbott Laboratories. Erythromycin suspensions and method of stabilizing the same. 3,097,135, 7-9-63, Cl. 167-65.
- Lynch, Thomas J., to Vector Mfg. Co. Solid state electronic commutator. 3,105,911, 10-1-63, Cl. 307-88.
- Lynch, Thomas R.: *See*—  
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- Lynche, James M. Beverage tray. 3,103,303, 9-10-63, Cl. 224-48.
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- Lynds, Lahmer: *See*—  
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- Lyner, Arnold. Computing time clock. 3,109,088, 10-29-63, Cl. 235-61.9.
- Lynes, Inc.: *See*—  
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- Lynghave, Carl E., and H. O. Pedersen. Container for the counting and storage of coins. 3,083,818, 4-2-63, Cl. 206-82.
- Lynn, Alan G., and R. W. Carlson, to Eitel-McCullough, Inc. Container with cooperating support frame. 3,107,009, 10-15-63, Cl. 206-46.
- Lynn, Alger M. Spraying devices. 3,099,394, 7-30-63, Cl. 239-142.
- Lynn, Bernard S. Guide marking for jet runways. 3,096,694, 7-9-63, Cl. 94-15.
- Lynn, Edward, to United States of America, Navy. Oscillogram duplicator paper transport. 3,095,504, 6-25-63, Cl. 250-65.1.
- Lynn, Edwin W.: *See*—  
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- Lynn, Fred D.: *See*—  
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- Lynn, George A., to Avco Corp. Electronic motion detector for simultaneously detecting and measuring position, velocity, and acceleration in three dimensions. 3,106,678, 10-8-63, Cl. 324-70.
- Lynn, John W., to Union Carbide Corp. Homopolymer and copolymers of vinyl cyanoacetate. 3,092,611, 6-4-63, Cl. 260-78.4.
- Lynn, John W., and R. L. Roberts, to Union Carbide Corp. Alicyclic esters of butane and cyclopentane polycarboxylic acids. 3,074,997, 1-22-63, Cl. 260-468.
- Lynn, Lawrence B.: *See*—  
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- Lynn, Lawrence B., to Westinghouse Electric Corp. Gyro apparatus. 3,085,444, 4-16-63, Cl. 74-54.
- Lynn, Robert J., to Vapor Corp. Snap action differential actuator. 3,106,623, 10-8-63, Cl. 200-83.
- Lynn, William J.: *See*—  
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- Lynskey, William G. Fertilizer dispenser. 3,106,322, 10-8-63, Cl. 222-473.
- Lyon, Donald G. Variable shaped airfoil. 3,076,623, 2-5-63, Cl. 244-44.
- Lyon, Edwin, III: *See*—  
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- Lyon, Floyd A.: *See*—  
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- Lyon, Floyd A., to Halm Instrument Co., Inc. Blank feeding means. 3,087,723, 4-30-63, Cl. 271-69.
- Lyon, Floyd A., and T. F. Aronson, to Commercial Envelope Mfg. Co., Inc. Strip feeding and registration means. 3,098,405, 7-23-63, Cl. 83-236.
- Lyon, George A., to Lyon Inc. Wheel cover. Re. 25,397, 6-18-63, Cl. 301-37.
- Lyon, George A., to Lyon Inc. Wheel trim. 3,085,830, 4-16-63, Cl. 301-37.
- Lyon, George A., to Lyon Inc. Method of making wheel cover members and the like. 3,090,337, 5-21-63, Cl. 113-116.
- Lyon, George A., to Lyon Inc. Wheel cover. 3,092,421, 6-4-63, Cl. 301-37.
- Lyon, George A., to Lyon Inc. Wheel cover. 3,112,958, 12-3-63, Cl. 301-37.
- Lyon, George A., Jr. Sink held in place by biting retaining fingers. 3,071,780, 1-8-63, Cl. 4-187.
- Lyon, George A., Jr. Method of making a baking pan structure. 3,089,450, 5-14-63, Cl. 113-120.
- Lyon, Gerard A., to Engineering Research and Application Ltd. Apparatus for the controlling of the supply of fuel and air to internal combustion engines. 3,105,478, 10-1-63, Cl. 123-139.
- Lyon, Gilbert T. Tubular coupling having a metallic sealing ring. 3,079,180, 2-26-63, Cl. 285-220.
- Lyon Inc.: *See*—  
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Lyon, George A. 3,085,830.  
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- Lyon, James. Display incubator and brooder. 3,088,436, 5-7-63, Cl. 119-37.
- Lyon, Lyman R. Static card reader. 3,105,895, 10-1-63, Cl. 235-61.11.
- Lyon Metal Products, Inc.: *See—*  
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- Lyon Van & Storage Co.: *See—*  
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- Lyon, William H., to The Soundsciber Corp. Magnetic tape channel-loading dictating machine. 3,080,169, 3-5-63, Cl. 274-11.
- Lyon, William H., to The Soundsciber Corp. Method and means for reproducing signals from a very slow moving tape. 3,086,089, 4-16-63, Cl. 179-100.2.
- Lyon, William H., and F. E. Runge, to The Soundsciber Corp. Miniature magnetic tape dictating machine. 3,078,350, 2-19-63, Cl. 179-100.2.
- Lyon, William H., and F. E. Runge, to The Soundsciber Corp. Magazine for miniature magnetic tape dictating machine. 3,078,464, 2-19-63, Cl. 242-55.13.
- Lyons, Charles E., to United States of America, Air Force. Variable area converging-diverging exhaust nozzle for a bypass engine. 3,102,385, 9-3-63, Cl. 60-35.6.
- Lyons, Ernest H., Jr. Energy conversion process and apparatus. 3,100,163, 8-6-63, Cl. 136-86.
- Lyons, Harold D.: *See—*  
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- Lyons, Harold D., to Phillips Petroleum Co. Polymerization of 1-olefins in the presence of an allyl halide. 3,101,327, 8-20-63, Cl. 260-88.2.
- Lyons, J., & Co., Ltd.: *See—*  
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- Lyons, James D.: *See—*  
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- Lyons, Leland R., to Titanium Metals Corp. of America. Producing vanadium trichloride. 3,109,707, 11-5-63, Cl. 23-87.
- Lyons, Leo J. Race car wheel changing machine. 3,070,876, 1-1-63, Cl. 29-240.
- Lystad, Leonard A., to General Motors Corp. Window cleaning mechanism. 3,077,628, 2-19-63, Cl. 15-250.23.
- Lyons, Vincent J., to International Business Machines Corp. Intermetallic semiconductor body formation. 3,093,517, 6-11-63, Cl. 148-1.5.
- Lyons, William T., and B. P. Morabito, to Carrier Corp. Gas and liquid contact apparatus. 3,101,382, 8-20-63, Cl. 261-24.
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- MGM Brakes, Inc.: *See—*  
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- MacDonnell, Thomas F., to Nopco Chemical Co. Yarn testing apparatus. 3,079,790, 3-5-63, Cl. 73-95.
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- MacDuff, Stanley I., to The Bendix Corp. Combination spool valves. Re. 25,494, 12-17-63, Cl. 137-636.3.
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- Macek, Warren M., to Sperry Rand Corp. Means for maintaining angular resolution in a signal direction finder. 3,077,597, 2-12-63, Cl. 343-114.5.
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- MacFarlane, Charles J.: *See*—  
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- MacFarlane, Walter J.: *See*—  
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- MacFarland, Charles H., to The Scott & Fetzer Co. Liquid sprayer. 3,072,342, 1-8-63, Cl. 239-354.
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- MacGeorge, William D., to The Budd Co. Yield point detecting means. 3,095,732, 7-2-63, Cl. 73-88.
- MacGill, John C., and F. Koehler, to Platt Corp. Protective sleeve. 3,086,558, 4-23-63, Cl. 138-150.
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- MacGregor, Dean J., to Westinghouse Electric Corp. Synchronous motor control system. 3,086,155, 4-16-63, Cl. 318-170.
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- Machamer, Hobart E., to Ceco Steel Products Corp. Automatic ventilator closing device. 3,115,224, 12-24-63, Cl. 189-71.
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- MacIntire, Walter H., to American Zinc, Lead and Smelting Co. Sphalerite for zinc additions to fertilizers. 3,082,077, 3-19-63, Cl. 71-64.
- MacIntosh, David, and D. A. Serico, to West Virginia Pulp and Paper Co. Handled container. 3,112,856, 12-3-63, Cl. 229-52.
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- Macintyre, John R., and R. J. Miller, to General Electric Co. Electromagnetic indicating apparatus. 3,109,167, 10-29-63, Cl. 340-325.
- MacIntyre, Robert M., to Thompson Ramo Wooldridge Inc. Compensating circuits. 3,105,230, 9-24-63, Cl. 340-347.
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- Mack, Peter A.: *See*—  
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- Mack, Robert C.: *See*—  
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- MacKay, Hugh J. Fishing lure storage facilities. 3,071,885, 1-8-63, Cl. 43-57.5.
- Mackay, Johnstone S.: *See*—  
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- Mackay, Johnstone S., and F. J. Vancheri, to Pittsburgh Chemical Co. Phenol by air oxidation of cresols. 3,071,627, 1-1-63, Cl. 260-621.
- Mackay, Lottie E.: *See*—  
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- Mackenzie, Alan K.: *See*—  
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- Mackenzie, Clyde L., Jr.: *See*—  
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- Mackenzie, James C., to Cabot Corp. Polymerization catalysts containing group IVB metal dioxides having halogen chemically bound thereto. 3,102,877, 9-3-63, Cl. 260—93.7.
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- Mackenzie, Kenneth G. Game apparatus. 3,107,919, 10-22-63, Cl. 273—177.
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- Mackey, Eugene L., to The Yoder Co. Snubber type trigger mechanism. 3,097,556, 7-16-63, Cl. 83—287.
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- Mackey, Robert J., to Eitel-McCullough, Inc. Ceramic metallizing mixture and method of compounding it. 3,093,490, 6-11-63, Cl. 106—1.
- Mackie, Harry A.: *See*—  
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- Mackie, Harry A., to General Motors Corp. Ground effect vehicle. 3,106,261, 10-8-63, Cl. 180—7.
- Mackie, James, & Sons, Ltd.: *See*—  
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- Mackie, John K. P., to James Mackie & Sons, Ltd. Defecting means for a doubling plate in a textile drafting apparatus. 3,105,997, 10-8-63, Cl. 19—243.
- Mackie, John K. P., to James Mackie & Sons, Ltd. Textile machines. 3,106,055, 10-8-63, Cl. 57—58.59.
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- MacKinnon, Bernard R., to Allied Chemical Corp. Process for producing free flowing oil soluble fusible organic dyestuffs. 3,071,815, 1-8-63, Cl. 18—47.2.
- MacKinnon, Hugh M., to British Nylon Spinners Ltd. Melt-spinning synthetic polymer filaments. 3,071,808, 1-8-63, Cl. 18—8.
- Mackintosh, Ian M., to Bell Telephone Laboratories, Inc. Integrated semiconductor switching device. 3,090,873, 5-21-63, Cl. 307—88.5.
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- Mackiw, Vladimir N., and J. P. Warner, to Sheritt Gordon Mines Ltd. Process for the recovery of metal values from low grade materials. 3,088,820, 5-7-63, Cl. 75—7.
- Macklin, Martin R.: *See*—  
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- Macklin, Rita R. Desk attachment for bed. 3,099,968, 8-6-63, Cl. 108—49.
- Mackrodt, Helmut, to Messrs. F. Soennecken. Automatic contact printers for electrostatic reproductions. 3,072,026, 1-8-63, Cl. 95—1.7.
- Macks, Elmer F. Sealing member and method. 3,093,380, 6-11-63, Cl. 277—1.
- Macks, Elmer F. Seal. 3,093,382, 6-11-63, Cl. 277—27.
- Macks, Elmer F. Apparatus for providing mobility of a figure toy. 3,104,496, 9-24-63, Cl. 46—116.
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- Mackus, Thomas J.: *See*—  
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- MacLaren, Donald D.: *See*—  
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- MacLaren, Fred B.: *See*—  
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- MacLay, William R.: *See*—  
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- MacLay, William R., to International Business Machines Corp. Digital-to-analog control system. 3,081,942, 3-19-63, Cl. 235—151.
- MacLay, William R., and H. Charnetsky, Jr., to International Business Machines Corp. Magnetic transducer with shoe-equipped floating head. 3,086,088, 4-16-63, Cl. 179—100.2.
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- MacLean, James K. Variable pitch propeller mechanism. 3,092,186, 6-4-63, Cl. 170—160.15.
- MacLean, John A., III, and E. F. Kuffel. Fasteners having toothed bearing surfaces. 3,078,899, 2-26-63, Cl. 151—37.
- MacLean, Kenneth S. Diagnostic instrument. 3,074,396, 1-22-63, Cl. 128—2.
- MacLean, Philip A., to Cutler-Hammer, Inc. Cryogenic pump for a refrigerator system. 3,114,247, 12-17-63, Cl. 62—51.
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- MacLeod, David M.: *See*—  
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- MacLeod, Keith, and E. S. Wendt, to W. D. Allen Mfg. Co. Automatic hose coupling machine. 3,083,750, 4-2-63, Cl. 153—1.
- MacLeod, Kenyon C. Foldable escape ladders and method of making the same. 3,073,954, 2-26-63, Cl. 182—196.
- MacLeod, Norman A., 36% to R. W. Whann, 18% to W. A. Selle, and 10% to F. F. Reed. Blood circulation device and method. 3,094,983, 6-25-63, Cl. 128—40.
- MacMaster, George H.: *See*—  
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- MacMillan, Bloedel and Powell River Ltd.: *See*—  
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- MacMillan, Charles W., to Bear Mfg. Co. Wheel alignment gauge. 3,071,863, 1-8-63, Cl. 33—203.18.
- MacMillan, Charles W., to Bear Mfg. Co. Vehicle rack. 3,088,547, 5-7-63, Cl. 187—8.71.
- MacMillan, Charles W., to Bear Mfg. Co. Aligning device for assisting in centering an automobile steering wheel. 3,091,862, 6-4-63, Cl. 33—46.
- MacMillan, Donald M. Means for removably incorporating electrical heating elements in heater bodies. 3,088,171, 5-7-63, Cl. 18—38.
- Macmillan, John H., Jr., J. V. Johnson, and M. C. Addicks, to Cargill, Inc. Method of erecting a building. 3,113,403, 12-10-63, Cl. 50—532.
- MacMillin, David M., to Bell & Howell Co. Automatic exposure control with an intermittent needle entrapment. 3,071,039, 1-1-63, Cl. 88—16.
- MacNabb, Warren D.: *See*—  
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- Macnamara, Harold C., to National Connector Corp. Electrical connector assembly. 3,104,925, 9-24-63, Cl. 339—217.
- MacNeal, Richard H., to Computer Engineering Associates, Inc. Rotary wing device and method for operating same. 3,101,121, 8-20-63, Cl. 170—160.12.
- MacNeill, John H., J. E. Bellinger, R. B. White, Jr., C. F. West, and T. G. Holmes, to Soroban Engineering, Inc. Code converter. 3,073,897, 1-15-63, Cl. 178—26.
- MacNeill, John H., and C. F. West, to Soroban Engineering, Inc. Vacuum capstans. 3,082,925, 3-26-63, Cl. 226—95.
- MacNeill, John H., J. E. Bellinger, Jr., and T. G. Holmes, to Soroban Engineering, Inc. Medium-speed serial printer. 3,089,413, 5-14-63, Cl. 101—93.
- Maco Corp., The: *See*—  
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- Macomber, Inc.: *See*—  
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- Macormack, James G., and F. R. Hickory, to Alumiseal Corp. Insulated refrigeration tank structures. 3,093,260, 6-11-63, Cl. 220—14.
- Macosko, Theodore J., to Aerospace Metals Corp. Apparatus and process for continuous profile formation of a rod work-piece. 3,078,545, 2-26-63, Cl. 29—33.
- Macovski, Albert, to Radio Corp. of America. High voltage power supply regulation. 3,077,550, 2-12-63, Cl. 315—22.
- Macovski, Albert, to Radio Corp. of America. Receiver having automatic gain control voltage determined by burst during color reception. 3,105,109, 9-24-63, Cl. 178—5.4.
- MacPeck, Donald L.: *See*—  
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- Macpherson, Donald E.,  $\frac{1}{4}$  to Gadget-Of-The-Month Club, Inc. Rotary piston engine. 3,071,121, 1-1-63, Cl. 123—13.
- Macpherson, John H., Jr., and J. O. Clayton, to California Research Corp. Purge system for blow-by return valve. 3,105,471, 10-1-63, Cl. 123—119.
- Macpherson, Robert B., to The Anderson Co. Windshield wiper assembly. 3,076,991, 2-12-63, Cl. 15—250.23.
- Macpherson, William, to Cowles Tool Co. Rotary shearing knife. 3,081,661, 3-19-63, Cl. 83—676.
- MacPhillamy, Harold B.: *See*—  
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- MacPlum, R. A., Industries, Inc.: *See*—  
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- MacQuaid, Craig, to International Shoe Co. Protective shoe construction. 3,108,386, 10-29-63, Cl. 36-72.
- MacQuaid, Craig, and L. R. Heideman, to International Shoe Co. Conductive shoe. 3,079,530, 2-26-63, Cl. 317-2.
- Macqueen, Kenneth E. B., to American Cyanamid Co. Briquetting of coals. 3,094,399, 6-18-63, Cl. 44-23.
- Macquere, Eugene V. A. E., to Compagnie de Saint-Gobain. Roofing structure. 3,114,218, 12-17-63, Cl. 50-198.
- MacRae, Harry L.: *See*—
- McGow, Thomas C., MacRae, and Harris. 3,077,959.
- MacRae, Herbert N., and M. A. Chaloux, to United Shoe Machinery Corp. Heel attaching machines. 3,094,701, 6-25-63, Cl. 1-97.
- Macrae, Robert S.,  $\frac{1}{2}$  to Garringtons Ltd., and  $\frac{1}{2}$  to Gyde-lite Ltd. Markers for roads. 3,091,996, 6-4-63, Cl. 94-1.5.
- Macri, Bruno J.: *See*—
- De Fries, Myron G., Macri, Rice, Madden, and Robinson. 3,108,433.
- Macrides, Philip C., to Cluett, Peabody & Co., Inc. Display device for garment collars. 3,072,306, 1-8-63, Cl. 223-84.
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- Macrosonic Process Corp.: *See*—
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- Macrow, Lawrence, and M. M. Van Adelsberg, to Carrier Corp. Gas and liquid contact apparatus. 3,114,786, 12-17-63, Cl. 261-24.
- MacSporran, Charles, to Phillips Petroleum Co. Process and apparatus for in situ combustion. 3,072,189, 1-8-63, Cl. 166-39.
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- Bowman, Horace A., and Macurdy. 3,074,498.
- Macurdy, Lloyd B., to United States of America, Secretary of Commerce. Balance beam. 3,112,808, 12-3-63, Cl. 177-261.
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- Macy, Christian D.: *See*—
- Murphy, Laurence W., and Macy. 3,101,508.
- Macy, Christian D., F. M. Brown, and J. A. Zillgitt, to Geo. A. Hormel & Co. Machine for browning and forming solid meat. 3,071,065, 1-1-63, Cl. 99-353.
- Macy, Christian D., and O. H. Lindstrom, to Geo. A. Hormel & Co. Jaw pulling apparatus. 3,084,378, 4-9-63, Cl. 17-1.
- Macy, Donald, J. F. Weaver, and G. E. Knoblauch, to Aircraft Venetian Blind Mfg. Co. of St. Louis. Awning. 3,086,260, 4-23-63, Cl. 20-57.5.
- Macy, Donald, and H. Nelson, to Arterfact Venetian Blind Mfg. Co. of St. Louis. Awning. 3,097,403, 7-16-63, Cl. 20-57.5.
- Macy, Harry D. Portable shelter. 3,082,780, 3-26-63, Cl. 135-4.
- Macy, James C., to AMP Inc. Method of making an electrical connection. 3,085,313, 4-16-63, Cl. 209-155.55.
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- Jenkins, Mervyn M., and Macy. 3,104,187.
- Macy, Robert L. Servo clutch. 3,097,572, 7-16-63, Cl. 92-13.
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- Glasser, David, and Madaffore. 3,083,909.
- Madak, Paul D., H. L. Cuthbert, and R. E. Kerr. Internal combustion engine construction. 3,083,700, 4-2-63, Cl. 123-32.
- Madansky, Leslie E., to California Plasteck, Inc. Electrical connector for illuminated panel. 3,082,395, 3-19-63, Cl. 339-17.
- Madansky, Leslie E., to California Plasteck, Inc. Lamp socket. 3,096,942, 7-9-63, Cl. 240-8.16.
- Madaras, Julius D., to Gas Inc. Method of heating and sintering. 3,098,738, 7-23-63, Cl. 75-34.
- Maddalena, Anthony: *See*—
- Malbin, Isaac, and Maddalena. 3,115,253.
- Maddalena, John, to Johns-Manville Corp. Tape dispenser. 3,109,570, 11-5-63, Cl. 225-66.
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- Madden, Dale A.: *See*—
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- Madden, Lem A. Combination trailer hitch and overload supporting device. 3,093,393, 6-11-63, Cl. 280-406.
- Maddison, Robert J., and J. F. Loertscher, Jr., to Whitehead Brothers Co. Corrective backfill compositions. 3,082,111, 3-19-63, Cl. 106-286.
- Maddock, Ralph B., and E. C. Winter, to Pako Corp. Device for treating photographic sheet material. 3,077,155, 2-12-63, Cl. 95-98.
- Maddox, Jesse P., and S. H. Vaughan, Jr., to Kaiser Aluminum & Chemical Corp. Furnace wall construction. 3,114,220, 12-17-63, Cl. 50-398.
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- Madelung, Gero, to Messerschmitt A.G. Aircraft propulsion system. 3,100,611, 8-13-63, Cl. 244-23.
- Mader, Charles K., to The M. W. Kellogg Co. Hydrocarbon conversion. 3,094,391, 6-18-63, Cl. 23-212.
- Mader, George E., Jr., to Phillips Petroleum Co. Temperature measurement and control. 3,101,898, 8-27-63, Cl. 236-15.
- Mader, Gottlob F., and R. C. Scherer. Crop stacker. 3,110,148, 11-12-63, Cl. 56-347.
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- Madge, Joseph G., to Ford Motor Co. Vertical washer for flat glass. 3,093,852, 6-18-63, Cl. 15-77.
- Madigan, Daniel M. Collapsible weighing scale with carrying case. 3,106,975, 10-15-63, Cl. 177-126.
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- Bril, Kazimierz J., and Madjar. 3,092,449.
- Madl, Alfred W.: *See*—
- Arel, Robert W., and Madl. 3,081,394.
- Madl, Joseph, Jr., to Unistrut Products Co. Cable tray. 3,112,093, 11-26-63, Cl. 248-68.
- Madley, Daniel G., to Coal Industry (Patents) Ltd. Smokeless briquettes. 3,093,463, 6-11-63, Cl. 44-10.
- Madon, Pierre J., to Nord-Aviation Societe Nationale des Constructions Aeronautiques. Stabilized captive flying platform unit. 3,101,919, 8-27-63, Cl. 244-77.
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- Nobis, John F., Mador, and Robinson. 3,111,545.
- Mador, Irving L., and R. E. Robinson, to National Distillers and Chemical Corp. Reaction of epoxides with alkali metals. 3,111,543, 11-19-63, Cl. 260-618.
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- Madsen, Kristian D., to Allmanna Svenska Elektriska Aktiebolaget. Radiation protection means during the exchange of fuel elements. 3,072,554, 1-8-63, Cl. 204-193.2.
- Madsen, Mads P. Remotely controlled sick bed curtains. 3,091,286, 5-28-63, Cl. 160-331.
- Madsen, Mathew D., and D. W. Chapman, to Mallinckrodt Chemical Works. 3 acetamido-2,4,6-triiodo-5-methylsulfonamido hippuric acid. 3,082,202, 3-19-63, Cl. 260-211.
- Madwed, Albert. Vapor chamber-tank unit. 3,106,927, 10-15-63, Cl. 134-76.
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- Maecker, Kurt: *See*—
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- Maeda, Hisao. Intermediate frequency transformer. 3,090,907, 5-21-63, Cl. 323-76.
- Maeda, Hisao. Intermediate frequency transformer. 3,092,796, 6-4-63, Cl. 336-135.
- Maeda, Hisao. Variable-inductance coil having core threaded in coil form. 3,106,691, 10-8-63, Cl. 336-136.
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- Maeder, Arthur, to Ciba Ltd. Copolymerisation products of amides of copolymerisable carboxylic acids containing quaternary ammonium groups bound to amide nitrogen. 3,095,390, 6-25-63, Cl. 260-17.
- Maeder, Arthur, to Ciba Ltd. Copolymers of N-substituted amides of the acrylic acid series. 3,112,296, 11-26-63, Cl. 260-86.1.
- Maeder, Arthur, and G. Sulzer, to Ciba Ltd. Aqueous coating and impregnating preparations comprising acrylic resins. 3,090,762, 5-21-63, Cl. 260-21.
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- Maeder, Paul F.,  $\frac{1}{2}$  to P. Levinger. Magneto-hydrodynamic A.C. generator. 3,102,224, 8-27-63, Cl. 322-47.
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- Maejima, Sanjiro. Tape winding apparatus. 3,105,647, 10-1-63, Cl. 242-66.
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- Magat, Eugene E., and D. Tanner, to E. I. du Pont de Nemours and Co. Graft copolymer of polymerizable amide and nitrogenous condensation polymer, and process for preparing same. 3,092,512, 6-4-63, Cl. 117-138.8.
- Magat, Michel, A. Chapiro, and J. Sebban, to Centre National de la Recherche Scientifique, Ministere de l'Education Nationale. Process of producing graft polymers and resultant graft polymer. 3,115,418, 12-24-63, Cl. 117-47.
- Magazani, Louis. Combination turn and emergency stop signal apparatus. 3,114,015, 12-10-63, Cl. 200-61.27.
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- Magearl, William H., and R. E. Nelson, Jr., to Esso Research and Engineering Co. Gas detector for steam condensate and cooling tower water systems. 3,078,918, 2-26-63, Cl. 165-2.
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- Mageli, Orville L., and J. B. Harrison, to Wallace & Tiernan Inc. Peroxy esters of p-menthane hydroperoxides. 3,082,236, 3-19-63, Cl. 260-453.
- Mageli, Orville L., and J. B. Harrison, to Wallace & Tiernan Inc. 2,5-dimethyl-2,5-di( $\gamma$ -butylperoxy) hexane. 3,086,966, 4-23-63, Cl. 260-94.9.
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- Mager, Humphrey I. X., W. Berends, and W. J. Schut. N-benzoyloxycarbonylamino-pyrazinoic acid and derivatives. 3,072,655, 1-8-63, Cl. 260-250.
- Mager, Humphrey I. X., W. Berends, and W. J. Schut. 5-azidocarbonyl pyrazinamide. 3,094,530, 6-18-63, Cl. 260-250.
- Mager, Louis, to The Alloyd Corp. Method of making a pressure vessel by winding metallic-coated glass filaments. 3,086,902, 4-23-63, Cl. 156-167.
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- Magid, Louis, and M. Weiss, to Hoffmann-La Roche Inc. Antitussive compositions and preparation. 3,085,942, 4-16-63, Cl. 167-67.
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- Maginn, Raymond E., to Ethyl Corp. Alkali-metal-ether complex salts of a group VIB metal pentacarbonyl iodide. 3,095,435, 6-25-63, Cl. 260-438.
- Maginn, Raymond E., to Ethyl Corp. Alkali metal-ether complex salts of a nitrogenous group VIB metal pentacarbonyl anion. 3,095,436, 6-25-63, Cl. 260-438.
- Maginn, Robert A., and J. W. Van Dyk, to E. I. du Pont de Nemours and Co. Initiator systems for acrylic polymerizations. 3,113,114, 12-3-63, Cl. 252-426.
- Maglaughlin, Edward P., and R. E. Trampe, to Celanese Corp. of America. Unsaturated ester purification. 3,097,233, 7-9-63, Cl. 260-486.
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- Magnet Cove Barium Corp.: See—  
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- Magneto-Chemie N.V.: *See*—  
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- Magnus, Walter E.: *See*—  
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- Magnuson, Carl W., to Nekoosa-Edwards Paper Co. Cut size paper handling machine. 3,085,677, 4-16-63, Cl. 198-211.
- Magnuson, Carl W., to Nekoosa-Edwards Paper Co. Cut size paper handling machine. 3,105,598, 10-1-63, Cl. 214-8.5.
- Magnuson, Elton E., and F. N. Blackmore, to Plastiform Co. Multiple-level light-reflective sign. 3,096,596, 7-9-63, Cl. 40-135.
- Magnuson Engineers, Inc.: *See*—  
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- Magnuson, Roy M. 3,102,629.
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- Magnuson, Roland A., to United States of America, Army. Slotted tube torsion bar. 3,103,035, 9-10-63, Cl. 16-180.
- Magnuson, Roy M.: *See*—  
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- Magnuson, Roy M., deceased (by G. I. Magnuson, executrix), and R. K. Daugherty: said Daugherty assor. to Magnuson Engineers, Inc. Liquid filling machine and method. 3,087,517, 4-30-63, Cl. 141-1.
- Magnuson, Roy M., deceased, by G. I. Magnuson, executrix,  $\frac{1}{2}$  to said G. I. Magnuson and  $\frac{1}{2}$  to G. I. and R. Magnuson and L. J. Fox, trustees. Article feeding apparatus and method. 3,102,629, 9-3-63, Cl. 198-34.
- Magnussen, Harold. Tool for pneumatic chipping hammers. 3,106,019, 10-8-63, Cl. 30-168.
- Magnusson, Bengt G.: *See*—  
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- Magnusson, Bengt G. Regulated electric power supply device. 3,102,977, 9-3-63, Cl. 321-19.
- Magnusson, Bror: *See*—  
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- Magnusson, Knut J.: *See*—  
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- Boggs, Herbert D., and Magoon. 3,114,173.
- Magorien, Vincent G., to Seaton-Wilson Mfg. Co. Airless coupling. 3,073,342, 1-15-63, Cl. 137-614.03.
- Magos, John P., to Crane Co. Gate closure guide. 3,078,871, 2-26-63, Cl. 137-546.
- Magos, John P., to Crane Co. Ball valve with multi-part body. 3,091,428, 5-28-63, Cl. 251-315.
- Magoteaux, Orville R., to United States of America, Atomic Energy Commission. Separation of uranium metal from oxides and slag in the reduction of uranium tetrafluoride. 3,088,823, 5-7-63, Cl. 75-841.
- Mag-Powr Games, Inc.: *See*—  
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- Magrum, Gervase M.: *See*—  
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- Maguire, John, to Duo-Bed Corp. Sofa bed and table unit. 3,076,977, 2-12-63, Cl. 5-3.
- Maguire, John, to Duo-Bed Corp. Adjustable bed frame. 3,076,978, 2-12-63, Cl. 5-202.
- Maguire, John, to Duo-Bed Corp. Roller for bed frames. 3,076,980, 2-12-63, Cl. 5-317.
- Maguire, Philip L.: *See*—  
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- Mahaffey, Fred, Jr.: *See*—  
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- Mahaffy, Reid A., and J. R. Harder, to Bartelt Engineering Co., Inc. Apparatus for measuring forces. 3,093,206, 6-11-63, Cl. 177-228.
- Mahan, Guy S., to International Basic Economy Corp. Tapping unit drive head. 3,078,735, 2-26-63, Cl. 74-205.
- Mahan, John E., to Phillips Petroleum Co. Rocket fuels. 3,082,598, 3-26-63, Cl. 60-35.4.
- Mahaney, John P., to Virginia Plastics Co. Fastening insulator for transmission lines. 3,090,827, 5-21-63, Cl. 174-172.
- Maher, James B., to Chicago Bridge & Iron Co. Liquefied petroleum gas pressure and low temperature storage system. 3,079,760, 3-5-63, Cl. 62-55.
- Maher, James B., and E. C. Gruner, to Chicago Bridge & Iron Co. L-P gas storage and slop handling system. 3,078,686, 2-26-63, Cl. 62-54.
- Maher, James B., and J. Mair, to Chicago Bridge & Iron Co. Refrigeration by direct vapor condensation. 3,108,447, 10-29-63, Cl. 62-54.
- Maher, Richard T.: *See*—  
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- Mahieux, Jean. Smokers' pipes. 3,091,246, 5-28-63, Cl. 131-195.
- Mahler, Peter A., to Singer-Fidelity, Inc. Yarn severing in circular knitting machines. 3,081,609, 3-19-63, Cl. 66-134.
- Mahler, Peter A., to Singer-Fidelity, Inc. Method of yarn severing in circular knitting machines. 3,090,216, 5-21-63, Cl. 66-140.
- Mahler, Peter A., and K. R. Boyer, to The Singer Co. Splicing in circular knitting machines. 3,111,827, 11-26-63, Cl. 66-39.
- Mahlmeister, Raymond A., and J. H. Straw, to The Sheffield Corp. Gaging device. 3,094,788, 6-25-63, Cl. 33-174.
- Mahlmeister, Raymond A., and J. H. Straw, to The Sheffield Corp. Prefabricated enclosure. 3,115,819, 12-31-63, Cl. 98-40.
- Mahlo, Heinz. Photoelectric devices for indicating the lay of weft threads and for controlling weft straighteners. 3,077,656, 2-19-63, Cl. 26-51.5.
- Mahn, Herbert, to Jos. Schneider & Co., Optische Werke. Depth-of-field indicator for varifocal objective. 3,076,396, 2-5-63, Cl. 95-45.
- Mahn, Herbert, to Optische Werke Jos. Schneider & Co. Control mechanism for the axial displacement of components of photographic or cinematographic objectives and the like. 3,095,750, 7-2-63, Cl. 74-107.
- Mahon, John H., to Calgon Corp. Methods of processing poultry. 3,104,170, 9-17-63, Cl. 99-107.
- Mahon, John V.: *See*—  
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- Mahon, Thomas J., to Thomas J. Mahon, Inc. Nebulizing dispenser. 3,104,062, 9-17-63, Cl. 239-338.
- Mahon, Thomas J., Inc.: *See*—  
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- Mahoney, John F.: *See*—  
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- Mahoney, John R., to United States of America, Atomic Energy Commission. Measuring circuit. 3,076,091, 1-29-63, Cl. 250-41.9.
- Mahoney, Ralph P., to S. D. Warren Co. Salt peptized proteinaceous adhesive and coating composition employing the same as a binder. 3,081,182, 3-12-63, Cl. 106-146.
- Mahoney, Ralph P., and E. J. Justus, to Beloit Iron Works. Apparatus for subjecting a paper web to a variety of finishing and/or coating treatment. 3,089,460, 5-14-63, Cl. 118-60.
- Mahoney, William R., R. E. St. Pierre, and D. T. Dunlap, to Celanese Corp. of America. Filter cigarettes. 3,103,220, 9-10-63, Cl. 131-10.
- Mahowald, Edward A. Lawn mower washer assembly. 3,108,608, 10-29-63, Cl. 134-198.
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- Kaupp, Bette K. 3,094,992.
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- Maidment, Earl P., to Burroughs Corp. Document stacking device. 3,078,089, 2-19-63, Cl. 271-71.
- Maidment, Earl P., to Burroughs Corp. Document handling stacking apparatus. 3,079,151, 2-26-63, Cl. 271-71.
- Maienknecht, Gaile E. Pressure regulating valve. 3,094,141, 6-18-63, Cl. 137-505.25.
- Maier, Alfred E.: *See*—  
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- Maier, Alois: *See*—  
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- Brick, Robert M., Maier, and Ripling. 3,105,296.
- Brick, Robert M., Maier, and Ripling. 3,116,121.
- Maier, Elmar, to Contina Bureaux und Rechermaschinen-fabrik Aktiengesellschaft. Miniature-type calculating machines. 3,104,055, 9-17-63, Cl. 235-73.
- Maier, Elmar, to Contina Bureaux und Rechermaschinen-fabrik Aktiengesellschaft. Manually or motor operable miniature calculator. 3,104,811, 9-24-63, Cl. 235-62.
- Maier, Elmar. Ten transfer device. 3,113,721, 12-10-63, Cl. 235-138.
- Maier, Franz J., and E. Bellack, to United States of America, Army, and Health, Education and Welfare. Fluoridation of drinking water. 3,078,225, 2-19-63, Cl. 210-47.
- Maier, John H. Saw chain filing gauge. 3,091,136, 5-28-63, Cl. 76-36.
- Maier, Karl: *See*—  
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- Maier, Karl W. Buffer device. 3,107,906, 10-22-63, Cl. 267-9.
- Maier, Karl W. Friction brake. 3,116,056, 12-31-63, Cl. 267-1.
- Maier, Karl, and H. J. Nienburg, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Dyeing and printing of articles of linear polyamides. 3,100,134, 8-6-63, Cl. 8-55.



- Maier, Lorenz, and F. Tofp, to Kienzle Apparate G.m.b.H. Carriage control apparatus for an accounting machine. 3,106,341, 10-8-63, Cl. 235-60.46.
- Maier, Ludwig, to Monsanto Chemical Co. Racemic tetrahydrocarbon diphosphorus disulfides. 3,075,017, 1-22-63, Cl. 260-606.5.
- Maier, Theodore C., to Tamas Electronics Industries, Inc. Variable output transformer. 3,085,192, 4-9-63, Cl. 323-51.
- Maihofer, Chester M. Flourider gig. 3,071,401, 1-1-63, Cl. 294-61.
- Maiershofer, Karl M.: *See—*  
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- Maierson, Theodore, to The National Cash Register Co. Pressure sensitive record and transfer sheet material. 3,104,980, 9-24-63, Cl. 117-36.4.
- Maierson, Theodore, F. C. Schiller, and H. N. Vosmer, to The National Cash Register Co. Polyethylene terephthalate coated with transferable minute specks of magnetic ink. 3,099,571, 7-30-63, Cl. 117-36.1.
- Mailhot, John R., to General Precision, Inc. Abstract visual display system. 3,081,557, 3-19-63, Cl. 35-12.
- Mailland, Claude F. H. Artificial denture. 3,094,778, 6-25-63, Cl. 32-5.
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- Maillard, Jacques, to Societe d'Exploitation des Laboratoires Jacques Logeais. Narcotine camphosulfonate. 3,108,106, 10-22-63, Cl. 260-285.
- Maille, Jean P., to Societe Civile d'Etudes et de Brevets Mota. Apparatus for audio-vocal conditioning. 3,101,390, 8-20-63, Cl. 179-1.
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- Main, John A., and R. E. Holmes, Jr., to Kelsey-Hayes Co. Dual tire wheel structure. 3,079,200, 2-26-63, Cl. 301-13.
- Main, Leo E., to Bell & Gossett Co. Air separator fitting for hydronic systems. 3,074,645, 1-22-63, Cl. 237-63.
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- Maine, De Witt C. Protective apron construction. 3,093,829, 6-18-63, Cl. 2-2.
- Mainil, Jean L. P., to Oletta, Societe Anonyme. Preparation of allopregane-20-hydroxy-3 one and of allopregnane-3-20-dione. 3,092,643, 6-4-63, Cl. 260-397.3.
- Mainil, Jean L. P., to Oletta, Societe Anonyme. Extraction of an alkaloid from phyllanthus discodens. 3,098,849, 7-23-63, Cl. 260-236.
- Mainil, Jean L. P., to Oletta, Societe Anonyme. 3a-amino-latifolia. 3,098,859, 7-23-63, Cl. 260-397.3.
- Mainil, Jean L. P., to Oletta, Societe Anonyme. 3a-amino-allopregnanes. 3,102,895, 9-6-63, Cl. 260-397.3.
- Mainil, Jean L. P., and Q. K. Huu, to Oletta, Societe Anonyme. Process of extracting 3-amino compounds from the genus Puntumia. 3,098,082, 7-16-63, Cl. 260-397.3.
- Mainz, Franz: *See—*  
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- Maiorca, Salvatore, to Fiat Societa per Azioni. Ground appliance for controlled deceleration braking of aircraft on landing. 3,079,110, 2-26-63, Cl. 244-110.
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- Maire, Aurele, to Fabrique des Montres Zenith SA. Electronic driving means for timepieces. 3,114,092, 12-10-63, Cl. 318-132.
- Mais, Adolf R., to Hagglund & Soner, Aktiebolaget. Thermal release device such as an overload protection. 3,105,890, 10-1-63, Cl. 200-122.
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- Maitani, Yoshihisa, to Olympus Kogaku Kogyo Kabushiki Kaisha. Exposure controlling device for photographic camera. 3,075,441, 1-29-63, Cl. 95-101.
- Maitani, Yoshihisa, to Olympus Kogaku Kogyo Kabushiki Kaisha. Safety device for photographic camera. 3,106,882, 10-15-63, Cl. 95-10.
- Maitani, Yoshihisa, to Olympus Kogaku Kogyo Kabushiki Kaisha. Exposure controlling device for photographic camera. 3,108,522, 10-29-63, Cl. 95-10.
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- Majendie, Alastair M. A., and H. Pollak, to Smiths America Corp. Gyro verticals. 3,077,787, 2-19-63, Cl. 74-5.47.
- Majendie, Alastair M. A., to S. Smith & Sons (England) Ltd. Visual indicating devices for use in aircraft. 3,085,429, 4-16-63, Cl. 73-178.
- Majestic Co., Inc.: *See—*  
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- Majnoni, Marcello. Sail-boat. 3,088,428, 5-7-63, Cl. 114-61.
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- Major, Alfred N.: *See—*  
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- Makara, Frank. Continuous insect film. 3,077,050, 2-12-63, Cl. 43-112.
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- Maker, Walter J., and A. M. Laurinaitis, to The Glidden Co. Unsaturated polyester coating compositions having controlled resistance to penetration. 3,077,424, 2-12-63, Cl. 117-148.
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- Makin, Earle C., Jr., to Monsanto Chemical Co. Separation process using an amino di-acid ester. 3,072,565, 1-8-63, Cl. 208-236.
- Makin, Earle C., Jr., to Monsanto Chemical Co. Separation process using an amino acid ester. 3,072,566, 1-8-63, Cl. 208-236.
- Makin, Earle C., Jr., to Monsanto Chemical Co. Hydrocarbon separation. 3,077,711, 2-19-63, Cl. 55-84.
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- Makovic, Stephen R., to Libbey-Owens-Ford Glass Co. Grinding and polishing glass plates. 3,101,576, 8-27-63, Cl. 51-283.
- Makovski, Stephen A., and R. Snape, to United Shoe Machinery Corp. Lasts. 3,076,213, 2-5-63, Cl. 12-133.
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- Makowski, Alexander G., to American Can Co. Manufacture of plastic articles. 3,078,517, 2-26-63, Cl. 18-20.
- Makowski, Alexander G., to American Can Co. Container lining. 3,091,000, 5-28-63, Cl. 18-59.
- Makowski, Alexander G., to American Can Co. Method of producing stressed joint plastic containers. 3,097,423, 7-16-63, Cl. 29-407.
- Makowski, Alexander G., to American Can Co. Dispenser for containers. 3,107,829, 10-22-63, Cl. 222-525.
- Makowski, Alexander G., A. J. Blood, and J. M. Wathen, Jr., to American Can Co. Apparatus for handling and treating tubular plastic containers. 3,097,593, 7-16-63, Cl. 101-38.
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- Makowski, Henry S., to Esso Research and Engineering Co. Copolymers preparation process. 3,092,612, 6-4-63, Cl. 260-88.2.
- Makowski, Henry S., and C. W. Seelbach, to Esso Research and Engineering Co. Brominated amorphous copolymers of ethylene and higher alpha olefins with amines. 3,084,145, 4-2-63, Cl. 260-88.2.
- Makowski, Henry S., and W. P. Cain, to Esso Research and Engineering Co. Process of curing a chlorinated ethylene higher alpha olefin copolymer. 3,088,929, 5-7-63, Cl. 260-41.
- Makowski, Joseph V., and M. Castello, to Ford Motor Co. Wire spring element. 3,083,001, 3-26-63, Cl. 267-107.
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- Makuh, Paul H., to Hupp Corp. Adjustable evaporator assemblies for air conditioners. 3,097,507, 7-16-63, Cl. 62-285.
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- Malaker Laboratories, Inc.: *See—*  
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- Malaker, Stephen F., to Daystrom, Inc. Unitary neutronic reactor-powered pump. 3,086,471, 4-23-63, Cl. 103-87.
- Malaker, Stephen F., and J. G. Daunt, to Malaker Laboratories, Inc. Miniature cryogenic engine. 3,074,244, 1-22-63, Cl. 62-6.
- Malakoff, Norman L.: *See—*  
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- Malashevitz, Alex J.: *See—*  
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- Malavazos, Arurth J., to Friden, Inc. Calculating machine. 3,090,554, 5-21-63, Cl. 235-63.
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- Malbin, Isaac, and A. Maddalena. Nested ladder. 3,115,253, 12-24-63, Cl. 211-128.
- Malchair, Armand, to Bureau d'Etudes Armand Malchair Societe Anonyme. Method and devices for hydroculture at practically constant temperature. 3,103,763, 9-17-63, Cl. 47-1.2.
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- Malcolm, Jack W., to The National Cash Register Co. Decimal to binary conversion and storage system. 3,087,149, 4-23-63, Cl. 340-347.
- Malcolm, Robert, Jr. Filter plate assembly for welding helmets and the like. 3,112,490, 12-3-63, Cl. 2-8.
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- Maldonado, David G. Game device. 3,091,460, 5-28-63, Cl. 273-95.
- Male, Herman A., to The Gleason Works. Gear cutting machine with chamfering means. 3,083,616, 4-2-63, Cl. 90-1.4.
- Malec, Jerry P., to Comet Industries. Adjustable automatic oiler for air conduits. 3,115,949, 12-31-63, Cl. 184-55.
- Malec, Jerry P., to Comet Industries, Inc. Means for injecting an oil into an air stream. 3,115,950, 12-31-63, Cl. 184-55.
- Maleck, Le Roy R., to Admiral Corp. Float switch assembly for air conditioning apparatus. 3,110,161, 11-12-63, Cl. 62-188.
- Maleno, George J., Jr.: See—  
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- Maletzke, Arnold J.: See—  
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Frame, Thomas B., and Maletzke. 3,096,124.  
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- Maley, Gerald A., to International Business Machines Corp. Full adder and subtractor using NOR logic. 3,074,640, 1-22-63, Cl. 235-176.
- Maley, Gerald A., to International Business Machines Corp. Pulse generator employing AND-INVERT type logical blocks. 3,075,089, 1-22-63, Cl. 307-88.3.
- Maley, Gerald A., to International Business Machines Corp. Signal storage and transfer apparatus. 3,083,305, 3-26-63, Cl. 307-88.5.
- Malia, John P. Compartmentalized refrigerator. 3,086,830, 4-23-63, Cl. 312-200.
- Malibeaux, Rene: See—  
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- Malick, Franklin S., to Allis-Chalmers Mfg. Co. Static control for step type transformer regulator. 3,104,350, 9-17-63, Cl. 318-264.
- Malin, Charles G. Grinding and polishing machine for precious or semi-precious stones. 3,098,327, 7-23-63, Cl. 51-125.
- Malin, Herman J.: See—  
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Gray, Alfred E., Malin, and Thompson. 3,081,872.
- Malin, Leon: See—  
Beusman, Curtis C., Malin, and Mott. 3,110,273.
- Maling, John E. Traveling chair for shower stalls. 3,090,969, 5-28-63, Cl. 4-145.
- Malinowski, Tadeusz. Rangefinder and gunsight combination with coupled reticle adjusting means for ballistic curve changes. 3,079,833, 3-5-63, Cl. 88-2.7.
- Malkin, Bruce M.: See—  
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- Malkin, Bruce M., W. Reischer, and L. A. Buchalter, to Burndy Corp. Multiple stroke tool. 3,101,017, 8-20-63, Cl. 81-15.
- Malkin, Edwin S.: See—  
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- Malkin, Simon, and L. Kessler. Word and alphabet game device. 3,077,677, 2-19-63, Cl. 35-35.
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- Mallatt, Russell C.: See—  
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- Malleable Iron Fittings Co.: See—  
Desenberg, Ned E. 3,075,259.
- Malleable Research and Development Foundation: See—  
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- Mallory, Paul, and E. G. Rupprecht, to Bell Telephone Laboratories, Inc. Control circuit. 3,083,328, 3-26-63, Cl. 321-16.
- Mallett, Harry H. Automatic locking key safe. 3,084,008, 4-2-63, Cl. 312-319.
- Mallett, John E. Detachable table top. 3,093,411, 6-11-63, Cl. 297-135.
- Malley, Thomas J., and D. F. De Lapp, to American Cyanamid Co. Phosphoric acid. 3,073,677, 1-15-63, Cl. 23-165.
- Malley, Thomas J., H. D. Schindler, and J. D. Pennell, Jr., to American Cyanamid Co. Alumina of controlled density. 3,086,845, 4-23-63, Cl. 23-143.
- Malley, Thomas J., H. F. Cosway, and S. A. Giddings, to American Cyanamid Co. Low temperature defluorination of phosphate material. 3,101,999, 8-27-63, Cl. 23-108.
- Malley, Thomas J., D. F. De Lapp, S. A. Giddings, and H. F. Cosway, to American Cyanamid Co. Production of animal feed supplement of low fluorine content. 3,102,000, 8-27-63, Cl. 23-108.
- Mallick, Joseph: See—  
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- Mallina, Rudolf F.: See—  
King, Paul E., and Mallina. 3,079,159.
- Mallina, Rudolph F., to Thompson Ramo Wooldridge Inc. Combined desk and booth. 3,085,843, 4-16-63, Cl. 312-239.
- Mallinckrodt Chemical Works: See—  
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Rands, Robert D., Jr. 3,102,880.  
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- Mallinckrodt, George E. Nuclear apparatus. 3,107,210, 10-15-63, Cl. 204-193.2.
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- Mallinckrodt, Philip A.: See—  
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- Mallinson, John C., to AMP Inc. Magnetic core circuit. 3,114,138, 12-10-63, Cl. 340-174.
- Mallison, William C., to American Cyanamid Co. Process for blending a hot polyester resin and polymerizable solvent. Re. 25,395, 6-18-63, Cl. 260-45.4.
- Mallory, Edwin E., and A. Cantarutti, to National Rubber Machinery Co. Tire curing press. 3,097,394, 7-16-63, Cl. 18-17.
- Mallory, Henry R., to ACR Electronics Corp. Voltage doubling supply circuit for triggering and flashing gaseous discharge lamp. 3,115,594, 12-24-63, Cl. 315-219.
- Mallory, John S. Fuel inductor pump assembly. 3,106,197, 10-8-63, Cl. 123-139.
- Mallory, P. R., & Co., Inc.: See—  
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Clune, Richard E. 3,096,217.  
Haberecht, Rolf R., and Loftus. 3,093,755.  
Loftus, Wallace D. 3,086,160.  
Simmons, Harold T. 3,115,785.
- Mallory Timers Co.: See—  
Simmons, Harold T. 3,115,785.
- Mallow, Abraham J. Interlocking housing and mounting plate. 3,071,284, 1-1-63, Cl. 220-41.
- Malloy, John D.: See—  
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- Malloy, John E.: See—  
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- Malm, Anders E., to Aktiebolaget Kanthal. Electric resistance furnaces and the like. 3,092,681, 6-4-63, Cl. 13-22.
- Malm, Carl J., and M. E. Rowley, to Eastman Kodak Co. Method of preparing cellulose acylate sulfates using sodium phosphate. 3,075,964, 1-29-63, Cl. 260-215.
- Malm, Carl J., and C. L. Crane, to Eastman Kodak Co. Preparation of stable cellulose triesters. 3,089,871, 5-14-63, Cl. 260-227.
- Malm, Carl J., B. Fulkerson, and J. W. Mench, to Eastman Kodak Co. Preparation of cellulose valerates. 3,103,506, 9-10-63, Cl. 260-225.
- Malm, Robert N.: See—  
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- Malmedie Maschinenfabrik G.m.b.H.: See—  
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- Malmo, Erling. Hard-packed snow skis. 3,088,748, 5-7-63, Cl. 280-12.
- Malmstrom, Homer E., and R. M. Donaldson, to Kimberly-Clark Corp. Rotary pressure vessel. 3,099,543, 7-30-63, Cl. 34-124.
- Malo, William G., 1/2 to R. Sherman. Clamp for case carrying trucks. 3,084,820, 4-9-63, Cl. 214-371.
- Malohn, Donald A.: See—  
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- Malone, Billy C., to Lynes, Inc. Inflatable well tool. 3,085,628, 4-16-63, Cl. 166-187.
- Malone, Harold L.: See—  
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- Malone, Homer F., and S. W. Drennan, to Mechanical Products, Inc. Combination motor start relay and overload protector. 3,109,078, 10-29-63, Cl. 200-88.
- Malone, James D., and A. J. Runft, to General Motors Corp. Selective ringing decoder system. 3,077,577, 2-12-63, Cl. 340-164.
- Malone, Joe W., Sr., and J. D. Lamb. Body supported air circulator. 3,096,702, 7-9-63, Cl. 98-1.
- Malone, Joseph. Two part weld-on replacement rim for sprocket. 3,111,859, 11-26-63, Cl. 74-243.
- Malone, Joseph. Stripping attachment for metallizing spray gun. 3,112,072, 11-26-63, Cl. 239-79.
- Malone, Paul E.: See—  
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- Malone, Thomas S., and A. P. Allegrini, to Minerals & Chemicals Philipp Corp. Gel-forming attapulgite clay and method for preparing same. 3,079,333, 2-26-63, Cl. 252-8.5.



- Maloney, Bernard, to Amsted Industries Inc. Self-contained brake arrangement. 3,077,956, 2-19-63, Cl. 188-198.
- Maloney, Robert A., to McGraw-Edison Co. Electrode holder with current interchange inserts. 3,072,732, 1-8-63, Cl. 13-16.
- Malooof, Fred N.: *See*—  
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- Malott, Clifton S., K. E. Haschart, and G. E. Moore, Jr., to McGraw-Edison Co. Cross-folder control. 3,113,772, 12-10-63, Cl. 270-69.
- Malpede, Albert J.: *See*—  
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- Malrose, Le Roy. Sailboat. 3,112,725, 12-3-63, Cl. 114-39.
- Malt-A-Plenty, Inc.: *See*—  
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- Maltby, Frederick L. Electrical connector. 3,090,936, 5-21-63, Cl. 339-210.
- Maltby, Frederick L. Insulating means for concentric conductor elements. 3,109,882, 11-5-63, Cl. 174-151.
- Maltese, Paolo: *See*—  
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- Malthaner, William A.: *See*—  
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- Maly, George P.: *See*—  
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- Maly, George P., to Union Oil Co. of California. Valve and well tool utilizing the same. 3,078,862, 2-26-63, Cl. 137-67.
- Malz, Hugo, F. Lober, O. Bayer, and H. Scheurle, to Farbenfabriken Bayer Aktiengesellschaft. Process for stabilizing polyolefins. 3,107,229, 10-15-63, Cl. 260-45.8.
- Malz, Hugo, A. R. Heinz, and W. Wolff to Farbenfabriken Bayer Aktiengesellschaft. Process for improving the light fastness of chlorobutadiene polymers. 3,107,230, 10-15-63, Cl. 260-45.9.
- Malz, Hugo, E. Roos, and W. Göbel, to Farbenfabriken Bayer Aktiengesellschaft. Stabilisers for polymers containing chlorine. 3,107,231, 10-15-63, Cl. 260-45.9.
- Malzacher, Hans, to Neuzeughammer Ambosswerk, Messer- und Stahlwarenfabrik Malzacher K.G., Fa. Method of producing articles having a cutting edge portion and consisting of stainless chromium steel. 3,116,180, 12-31-63, Cl. 148-12.4.
- Malzahn, Gus E. Heated asphalt rollers. 3,080,800, 3-12-63, Cl. 94-50.
- Malzahn, Gus E. Variable speed gear reduction unit. 3,087,354, 4-30-63, Cl. 74-781.
- Malzahn, Lester W., and L. O. Otto, to Western Electric Co., Inc. Apparatus for loading articles onto conveyors. 3,107,019, 10-15-63, Cl. 214-89.
- Mamalis, Patrick, to Vitamins Ltd. New dihydrotriazine derivatives and a process for their manufacture. 3,105,074, 9-24-63, Cl. 260-249.9.
- Mamantov, Gleb: *See*—  
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- Mamabour, James E., A. G. Sporer, and C. E. Day, to Libbey-Owens-Ford Glass Co. Method of and apparatus for feeding glass batch materials. 3,074,568, 1-22-63, Cl. 214-18.
- Mamer, Raymond F.: *See*—  
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- Mammano, Robert A., to United States of America, Navy. Long-period relaxation oscillator. 3,074,028, 1-15-63, Cl. 331-111.
- Mammarella, Betty. Panty girdle disposable pad. 3,108,599, 10-29-63, Cl. 128-526.
- Mamo, Anthony C., to Borg-Warner Corp. Floating member infinitely variable transmission. 3,090,252, 5-21-63, Cl. 74-677.
- Manabe, Osamu: *See*—  
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- Managan, Richard F.: *See*—  
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- Manak, Richard T. Water vehicle. 3,071,103, 1-1-63, Cl. 115-70.
- Manaloris, William A. Strip measuring means for strip cutting machines. 3,077,804, 2-19-63, Cl. 83-345.
- Manaresi, Francesco. Equipment for the preparation of concentrated coffee solutions or the like, advantageously for the preparation of products to be concentrated. 3,076,404, 2-5-63, Cl. 99-287.
- Manasia, Joseph P., and G. R. Somerville, to Shell Oil Co. Fluidized bed coating process employing an epoxy resin, and process for preparing said resin. 3,102,823, 9-3-63, Cl. 117-21.
- Manatrol Corp., The: *See*—  
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- Manca, Mario: *See*—  
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- Mancebo, Geneva R. Dispenser for wetted sheets of material. 3,104,183, 9-17-63, Cl. 118-236.
- Mancera, Octavio: *See*—  
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- Mancera, Octavio: *See*—Continued  
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- Mancera, Octavio, to Syntex Corp. Process for the preparation of the 20-ketoxime of 16-dehydropregnenolone. 3,108,123, 10-22-63, Cl. 260-397.5.
- Mancewicz, Stanley C., to Chrysler Corp. Damped pressure relief valve. 3,074,428, 1-22-63, Cl. 137-514.
- Manchester, Donald F., S. U. Hossain, M. E. Gilwood, and A. B. Mindler, to Abitibi Power & Paper Co. Base recovery from waste liquor. 3,083,078, 3-26-63, Cl. 23-49.
- Manchester Machine & Tool Co.: *See*—  
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- Mancia, Henri: *See*—  
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Megel, Guillaume E., and Mancia. 3,115,800.
- Mancini, Joseph A. Demountable flush type acoustical ceiling construction. 3,087,205, 4-30-63, Cl. 20-4.
- Mancini, Louis P. Multiple first aid storage device. 8,085,844, 4-16-63, Cl. 312-278.
- Mancini, Lloyd, to Berg Electronics, Inc. Electrical connection and terminal for making the same. 3,096,393, 7-2-63, Cl. 174-68.5.
- Manco Mfg. Co.: *See*—  
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- Mancuso, Emanuel. Tool holder. 3,103,839, 9-17-63, Cl. 82-36.
- Mandals Reberbane Christiansen and Co. A/S: *See*—  
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Christiansen, Christian, and Haoya. 3,076,482.
- Mandel, Gerald, and I. Lieblisch, to Hogan Faximile Corp. Electrolytic marking medium. 3,108,050, 10-22-63, Cl. 204-2.
- Mandelkern, Leo, and D. E. Roberts, to United States of America, Commerce. Method for making a fiber with reversible dimensional changes. 3,090,735, 5-21-63, Cl. 204-154.
- Mandell, H. C., Jr., to Pennsalt Chemicals Corp. Method of preparing nitramide and n-alkyl substituted nitramides. 3,071,438, 1-1-63, Cl. 23-190.
- Mandell, Harry C., Jr., to Pennsalt Chemicals Corp. Flame photometry. 3,088,808, 5-7-63, Cl. 23-230.
- Mandin, Hans A. R. Cleaner nozzle with pulsating jet. 3,107,386, 10-22-63, Cl. 15-345.
- Mandler, Walter, and E. Wagner, to Ernst Leitz, G.m.b.H. Optische Werke. High aperture objective for photography and projection. 3,076,383, 2-5-63, Cl. 88-57.
- Mandonas, Nicholas J., to Western Electric Co., Inc. Magazine stackers. 3,106,302, 10-8-63, Cl. 214-6.
- Mandrell, Clayton C., to Reed Roller Bit Co. Drill bit nozzle assembly. 3,115,200, 12-24-63, Cl. 175-340.
- Mandroian, Harold, and H. Lewin, to R-Gentron. Electrolytic recovery apparatus. 3,072,557, 1-8-63, Cl. 204-231.
- Mandy, Robert R.: *See*—  
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- Mandy, Robert R., to The Delman Co. Windshield clearing system. 3,094,733, 6-25-63, Cl. 15-250.02.
- Mandy, Robert R., to The Delman Co. Windshield cleaner control. 3,103,684, 9-17-63, Cl. 15-250.02.
- Mandy, Robert R., and D. Erkrantz, to The Delman Co. Windshield cleaning system. 3,094,732, 6-25-63, Cl. 15-250.02.
- Manecke, Hermann, to Klockner-Werke Aktiengesellschaft. Color restoring concrete body. 3,102,039, 8-27-63, Cl. 106-97.
- Manecke, Siegfried E.: *See*—  
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- Manes, Milton: *See*—  
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- Manganelli, Alfredo, to Vermont Marble Co. Flash trimming tool for non-circular tubular members. 3,091,145, 5-28-63, Cl. 83-184.
- Mangel, Wilhelm: *See*—  
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- Manger, Charles F., to The Bentley Engineering Co. Ltd. Tubular knitted fabric and method. 3,107,510, 10-22-63, Cl. 66-185.
- Manger, Charles F., and G. A. Smith, to The Bentley Engineering Co. Ltd. Circular knitting machines. 3,095,719, 7-2-63, Cl. 66-133.
- Mangett, Leo C., Jr.: *See*—  
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- Mangham, Jesse R.: *See*—  
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- Mangham, Jesse R., to Ethyl Corp. Preparation of alkyltin compounds. 3,095,433, 6-25-63, Cl. 260-429.7.
- Mangiafico, Paul and P. J., and E. Seybold, to Peter Paul Electronics Co. Solenoid and valve assembly. 3,082,359, 3-19-63, Cl. 317-191.
- Mangiafico, Paul J.: *See*—  
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- Mangold, Donald J.: *See*—  
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- Manhart, Charles E. Life jacket. 3,076,207, 2-5-63, Cl. 9-338.
- Manhart, Charles E. Life raft. 3,092,854, 6-11-63, Cl. 9-11.
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- Manhattan Pickle Co., Inc., *The: See*—  
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- Manitowoc Engineering Corp.: *See*—  
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- Manitowoc Shipbuilding Inc.: *See*—  
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- Manizza, Guelfo A., to Continental Can Co., Inc. Package forming member. 3,099,475, 7-30-63, Cl. 294-87.2.
- Manke, Donald F.: *See*—  
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- Mankoff, Lawrence L.: *See*—  
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- Manley, Herbert A., and G. R. Crane, to Litton Systems, Inc. Tape handling apparatus. 3,115,314, 12-24-63, Cl. 242-55.12.
- Manley, Inc.: *See*—  
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- Mann, Alfred E., M. B. Dubey, M. Wolf, E. L. Ralph, R. L. Oliver, and S. Shuster, to Spectrolab, a division of Textron Electronics, Inc. Solar cell system. 3,094,439, 6-18-63, Cl. 136-89.
- Mann, Allan J. Multi-purpose fishing tool. 3,115,722, 12-31-63, Cl. 43-21.2.
- Mann, Bernice J. Panty construction. 3,077,193, 2-12-63, Cl. 128-284.
- Mann, David J., D. D. Perry, and R. M. Dudak, to Thikol Chemical Corp. Acetylenic ether polymers and their preparation. 3,083,235, 3-26-63, Cl. 260-615.
- Mann, Dennis C. M.: *See*—  
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- Mann, Edward C., and W. D. McLarn. Method for determining the condition of the uterine isthmus. 3,095,871, 7-2-63, Cl. 128-2.
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- Mann, Horace T., to Space Technology Laboratories, Inc. Superconductor and gate employing single elongated simply connected thin film as gate element. 3,093,754, 6-11-63, Cl. 307-88.5.
- Mann, Horace T., to Space Technology Laboratories, Inc. Electron beam masking for etching electrical circuits. 3,113,896, 12-10-63, Cl. 156-3.
- Mann, John B. Brake or clutch means. 3,078,974, 2-26-63, Cl. 192-45.1.
- Mann, John R., and A. E. Wainwright, to United States of America, Atomic Energy Commission. Automatic hand counter for alpha particle counting. 3,093,738, 6-11-63, Cl. 250-83.6.
- Mann, Karl E., to Otto Fuchs Kommandit Gesellschaft. Reciprocable combustion engine. 3,089,735, 5-14-63, Cl. 308-23.
- Mann, Leonard J., V. A. Williamitis, and E. C. Simmons, to General Motors Corp. Refrigerating apparatus. 3,097,509, 7-16-63, Cl. 62-469.
- Mann, Leonard J., and D. O. Stewart, to General Motors Corp. Refrigerating apparatus. 3,099,139, 7-30-63, Cl. 62-180.
- Mann, Malden, and E. Friend. Apparatus for processing kidney knobs. 3,075,236, 1-29-63, Cl. 17-1.
- Mann, Marvin D. Sewing box. 3,093,277, 6-11-63, Cl. 223-106.
- Mann, Victor E., and G. T. Baker, deceased (by Midland Bank Executor and Trustee Co. Ltd., administrator); to British Telecommunications Research Ltd. Telephone call feed registering arrangements. 3,106,613, 10-8-63, Cl. 179-7.
- Mann, William L. Variable length pipe. 3,073,134, 1-15-63, Cl. 64-23.
- Mann, Zelvorn W. Pole lamp. 3,072,784, 1-8-63, Cl. 240-81.
- Manna, Albert: *See*—  
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- Manna, Silvano A., to Diamond National Corp. Printing machine. 3,103,877, 9-17-63, Cl. 101-35.
- Mannarino, Salvatore R.: *See*—  
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- Mannerberg, Edward G., to H. J. Stolbach. Adjustable guided slicing knife. 3,091,854, 6-4-63, Cl. 30-283.
- Manners, Don I., and J. Whedon. Portable credit card imprinter. 3,090,303, 5-21-63, Cl. 101-269.
- Manners, Frank A.: *See*—  
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- Manners, Frank A., and T. E. De Viney, to Square D Co. Switching circuit. 3,092,760, 6-4-63, Cl. 317-148.5.
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- Bungeroth, Adolf, and Schrewe. 3,082,496.
- Frank, Hanns. 3,114,203.
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- Naeser, Gerhard, and Wessel. 3,078,157.
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- Manney, Charles J.: *See*—  
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- Gorgens, Joseph E., and Goff. 3,099,161.
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- Manning, Melvin L., to McGraw-Edison Co. Method of constructing insulating barrier for stationary induction apparatus. 3,085,315, 4-16-63, Cl. 29-155.57.
- Manning, Ralph M., to General Electric Co. Electrical switch blade assembly. 3,097,270, 7-9-63, Cl. 200-38.
- Manning, Ralph M., and W. J. Schultz, to General Electric Co. Draw bench loading measurements. 3,075,636, 1-29-63, Cl. 205-3.
- Manning, Walter, to Guy Motors (Europe) Ltd. Fluid spring vehicle suspensions. 3,073,619, 1-15-63, Cl. 280-124.
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- Manoni, Larry, Jr.: *See*—  
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- Manor, Neil D.: *See*—  
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- Mansfield, Ralph, to Auto-Test, Inc. Apparatus for measuring compression of internal combustion engines. 3,100,988, 8-20-63, Cl. 73-116.
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- Manson, Morris, to Steel Slides, Inc. Extension table device. 3,084,639, 4-9-63, Cl. 108-89.
- Manson, Walter J., to National-Standard Co. Electrolytic plating. 3,073,773, 1-15-63, Cl. 204-207.
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- Manteuffel, Erich W., to General Electric Co. Self-regulated static frequency converter. 3,088,065, 4-30-63, Cl. 321-2.
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- Manwarren, Thomas E., to General Electric Co. High powered duplexing arrangement. 3,076,157, 1-29-63, Cl. 333-83.
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- Mapson, Donald L., to M & D Store Fixtures, Inc. Merchandise display shelf. 3,082,880, 3-26-63, Cl. 211-153.
- Mapson, Donald L., to M & D Store Fixtures, Inc. Multiple-unit display cabinet with continuous coextensive illuminated sign. 3,115,719, 12-31-63, Cl. 40-130.
- Marak, Frank. Locating tool for sheet metal bending and process for locating a metal sheet for bending. 3,090,418, 5-21-63, Cl. 153-21.
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- Marani, Rose M. Q. Nail paint applicator. 3,097,386, 7-16-63, Cl. 15-167.
- Marans, Nelson S., to W. R. Grace & Co. Preparation of poly-beta-propiolactone. 3,111,469, 11-19-63, Cl. 204-154.
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- Marantz, Israel H., to Columbia Cable & Electric Corp. Method and equipment for making narrow galvanized strip. 3,113,882, 12-10-63, Cl. 117-4.
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- Marble, Paul A. Water ski. 3,080,585, 3-12-63, Cl. 9-310.
- Marble Products Co. of Georgia: *See—*
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- Marbury, Thomas K. Combination piercing and pouring spout tool. 3,077,662, 2-19-63, Cl. 30-63.
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- Marcell, George L., to Sta-Rite Products, Inc. Thread locking device for a discharge connection of a submersible pump. 3,072,070, 1-8-63, Cl. 103-219.
- Marcellino, Carmen L., and W. P. Palanker.  $\frac{1}{2}$  to A. M. Shapiro. Safety control device. 3,088,516, 5-7-63, Cl. 158-28.
- Marcey, Stephen D., to The National Cash Register Co. Process of joining polyethylene terephthalate films. 3,079,293, 2-26-63, Cl. 156-325.
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- Marchal, Henri M. Apparatus for radiology, in particular for local densigraphic examination. 3,086,123, 4-16-63, Cl. 250-227.
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- Marchand, Jean F., to North American Philips Co., Inc. Dynamic magnetic storage circuit. 3,105,960, 10-1-63, Cl. 340-174.
- Marchand, Nathan, to The Singer Mfg. Co. Non-scan spectrum analyzer. 3,089,086, 5-7-63, Cl. 324-77.
- Marchand, William C., to Continental Aviation and Engineering Corp. Heat exchanger. 3,104,955, 9-24-63, Cl. 34-168.
- Marchant, Alan, and M. D. Wynne, to Imperial Chemical Industries Ltd. Process for separating hydrocarbon mixtures. 3,097,249, 7-9-63, Cl. 260-681.5.
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- Marchant, Francis C. I., and P. G. Batchelor, to Bristol Siddeley Engines Ltd. Aircraft jet propulsion power plants. 3,088,275, 5-7-63, Cl. 60-35.55.
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- Marcini, Michael L.: *See*—  
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- Marco Electronics, Inc.: *See*—  
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- Marco, Gino J., and A. J. Speziale, to Monsanto Chemical Co. Phosphinedichloromethylenes. 3,095,455, 6-25-63, Cl. 260-606.5.
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- Mard, Kenneth C., to United Aircraft Corp. Viscous damped bearing support. 3,101,979, 8-27-63, Cl. 308-26.
- Mard, Roland I. E., and W. Grunwald, to Aktiebolaget Electrolux. Method of and apparatus for forming a double-walled receptacle from thermoplastic sheeting. 3,074,110, 1-22-63, Cl. 18-19.
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- Marden, Carleton S. Can opener. 3,083,455, 4-2-63, Cl. 30-9.
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- Marette, Ralph T., to The Weatherhead Co. Hose accumulator. 3,091,258, 5-28-63, Cl. 138-30.
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- Margedant, James A., Jr.: *See*—  
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- Margerison, Richard B., A. C. Shabica, and J. B. Ziegler, to Ciba Corp. Haloalkylaniline disulfonyl chlorides. 3,095,446, 6-25-63, Cl. 260-543.
- Marggraff, Eugene A. Golf practice apparatus. 3,088,322, 5-7-63, Cl. 73-380.
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- Margopoulos, William P., to International Business Machines Corp. Analog-to-digital converter. 3,072,332, 1-8-63, Cl. 235-154.
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- Margraf, Philbert S., to Poor & Co. One-piece plural size rail anchor. 3,085,748, 4-16-63, Cl. 238-330.
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- Margulis, Joseph M. Hanger. 3,079,117, 2-26-63, Cl. 248-28.
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- Marietta, Michael T. Helmet having a crown shielding device. 3,111,674, 11-26-63, Cl. 2-3.
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- Marinace, John C., and R. F. Rutz, to International Business Machines Corp. Formation of semiconductor devices. 3,100,166, 8-6-63, Cl. 148-1.5.
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- Mark-Clark, Inc.: *See*—  
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- Tripp, Kenneth F. 3,103,165.
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- Markey, Harold G., to International Business Machines Corp. Intelligence communications system. 3,088,069, 4-30-63, Cl. 325—49.
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- Markle, Marina L. Lotion applicator. 3,103,682, 9-17-63, Cl. 15—244.
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- Markley, Vern C., Jr., to Grand Haven Stamped Products Co. Instant hot water dispenser. 3,104,306, 9-17-63, Cl. 219—39.
- Marko, Albert J., to General Telephone and Electronics Laboratories, Inc. Shift register. 3,073,963, 1-15-63, Cl. 250—213.
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- Marlas, Remy M. P. Firearm extractor. 3,090,149, 5-21-63, Cl. 42—25.
- Marlen Equipment Co.: *See*—  
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- Dart, David M. 3,112,621.
- Marley, James E., to Struthers-Dunn, Inc. Latch-in relay devices. 3,106,625, 10-8-63, Cl. 200—98.
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- Marlo, Arvid. Centrifugal rotational molding apparatus. 3,115,679, 12-31-63, Cl. 18—26.
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- Marmet Corp.: *See*—  
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- Marmo, Anthony B., to Ranco Inc. Electro-magnetically operated pilot valve. 3,103,338, 9-10-63, Cl. 251—45.
- Marmo, Anthony B., to Ranco Inc. Solenoid operated valve. 3,103,612, 9-10-63, Cl. 317—178.
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- Marmo, Michael L., and R. F. Walsh. Wrist supported flashlight. 3,112,889, 12-3-63, Cl. 240—59.



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- Marquis, David M., to E. I. du Pont de Nemours and Co. Preparation of fluorosulfur compounds. 3,097,236, 7-9-63, Cl. 260-543.
- Marquis, John F.: *See*—  
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- Marquis, John F., to Furnas Electric Co. Magnetic contactor. 3,109,905, 11-5-63, Cl. 200-87.
- Marr, Aiden A. Shot splitting and applying device for fishermen. 3,070,815, 1-1-63, Cl. 7-5.4.
- Marr, Russell G., to Marmac Products Inc. Control mechanism. 3,115,050, 12-24-63, Cl. 74-472.
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- Marsh, Leslie E., to Westinghouse Brake & Signal Co. Cylinder with piston cushioning feature. 3,072,104, 1-8-63, Cl. 121-38.
- Marsh, Lyle, to Marien Metal Products Co. Automatic golf ball teeing device actuated by a battery energized motor. 3,112,932, 12-3-63, Cl. 273-201.
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- Marshall, John E., to Whitworth Glaster Aircraft Ltd. Pattern controlled programming mechanism. 3,104,346, 9-17-63, Cl. 317-148.5.
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- Marshall, Neil A. Pulsed gas tube electrometer. 3,115,595, 12-24-63, Cl. 317-149.
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- Marshall, Preston F., to The Kendall Co. Novelty core constructed yarn. 3,076,307, 2-5-63, Cl. 57-144.
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- Marshall, Preston F., to The Kendall Co. Process for manufacturing wrapped elastic yarn. 3,078,654, 2-26-63, Cl. 57-163.
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- Marshall, Thomas G., Jr., to Radio Corp. of America. Voltage and frequency memory system. 3,075,149, 1-22-63, Cl. 328-121.
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- Martelli, Guido, N., and F. 3,100,055.
- Martelli, Guido, N., and F., to Compagnia Italiana Nestpack, S.p.A. Fruit-packing trays. 3,074,582, 1-22-63, Cl. 217-26.5.
- Martelli, Guido, N., and F., to Compagnia Italiana Nestpack, S.p.A. Fruit-packing trays. 3,100,055, 8-6-63, Cl. 217-26.5.
- Martelli, Nerio: See—
- Martelli, Guido, N., and F. 3,074,582.
- Martelli, Guido, N., and F. 3,100,055.
- Martellock, Arthur C., to General Electric Co. Stabilized organopolysiloxanes. 3,103,502, 9-10-63, Cl. 260-46.5.
- Martens, Günter: See—
- Kassel, Martin, and Martens. 3,097,789.
- Martens, Jack E., to The Anderson Co. Window actuator. 3,081,994, 3-19-63, Cl. 268-108.
- Martens, Jack E., to The Anderson Co. MION-transmitting device. 3,099,168, 7-30-63, Cl. 74-459.
- Martens, Jack E., to The Anderson Co. Control mechanism for reclining seat back. 3,104,130, 9-17-63, Cl. 297-355.
- Martens, Jean V., to International Standard Electric Corp. Combined limiter and two section bandpass filter. 3,098,937, 7-23-63, Cl. 307-88.5.
- Martens, Paul B. Instrument mounting and housing. 3,112,144, 11-26-63, Cl. 312-284.
- Martens, Ted F., to E. I. du Pont de Nemours and Co. Stabilizer for chlorohydrocarbons. 3,114,779, 12-17-63, Cl. 260-652.5.
- Marti, René. Pliers and like tools. 3,082,652, 3-26-63, Cl. 81-415.
- Martijssen, Anthony K., C. G. H. Scholten, P. Stam, R. A. Grijsse, and J. H. Veldkamp, to Hollandse Signaalopparaten, N.V. Air traffic control system. 3,088,107, 4-30-63, Cl. 343-7.
- Martin, Adolphe, and F. Boisjoly, to Pole-Lite Ltd. Production of variations in the profiles of metal tubes. 3,071,992, 1-8-63, Cl. 80-11.
- Martin, Albert E., to C. A. Parsons & Co. Ltd. Spectrometers. 3,079,834, 3-5-63, Cl. 88-14.
- Martin, Albert E., to Sir Howard Grubb Parsons & Co. Ltd. Infrared spectrometer recorder wherein the spectra is recorded on a linear wavenumber scale. 3,095,503, 6-25-63, Cl. 250-43.5.
- Martin, Alexander I.: See—
- Nissen, Hans G., and Martin. 3,084,616.
- Martin, Alfred R., to Imperial Chemical Industries Ltd. Fungicidal compositions. 3,084,102, 4-2-63, Cl. 167-65.
- Martin, Allan D., to The Dow Chemical Co. Extrusion apparatus. 3,112,526, 12-3-63, Cl. 18-12.
- Martin, Arthur E. Swimming aid. 3,101,492, 8-27-63, Cl. 9-339.
- Martin, Arthur T.: See—
- Temple Norman S., and Martin. 3,082,172.
- Martin, Bernard T. D., to Maywick Appliances Ltd. Gas operated heaters. 3,073,379, 1-15-63, Cl. 158-114.
- Martin, Beverly B.: See—
- Bloomer, Ward J., Martin, S. W. and B. B. 3,109,803.
- Martin, Bruce E., to E. I. du Pont de Nemours and Co. Process of preparing a helically crimped polypropylene filament. 3,093,444, 6-11-63, Cl. 18-48.
- Martin, Charles R.: See—
- Abbott, Henry H., Martin, Previte, and H. J. and J. G. Walsh. 3,087,025.
- Martin, Clarence B., Jr., to Style-Crafters, Inc. Life belt. 3,094,725, 6-25-63, Cl. 9-340.
- Martin Co., The: See—
- Jenkins, Carlton H. 3,084,603.
- Wirsing, Charles E., Jr. 3,084,770.
- Martin, Dalton W.: See—
- Bahrs, George S., Martin, and McWhorter. 3,099,799.
- Martin-Decker Corp.: See—
- Decker, Elmer L. 3,080,758.
- Matchett, Mahlon M. 3,107,431.
- Martin, Edward G.: See—
- Friedman, Ira J., and Martin. 3,074,795.
- Pedersen, Peter S., and Martin. 3,102,367.
- Martin, Elmore L., to E. I. du Pont de Nemours and Co. Process for the preparation of tetracyanoethylene by pyrolysis of dibromomalononitrile. 3,076,836, 2-5-63, Cl. 260-465.8.
- Martin, Elmore L., to E. I. du Pont de Nemours and Co. Polycyanopolysulfonylethylenes. 3,079,421, 2-26-63, Cl. 260-464.
- Martin, Elmore L., to E. I. du Pont de Nemours and Co. Aromatic halocarbonyl chemical products. 3,093,677, 6-11-63, Cl. 260-465.
- Martin, Elmore L., to E. I. du Pont de Nemours and Co. Selected negatively substituted maleimide dyes. 3,096,339, 7-2-63, Cl. 260-310.
- Martin, Elmore L., to E. I. du Pont de Nemours and Co. Substituted maleic anhydrides and the corresponding lactones of 3-formylacrylic acid. 3,113,939, 12-10-63, Cl. 260-240.
- Martin, Elmore L., to E. I. du Pont de Nemours and Co. N,N-dichloro- and N,N-dibromo- $\beta$ -aminopropionitrile, and processes of preparing them and their derivatives. 3,115-516, 12-24-63, Cl. 260-465.5.
- Martin Engineering Co.: See—
- Bertelsen, William R. 3,074,499.
- Bertelsen, William R. 3,074,764.
- Bertelsen, William R. 3,095,938.
- Martin, Erik: See—
- Svensson, Birger O. 3,111,053.
- Martin, Ernest N. Hot liquid dispenser. 3,081,764, 3-19-63, Cl. 126-362.
- Martin, Ernest N. Hot liquid dispenser. 3,086,682, 4-23-63, Cl. 222-146.
- Martin, Erwin H. E., to Dunlop Rubber Co. Ltd. Inflatable reflectors for radio waves. 3,115,631, 12-24-63, Cl. 373-18.
- Martin, Francis W., to Corning Glass Works. Thermally devitrifiable sealing glasses and composite articles. 3,113,878, 12-10-63, Cl. 106-54.
- Martin, Frank S., and J. P. McNamee, to United States Rubber Co. Paper mill rolls. 3,087,231, 4-30-63, Cl. 29-132.
- Martin, Fred E., to Union Carbide Corp. Vinyl ether polymerization catalysts. 3,085,997, 4-16-63, Cl. 260-91.1.
- Martin, Frederick E. Pumpette. 3,115,783, 12-31-63, Cl. 73-425.6.
- Martin, George E.: See—
- Henry, George L., and Martin. 3,109,171.
- Martin, Georges J. R., to Sud-Aviation Societe Nationale de Constructions Aeronautiques. Self-oscillators with nuclear spins subjected to magnetic resonance. 3,085,196, 4-9-63, Cl. 324-5.
- Martin, Glenn E., to International Business Machines Corp. Strain relief device. 3,103,399, 9-10-63, Cl. 339-17.
- Martin, Hans J., to Carl Zeiss, VEB. Sheet testing devices. 3,074,267, 1-22-63, Cl. 73-67.5.
- Martin, Harold B.: See—
- Crimmins, David J., and Martin. 3,098,688.
- Martin, Harold B., H. B. Gibson, and F. A. O'Loughlin, to The Thomas & Betts Co. Unitary bundling straps. 3,102,311, 9-3-63, Cl. 24-16.
- Martin, Harold E., to Lockheed Aircraft Corp. Endless loop tape magazine. 3,088,687, 5-7-63, Cl. 242-55.19.
- Martin, Harold F.: See—
- Branscomb, Charles E., and Martin. 3,088,665.
- Martin, Harold F., L. C. Tidball, and W. A. Goddard, to International Business Machines Corp. Decoding device. 3,092,823, 6-4-63, Cl. 340-347.



- Martin, Harold W., to American Machine & Foundry Co. Plastic bowling pin. 3,098,655, 7-23-63, Cl. 273-82.
- Martin, Heinz: *See*—
- Ziegler, Karl, Brell, Martin, and Holzkamp. 3,113,115.
- Martin, Heinz, and H. Schneider, to Siemens-Schuckertwerke Aktiengesellschaft. Dry rectifier device. 3,112,432, 11-26-63, Cl. 317-234.
- Martin, Hollinshead T., and F. J. Lindholm, to Signode Steel Strapping Co. Power strapping machine. 3,088,397, 5-7-63, Cl. 100-26.
- Martin, Homer Z., to Esso Research and Engineering Co. Reforming and hydrofining process. 3,109,804, 11-5-63, Cl. 208-89.
- Martin, Horst-Edgar, to Siemens & Halske Aktiengesellschaft. Communication cable having transposed conductors. 3,099,703, 7-30-63, Cl. 174-34.
- Martin, Horst-Edgar, to Siemens & Halske Aktiengesellschaft. Communication cable. 3,109,879, 11-5-63, Cl. 174-34.
- Martin, Howard B., to Pullman-Standard Car Mfg. Co. Freight vehicle wall construction. 3,087,441, 4-30-63, Cl. 105-409.
- Martin, Howard L., to Sperry Rand Corp. Bolometer mounting means for use in coaxial transmission lines. 3,098,984, 7-23-63, Cl. 333-22.
- Martin, Irvin J., R. A. Stowe, and L. G. Meverden, to The Dow Chemical Co. Sampling device. 3,096,653, 7-9-63, Cl. 73-422.
- Martin, James. Couplings. 3,104,439, 9-24-63, Cl. 24-205.17.
- Martin, James C.: *See*—
- Caldwell, John R., and Martin. 3,099,641.
- Elam, Edward U., and Martin. 3,099,679.
- Martin, James C., to Eastman Kodak Co. Tetraalkylacetate thioesters. 3,090,798, 5-21-63, Cl. 260-455.
- Martin, James C., to Eastman Kodak Co. Products of the reaction of dialkyl ketenes with dihydropyrans. 3,101,348, 8-20-63, Cl. 260-345.2.
- Martin, James H., Jr., to Marapost Space Corp. Water ski attachment. 3,103,678, 9-17-63, Cl. 9-310.
- Martin, Jean, to Societe d'Etudes Chimiques Pour l'Industrie et l'Agriculture. Method for the treatment of potassium ores. 3,071,450, 1-1-63, Cl. 23-310.
- Martin, Jerome L., to Commercial Solvents Corp. Process for the production of high-yielding soybean plants. 3,087,806, 4-30-63, Cl. 71-29.
- Martin, Johannes J. Combustion gas flow control in boiler flues. 3,097,631, 7-16-63, Cl. 122-235.
- Martin, John: *See*—
- Downs, Charles D., and Martin. 3,093,589.
- Martin, John, to Fabricacion de Maquinas, S.A. Structural building element. 3,103,042, 9-10-63, Cl. 20-15.
- Martin, John, to Associated Fisheries and Foods (Fleetwood) Ltd. Apparatus for the treatment of edible crustacea. 3,110,926, 11-19-63, Cl. 17-2.
- Martin, John C.: *See*—
- Dustin, Miles O., and Martin. 3,080,878.
- Martin, John C., to Diesel Equipment Ltd. Lifting and loading means. 3,097,009, 7-9-63, Cl. 294-63.
- Martin, John C., to Diesel Equipment Ltd. Vehicle unloading or loading devices. 3,112,949, 12-3-63, Cl. 294-63.
- Martin, John C., R. F. Brubaker, N. J. Bullock, and T. O. Stutrud, to General Motors Corp. Dispensing agitator for washing apparatus. 3,091,108, 5-28-63, Cl. 68-17.
- Martin, John O., and R. W. Rodier, to United States of America, Army. Cargo pallet. 3,093,092, 6-11-63, Cl. 105-369.
- Martin, John W.: *See*—
- Walters, Arthur G., and Martin. 3,110,261.
- Martin, John W., to Danly Machine Specialties, Inc. High speed tonnage indicator for power press. 3,108,470, 10-29-63, Cl. 73-88.5.
- Martin, Joseph, to Eclipse Sleep Products, Inc. Border stabilizers. 3,093,840, 6-18-63, Cl. 5-351.
- Martin, Joseph C. Retractable aircraft undercarriage. 3,111,292, 11-19-63, Cl. 244-102.
- Martin, Joseph F., F. Nierit, and B. H. Root, to General Dynamics Corp. Pulse train detector. 3,071,732, 1-1-63, Cl. 328-112.
- Martin, Joseph F., and F. Nierit, to General Dynamics Corp. High speed blocking oscillator employing means in output and feedback circuits to increase repetition rate. 3,105,914, 10-1-63, Cl. 307-88.5.
- Martin, Joseph F., Jr.: *See*—
- Rolfe, Herbert E., Jr., and Martin. 3,115,102.
- Martin, Joseph R., to Flexnit Co., Inc. Girdle. 3,096,769, 7-9-63, Cl. 128-548.
- Martin, Jules. Emergency water storage tank system for use in buildings. 3,095,893, 7-2-63, Cl. 137-216.
- Martin, Lawrence L., to Consolidated Thermoplastics Co. Apparatus for the explosion treatment of a plastic container. 3,100,910, 8-20-63, Cl. 18-1.
- Martin, Leo T., to Abercrombie & Fitch Co. Carrying bag. 3,092,223, 6-4-63, Cl. 190-1.
- Martin, Leonard O. Ski heel retainer. 3,088,138, 5-7-63, Cl. 9-310.
- Martin, Lester B., to Sperry Rand Corp. Shear bar mounting. 3,077,911, 2-19-63, Cl. 146-117.
- Martin, Louis H., and E. J. Lucas, to Aveco Corp. Direct access photomemory for storage and retrieval of information. 3,084,334, 4-2-63, Cl. 340-173.
- Martin, Lucienne S., to Institut de Recherches de la Siderurgie Francaise. Distributor seat provided with a pneumatically adjustable port. 3,111,243, 11-19-63, Cl. 222-193.
- Martin, Lynn P., E. D. Thompson, R. L. Brannon, and L. W. Ross, to W. A. Sheaffer Pen Co. Writing implement. 3,073,286, 1-15-63, Cl. 120-42.03.
- Martin-Marietta Corp.: *See*—
- Bach, Henry J. 3,084,065.
- Balcomb, Philip E., and Beyer. 3,074,140.
- Barbour, Charles W., Jr., and Humiston. 3,110,026.
- Barr, Harold N., and Frank. 3,091,581.
- Berkowitz, Howard, and Moes. 3,086,708.
- Broderick, John E., and Behr. 3,104,694.
- Chenick, Albert G., and Alster. 3,080,341.
- Cole, Elwood B., Jr. 3,110,030.
- Cone, Charles N., and Gaiser. 3,080,244.
- Dike, Sheldon H., Strickroth, and Jenkins. 3,087,155.
- Fisk, Newton H. 3,111,088.
- Friese, Charles L. 3,085,912.
- Gafford, Robert D., and Rosenbaum. 3,114,610.
- Grotta, Henry M. 3,074,959.
- Hammond, Wardlaw M., Jr. 3,091,869.
- Hanks, Hugh C., Jr. 3,092,788.
- Higginbotham, John W. 3,105,198.
- Hinds, Frank R., and Pommer. 3,090,525.
- Huey, Homer D. 3,086,425.
- Kahn, David. 3,108,444.
- Kelly, Thomas M., and Mielenz. 3,090,692.
- Kelly, Thomas M., and Mielenz. 3,090,693.
- Lindenthal, Murray W. 3,089,091.
- Lund, Albert H. 3,073,718.
- Maxwell, William A. 3,109,797.
- Monitor, Dean S. 3,091,434.
- Nagey, Tibor F., Burriss, Spooner, and Maxwell. 3,113,089.
- Nagey, Tibor F., Hunter, and Maxwell. 3,086,933.
- Park, Richard L. 3,110,430.
- Strang, Clifford B., and Furlow. 3,088,324.
- Martin, Maurice S., and A. M. Nelson, to The Magnavox Co. Electro-magnetic transducer. 3,103,663, 9-10-63, Cl. 346-74.
- Martin, Merritt W., Jr., to Hoover Ball and Bearing Co. Method and apparatus for blow molding hollow articles. 3,078,508, 2-26-63, Cl. 18-5.
- Martin, Michael J.: *See*—
- Brooksbank, Harry P., Dunster, and Martin. 3,082,064.
- Martin, Michael J., to Filtration & Water Softening Proprietary Ltd. Suction filters. 3,111,487, 11-19-63, Cl. 210-136.
- Martin, Paul A., to The Maytag Co. Interval timer. 3,090,249, 5-21-63, Cl. 74-568.
- Martin, Paul N., to Consolidated Electronics Industries Corp. Counterbalanced relay. 3,096,412, 7-2-63, Cl. 200-87.
- Martin, Paul W., to Republic Industries, Inc. Overhead door control arm. 3,089,183, 5-14-63, Cl. 16-49.
- Martin, Paul W., and R. E. Baker, to The Airetool Mfg. Co. Rotary impact tool. 3,072,232, 1-8-63, Cl. 192-30.5.
- Martin, Peter, and J. A. Bamford, to Minister of Supply, Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Method of relighting in combustion chambers. 3,092,964, 6-11-63, Cl. 60-39.09.
- Martin, Philip W. Means and techniques for logging well bores. 3,079,549, 2-26-63, Cl. 324-1.
- Martin, Philip W. Tracer injector means utilizing a radioactive electrode. 3,116,419, 12-31-63, Cl. 250-106.
- Martin, Ralph E., to Clary Corp. Strip measuring and marking apparatus. 3,087,248, 4-30-63, Cl. 33-34.
- Martin, Ray C., to R. C. Martin. Process for incorporating resins into paper. 3,109,769, 11-5-63, Cl. 162-164.
- Martin, Raymond R.: *See*—
- Millard, George R., Bidelman, and Martin. 3,078,500.
- Martin, Robert C.: *See*—
- Mueller, Fritz K., W. H. and H. C. Rothe, Martin, and Loughead. 3,105,657.
- Martin, Robert C., to The Dow Chemical Co. Method of cementing wells. 3,100,526, 8-13-63, Cl. 166-31.
- Martin, Robert G. Fountain paint applicator. 3,070,824, 1-1-63, Cl. 15-554.
- Martin, Robert G. Fountain paint applicator. 3,070,825, 1-1-63, Cl. 15-554.
- Martin, Robert H. Wiper mechanism for conveyor belts. 3,101,837, 8-27-63, Cl. 198-230.
- Martin, Robert L., to The Weatherproof Products Corp. Weather-seal guide and counterbalance assembly for removable window sash. 3,078,523, 2-26-63, Cl. 20-52.
- Martin, Robert W., to Sperry Rand Corp. Composite reflector for two independent orthogonally polarized beams. 3,096,519, 7-2-63, Cl. 343-756.
- Martin, Roger, to Commissariat a l'Energie Atomique. New method of connecting solid moderator rods in an atomic pile. 3,085,963, 4-16-63, Cl. 204-193.2.
- Martin, Roger, to Commissariat a l'Energie Atomique. Fuel arrangements for use in nuclear reactors having vertical channels. 3,087,882, 4-30-63, Cl. 204-193.2.
- Martin, Roger, to Commissariat a l'Energie Atomique. Apparatus for individually adjusting the regulation of cooling fluid flow in the channels of a nuclear reactor. 3,110,655, 11-12-63, Cl. 204-193.2.
- Martin, Ross V., to Basic-Witz Furniture Industries, Inc. Furniture skid. 3,073,438, 1-15-63, Cl. 206-46.



- Martin, Royce H. Fletching jig. 3,108,792, 10-29-63, Cl. 269-38.
- Martin, Samuel W.: *See*—  
Bloomer, Ward J., and Martin. 3,109,803.
- Martin, Samuel W., to Great Lakes Carbon Corp. Fuels for nuclear reactors. 3,097,151, 7-9-63, Cl. 204-154.2
- Martin, Sidney C. Pressure indicating device. 3,084,552, 4-9-63, Cl. 73-417.
- Martin, Spencer R., to The Carborundum Co. End opening box with self-locking cover and blank for forming the same. 3,112,058, 11-26-63, Cl. 229-36.
- Martin, Stephen, to Pacific Semiconductors, Inc. Method of doping crystals. 3,078,233, 2-19-63, Cl. 252-62.3.
- Martin, Sterling T., to Union Carbide Corp. Vapor fraction analyzer. 3,100,984, 8-20-63, Cl. 73-23.
- Martin, Steve E., to The Bendix Corp. Automatic emergency power for vacuum powered braking systems. 3,094,843, 6-25-63, Cl. 60-54.5.
- Martin Sweets Co., The: *See*—  
Spragens, George F. 3,098,506.
- Martin, Thomas B.: *See*—  
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- Martin, Thomas B. Dynamometer. 3,085,427, 4-16-63, Cl. 73-136.
- Martin, Thomas R., and H. F. Whately, to Gerrard Industries Ltd. Method and machine for packaging bottles. 3,073,086, 1-15-63, Cl. 53-3.
- Martin, Thomas S. Electric hot air furnace. 3,095,497, 6-25-63, Cl. 219-39.
- Martin, Warner W., to The Lau Blower Co. Humidifiers. 3,073,297, 1-15-63, Cl. 126-113.
- Martin, Warner W., to The Lau Blower Co. Humidifiers. 3,104,660, 9-24-63, Cl. 126-113.
- Martin, Warren G.: *See*—  
Le Blanc, Gerard J., and Martin. 3,079,043.
- Martin, Wesley G., to A. O. Smith Corp. Fiber reinforced plastic vessel and method of making the same. 3,098,582, 7-23-63, Cl. 220-67.
- Martin, Wilhelm: *See*—  
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- Martin, Wilhelm, and W. Heynen, to Vereinigte Glanzstoff-Fabriken A.G. Manufacture of spinnerettes with orifice inserts. 3,102,439, 9-3-63, Cl. 76-107.
- Martin, William A., to Eastman Kodak Co. Automatic exposure control for photographic cameras. 3,072,035, 1-8-63, Cl. 95-64.
- Martin, William A., D. O. Easterly, K. W. Thomson, D. L. Babcock, and G. L. Jenkins, to Eastman Kodak Co. Zoom lens drive mechanism. 3,106,125, 10-8-63, Cl. 88-16.
- Martin, William B.: *See*—  
Horrom, Bruce W., and Martin. 3,083,226.
- Martin, William C., Jr., and C. W. Fall, to Carrier Corp. Window mounting for room air conditioning unit. 3,111,076, 11-19-63, Cl. 98-94.
- Martin, William D. Shoe polish kit-can. 3,096,535, 7-9-63, Cl. 15-258.
- Martin, William E.: *See*—  
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Bertelsen, William R. 3,074,764.  
Bertelsen, William R. 3,095,938.
- Martin, William E. Patch roller apparatus. 3,071,051, 1-1-63, Cl. 94-50.
- Martin, William L.: *See*—  
Dew, John N., Reed, and Martin. 3,084,744.
- Martin, William McK. Aseptic filling machine. 3,101,752, 8-27-63, Cl. 141-92.
- Martinek, Richard W., to Kimberly-Clark Corp. Papermaking machine. 3,097,107, 7-9-63, Cl. 117-102.
- Martinelli, Louis E., to Massachusetts Plastic Corp. Closure or lid. 3,112,841, 12-3-63, Cl. 220-44.
- Martinez, Charles D. Leather working tool. 3,080,652, 3-12-63, Cl. 30-283.
- Martinez, Fidel. Wheel toy. 3,099,105, 7-30-63, Cl. 46-241.
- Martinez, Frank E., to Resiflex Laboratories, Inc. Unitary clamp means for flexible tubes. 3,103,335, 9-10-63, Cl. 251-4.
- Martinez, Hector: *See*—  
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- Martinez, Jesus S., and V. E. Gaede, to Phillips Petroleum Co. Transparent fluid-solid mixing device. 3,084,915, 4-9-63, Cl. 259-4.
- Martini, Arthur H. Camping and touring trailer. 3,078,117, 2-19-63, Cl. 206-23.
- Martinich, Elizabeth M.: *See*—  
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- Martinich, Thomas J., Jr.,  $\frac{1}{2}$  to himself as guardian of T. P. and E. M. Martinich, and  $\frac{1}{2}$  to Tico, Inc. Garbage receptacle. 3,074,583, 1-22-63, Cl. 220-1.
- Martinich, Thomas P.: *See*—  
Martinich, Thomas J., Jr. 3,074,583.
- Martino, Carlo F., and J. C. Misko, to Union Carbide Corp. Plastic compositions having a speckled appearance. 3,095,400, 6-25-63, Cl. 260-43.
- Martino, Stanley J. Game apparatus. 3,075,772, 1-29-63, Cl. 273-134.
- Martinovich, Robert J.: *See*—  
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- Martinovich, Robert J., and R. P. Marsh, to Phillips Petroleum Co. Article of blend of a copolymer of ethylene and 1-butene and polyisobutylene. 3,074,616, 1-22-63, Cl. 229-53.
- Martins, Benjamin T. Power lawnmower. 3,074,221, 1-22-63, Cl. 56-26.5.
- Martinson, Carl R., to Monsanto Chemical Co. Corrosion-inhibited liquid fertilizer compositions. Re. 25,394, 6-11-63, Cl. 71-64.
- Martinson, Oscar M. Parking system for automobiles. 3,088,605, 5-7-63, Cl. 214-16.1.
- Martinuzzi, Enzo A., and J. C. Aragon. Process of producing insecticidal chlorinated pine pinenes. 3,112,347, 11-26-63, Cl. 260-648.
- Martinuzzi, Pio F., to Sperry Rand Corp. Ford Instrument Co. Division. 3,108,575, 10-29-63, Cl. 122-1.
- Martiny, Jean R. V. Process for protecting and lubricating mechanical assemblies. 3,097,424, 7-16-63, Cl. 29-460.
- Martner, Samuel T.: *See*—  
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- Marton, Joseph, and E. Adler, to West Virginia Pulp and Paper Co. Oxidative demethylation of lignin. 3,071,570, 1-1-63, Cl. 200-124.
- Marton, Louis. Mercury switch. 3,071,673, 1-1-63, Cl. 200-152.
- Martonair Ltd.: *See*—  
Smallpeice, Cosby D. P. 3,071,116.
- Martt, Judson W., to National Steel Corp. Expandable mandrel mechanism. 3,086,728, 4-23-63, Cl. 242-72.1.
- Marty, Jean, to Saint-Gobain Compagnie de. Manufacture of alkali orthophosphates. 3,081,151, 3-12-63, Cl. 23-107.
- Martz, Charles S., to The Tascope Co. Etching apparatus and method of etching. 3,072,133, 1-8-63, Cl. 134-183.
- Martz, Roger G., to Stewart-Warner Corp. Low pressure oil burner. 3,096,810, 7-9-63, Cl. 158-28.
- Marue, Edward. Automatic dishwasher and meal table. 3,075,215, 1-29-63, Cl. 15-77.
- Marullo, Gerlando, G. Rinaudo, I. Dakli, M. Donati, E. Fornasieri, and T. Garlanda, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Process for preparing high-purity melamine from urea. 3,116,294, 12-31-63, Cl. 260-249.7.
- Marvalaud, Inc.: *See*—  
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- Marvel, Carl S., to E. I. du Pont de Nemours and Co. Emulsion polymerization of water-soluble with water-insoluble monomers. 3,112,295, 11-26-63, Cl. 260-85.5.
- Marvel, Carl S., and R. D. Vest, to United States of America, Air Force. Process for producing polycarboxylic acids and esters. 3,098,867, 7-23-63, Cl. 260-485.
- Marvel Mfg. Co.: *See*—  
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- Marvel Oil Co., Inc.: *See*—  
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- Marvin, George I. N. Box elevator. 3,110,390, 11-12-63, Cl. 198-103.
- Marvin, Richard P.: *See*—  
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- Marvin, Ronald A., M. L. Shelley, and A. M. Spooner, to Communications Patents Ltd. Flight training and evaluating equipment. 3,076,271, 2-5-63, Cl. 35-12.
- Marwing, Kenneth G.: *See*—  
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- Marwing, Kenneth G., J. F. Greenaway, and R. H. Milton, to Automatic Telephone & Electric Co. Ltd. Telephone systems. 3,107,271, 10-15-63, Cl. 174-18.
- Marx, John H.: *See*—  
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- Marx, John W., to Phillips Petroleum Co. Catalytic in situ combustion. 3,095,925, 7-2-63, Cl. 166-11.
- Marx, John W., to Phillips Petroleum Co. Retarding the solubility of nitrogen-containing fertilizers. 3,105,754, 10-1-63, Cl. 71-30.
- Marx, John W., and H. W. Parker, to Phillips Petroleum Co. Manufacture of molded articles from mixtures of oil shale and a solid olefin polymer. 3,072,593, 1-8-63, Cl. 260-33.6.
- Marx, Louis, & Co., Inc.: *See*—  
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Case, Noel L., and Rexford. 3,095,515.  
Case, Noel L., and Rexford. 3,100,270.  
Fileger, Eugene W. 3,074,201.  
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Hirsch, Mahlon E., and Merl. 3,098,474.  
Lohr, Raymond J. 3,090,157.  
Rexford, Willis E. 3,114,217.
- Marx, Paul F., to Dresser Industries, Inc. Electro conductive pipe coupling. 3,078,332, 2-19-63, Cl. 174-91.
- Marx, Robert D. Tank venting valve arrangement. 3,084,704, 4-9-63, Cl. 137-43.
- Marx, Robert D. Plural compartment tank with vent and outlet valve control means. 3,115,894, 12-31-63, Cl. 137-576.
- Marx, Rudolf and J. H. Automatic scooping dispensing device. 3,091,371, 5-28-63, Cl. 222-170.
- Marx, Walter S., Jr., and C. P. Collier, to Printing Arts Research Laboratories, Inc. Softenable film material and method of using same. 3,104,175, 9-17-63, Cl. 117-10.



- Maryland Baking Co., The: *See*—  
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- Marzillier, Frederick, to Marrick Mfg. Co., Ltd. Apparatus for producing hollow articles. 3,079,637, 3-5-63, Cl. 18-19.
- Marzocchi, Alfred: *See*—  
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- Marzocchi, Alfred, and S. M. Billett, to Owens-Corning Fiberglass Corp. Metalized flattened glass strand and method of manufacturing. 3,091,561, 5-28-63, Cl. 154-53.6.
- Marzolf, Joseph M., Jr., to United States of America, Navy. Transistorized ring-type pulse generator including saturable core transformers to control pulse widths and repetition rate. 3,114,048, 12-10-63, Cl. 307-88.
- Masboch, Jean E.: *See*—  
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- Mascaro, Anthony. Spreader for fertilizer and the like. 3,100,645, 8-13-63, Cl. 275-8.
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- Maschinenfabrik, Ad. Schulthess & Co. A.G.: *See*—  
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- Mase, Kiyoishi, S. Ouchi, M. Azuma, and T. Yagi, to Hitachi Wire and Cable, Ltd. Apparatus for manufacturing self-supporting cables. 3,074,107, 1-22-63, Cl. 18-13.
- Mash, Derek H., to Thorn Electrical Industries Ltd. Photoconductive translucent electro-luminescent device and method of manufacture. 3,114,045, 12-10-63, Cl. 250-213.
- Mash, Geoffrey C.: *See*—  
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- Masher, Dale P., to United States of America, Army. Carrier-suppressed modulator. 3,101,455, 8-20-63, Cl. 332-43.
- Masheter, Lawrence E., F. B. Jones, and W. S. Udall, to Dunlop Rubber Co. Ltd. Pneumatic tires. 3,107,715, 10-22-63, Cl. 152-330.
- Masi, Joseph J., to Container Corp. of America. Ice packed food container. 3,097,781, 7-16-63, Cl. 229-23.
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- Maskell, Dennis F., and S. Malcolm, to Normalair Ltd. Fluid pressure operated warning device. 3,091,213, 5-28-63, Cl. 116-70.
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- Mason-Carlton Tool Co.: *See*—  
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- Mason, David D.: *See*—  
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- Mason, Donald J.: *See*—  
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- Mason, Frederick P., to Creed & Co. Ltd. Facsimile apparatus for deriving black and white signals from color copy. 3,110,765, 11-12-63, Cl. 178-71.
- Mason, George W.: *See*—  
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- Mason, Harold, J. R. Sanderson, and T. Mason, to The United Kingdom Atomic Energy Authority. Process for the treatment of an organic solvent containing uranium. 3,099,537, 7-30-63, Cl. 23-230.
- Mason, Harold F.: *See*—  
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- Mason, Henry L., to United States of America, Navy. Crane warning system. 3,079,080, 2-26-63, Cl. 235-15.
- Mason, James A.: *See*—  
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- Mason, James A., to Warner Electric Brake & Clutch Co. Band type friction coupling. 3,095,071, 6-25-63, Cl. 192-81.
- Mason, James C., to Mason-Carlton Tool Co. Power operated pipe wrench and spinning means. 3,086,413, 4-23-63, Cl. 81-53.
- Mason, James H. Surgical appliance. 3,076,458, 2-5-63, Cl. 128-283.
- Mason, James J. Corrugated paper container. 3,100,072, 8-6-63, Cl. 229-16.
- Mason, James L., Jr., to Columbian Carbon Co. Carbon black manufacture. 3,100,689, 8-13-63, Cl. 23-209.6.
- Mason, Jimmie L., to Mace. Plastic fitting for substantially non-deformable tubes. 3,108,827, 10-29-63, Cl. 285-342.
- Mason, Lee E., to Sylvania Electric Products Inc. Turret terminal structure for vacuum tube sockets. 3,098,952, 7-23-63, Cl. 317-101.
- Mason, Paul B., L. Rubinstein, and A. J. Sable, to Polaroid Corp. Photographic apparatus. 3,103,865, 9-17-63, Cl. 95-75.
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- Mason, Roy, Jr., and E. W. Green. Loom sword. 3,081,799, 3-19-63, Cl. 139-188.
- Mason, Roy C., 1/2 to F. E. Taylor. Fish hooks. 3,082,563, 3-26-63, Cl. 43-43.16.
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- Mason, Samuel J.: *See*—  
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- Mason, Stuart A., to Westinghouse Electric Corp. Wiring device. 3,078,437, 2-19-63, Cl. 339-164.
- Mason, Stuart A., and V. G. Krenke, to Westinghouse Electric Corp. Temperature responsive control. 3,078,361, 2-19-63, Cl. 219-20.
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- Mason, Warren P., to Bell Telephone Laboratories, Inc. High strain non-linearity compensation of semiconductive sensing members. 3,102,420, 9-3-63, Cl. 73-85.5.
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- Masonite Corp.: *See*—  
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- Massa, Cesar, to Conrad Zschokke Aktiengesellschaft. Shooting installation. 3,097,848, 7-16-63, Cl. 273-102.2.
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- Massa, Frank, to Massa Division of Cohu Electronics, Inc. Direct recording oscillograph. 3,085,847, 4-16-63, Cl. 346-140.
- Massa, Frank, to Massa Division of Cohn Electronics, Inc. Apparatus for improving the linearity of electromechanical transducers. 3,088,059, 4-30-63, Cl. 317-199.
- Massa, Frank, to United States of America, Navy. Tesselated electromechanical transducer elements. 3,090,939, 5-21-63, Cl. 340-9.
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- Massacrier, Jean-Marie F. Plugging gun of the repeating type. 3,095,572, 7-2-63, Cl. 1-44.5.
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- Cavallini, Guido, and Massarani. 3,116,323.
- Massell, Edward M., M. M. May, and G. J. Meyer, Jr., to Electronic Associates Inc. Remote control signaling system. 3,111,653, 11-19-63, Cl. 340-176.
- Masser, Lloyd D., to Neway Equipment Co. Operating structure for air brakes and the like. 3,081,134, 3-12-63, Cl. 303-6.
- Massey, Curtis L. Apparatus for use in pumping wells. 3,084,630, 4-9-63, Cl. 103-4.
- Massey, Curtis L. Valve for subsurface pumps. 3,089,429, 5-14-63, Cl. 103-225.
- Massey-Ferguson, S.A.: *See*—  
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- Williams, Alan F. 3,108,643.
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- Davis, Charles J. 3,079,009.
- Dillon, Robert M. 3,100,491.
- Elfes, Lee E. 3,086,620.
- Horne, Donald S., Ashton, and Kepkay. 3,108,703.
- Kepkay, Leslie L. 3,115,142.
- Klemm, Herman G., Mark, and Colestock. 3,082,044.
- Merritt, Henry E., Tiberghien, and Gougolot. Re. 25,415.
- Mortin, Arthur K., and Boyd. 3,114,357.
- Massey-Ferguson Inc.: *See*—  
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- Klemm, Herman G., and Wathen. 3,099,203.
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- Massey, William P. Method and apparatus for producing oil from multiple strata from single well bore. 3,109,376, 11-5-63, Cl. 103-4.
- Massier, John, to Selas Corp. of America. Burner. 3,115,924, 12-31-63, Cl. 158-73.
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- Massman, Albert W., to Motorola, Inc. Television receiver with transistorized video amplifier. 3,091,659, 5-28-63, Cl. 178-5.8.
- Massman, Irwin. Nail polish container, mixer and removable applicator. 3,085,281, 4-16-63, Cl. 15-510.
- Masson, Claude M. E., to Societe d'Electronique et d'Automatisme. Magnetic core switching systems. 3,101,416, 8-20-63, Cl. 307-88.
- Masson Seeley and Co. Ltd.: *See*—  
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- Massoud, Antoine N. Windshield wipers. 3,092,865, 6-11-63, Cl. 15-250.23.
- Mast, Aquila D., to Daffin Corp. Apparatus having a controllable vent. 3,104,965, 9-24-63, Cl. 55-417.
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- Mast, Lowell R., to Commercial Controls Corp. Baseboard electric heating apparatus. 3,071,677, 1-1-63, Cl. 219-34.
- Mast, Lowell R., to Commercial Controls Corp., Electromode Division. Electric baseboard heaters. 3,084,240, 4-2-63, Cl. 219-34.
- Mastabar Mining Equipment Co. Ltd.: *See*—  
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- Masterson, Melvin I., Jr. Transporting dolly for sheet material. 3,090,635, 5-21-63, Cl. 280-47.13.
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- Mastis, Victor, to Berg Airlectro Products Co. Moisture ejector valve. 3,109,443, 11-5-63, Cl. 137-204.
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- Matarese, John, to Sylvania Electric Products Inc. Oscillator with electroluminescent and photoconductive elements. 3,102,242, 8-27-63, Cl. 331-107.
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- Matchett, Mahlon M., to Martin-Decker Corp. Well drilling string measuring apparatus. 3,107,431, 10-22-63, Cl. 33-129.
- Matchett, Thomas J.: *See*—  
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- Matecki, Edward A., to Union Carbide Corp. Apparatus for shirring casings. 3,115,669, 12-31-63, Cl. 17-42.
- Mater, Bernardus E., to Baker Oil Tools, Inc. Multiple zone well production apparatus. 3,080,922, 3-12-63, Cl. 166-114.
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- Matge, Pierre P.: *See*—  
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- Matheny, William F., to Arrow Industrial Mfg. Co. Heat exchange device. 3,077,226, 2-12-63, Cl. 165-125.
- Mather, Glenn E., to Rockwell Standard Corp. Levelizing suspension for vehicles. 3,080,177, 3-5-63, Cl. 280-124.
- Mather, Irwin E., to Stewart-Warner Corp. Safety relay control. 3,071,692, 1-1-63, Cl. 307-10.
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- Mathers, Harry W., to International Business Machines Corp. Signal translating device. 3,090,909, 5-21-63, Cl. 323-89.
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- Matheson, James N., to Welsh Mfg. Co. Head straps for respirator. 3,082,767, 3-26-63, Cl. 128-146.
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- Mathews, Bernard C. Rotary cutter. 3,092,946, 6-11-63, Cl. 56-24.
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- Mathews, George P., and C. W. Nehr, to Rockwell-Standard Corp. Brake. 3,081,844, 3-19-63, Cl. 188-78.
- Mathews, Howard H., to Air Reduction Co., Inc. Arc welding. 3,089,944, 5-14-63, Cl. 219-74.
- Mathews, Kenneth C. Magnetic signalling device. 3,071,703, 1-1-63, Cl. 310-111.
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- Mathews, Martin B. Dry cleaning. 3,101,240, 8-20-63, Cl. 8-142.
- Mathews, Max V., and J. E. Miller, to Bell Telephone Laboratories, Inc. Vocoder apparatus. 3,083,266, 3-26-63, Cl. 179-1.
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- Mathews, William K., and C. C. Perkins, Jr., to Controls Co. of America. Flexible mold. 3,072,967, 1-15-63, Cl. 18-36.
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- Mathias, Benny B., and E. M. Murley, Jr., to Owens-Illinois Glass Co. Inspecting rims of containers. 3,107,011, 10-15-63, Cl. 209—111.5.
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- Matsumoto, Saburo, to Asahi Optical Industry Co., Ltd. Camera incorporating exposure measuring device. 3,091,161, 5-28-63, Cl. 95—10.
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- Matsushima, Takao, to Nippon Electric Co. Ltd. Self synchronizing system. 3,088,071, 4-30-63, Cl. 325—50.
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- Matt, Richard J., to Thompson Ramo Wooldridge Inc. Bearing suspension. 3,097,895, 7-16-63, Cl. 308—184.
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- Matthews, Cyril G., to Plastic-Clad Metal Products, Inc. Fastener with a linearly oriented thermoplastic covering. 3,076,373, 2-5-63, Cl. 85-23.
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- Matthews, Ernest P., and J. J. Walker, to Xerox Corp. Method and apparatus for transferring images from xerographic to metallic plates. 3,071,070, 1-1-63, Cl. 101-149.2.
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- Matuska, Stephen A., and A. J. Koury, to United States of America, Navy. Remover for fluorescent and temporary camouflage paint systems. 3,115,471, 12-24-63, Cl. 252-170.
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- Matuszek, Joseph. Shaping and sharpening tool. 3,108,410, 10-29-63, Cl. 51-204.
- Matuszewski, Edmond, to Societe Generale de Constructions Electriques & Mecaniques (Alsthom). Bogie for a suspended railway. 3,074,358, 1-22-63, Cl. 105-148.
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- Maudlin, Wendell E., to Stewart-Warner Corp. Defrost control apparatus for a heat pump. 3,111,009, 11-19-63, Cl. 62-156.
- Maudsley, Brian G., G. D. Maskens, and R. J. D. Reeves, to The Solartron Electronic Group Ltd. Printing apparatus. 3,072,047, 1-8-63, Cl. 101-93.
- Mauer, Robert C., R. S. Leventhal, and W. F. Tenge, to Lockheed Aircraft Corp. Master caution light control. 3,084,338, 4-2-63, Cl. 340-213.
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- Maunder, Claude A., to Masson Seeley and Co. Ltd. Method of making silk screen stencils. 3,112,694, 12-3-63, Cl. 101-128.2.
- Maupin, Joseph T., to Minneapolis-Honeywell Regulator Co. Push-pull semiconductor amplifier. 3,094,673, 6-18-63, Cl. 330-15.
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- Maurer, Albrecht. V-belt pulley variable transmission. 3,102,431, 9-3-63, Cl. 74-230.17.



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- Maurer, Carl M., to Kartonax G.m.b.H. Ball game. 3,086,778, 4-23-63, Cl. 273-85.
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- Maurer, John A. Apparatus for optically recording a sound record area on a strip of film. 3,108,160, 10-22-63, Cl. 179-100.3.
- Maurer, John A., and E. W. Elliott, to Chicago Aerial Industries, Inc. Focal plane shutter. 3,087,401, 4-30-63, Cl. 95-57.
- Maurer, John A., and V. R. Ferguson, to The Weber Dental Mfg. Co. Dental control assemblies. 3,094,780, 6-25-63, Cl. 32-28.
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- Maurice, Sylvio J. Picker-stick check. 3,077,210, 2-12-63, Cl. 139-165.
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- Maurushat, Joseph, Jr., to Bell Telephone Laboratories, Inc. Automatic test equipment for carrier type communication systems. 3,105,881, 10-1-63, Cl. 179-175.
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- Mausers, Alois A.: *See*—  
Good, Romer F., and Mausers. 3,086,210.
- Mausers Kommandit-Gesellschaft: *See*—  
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- Mausteller, John W.: *See*—  
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- Mautemps, Maurice: *See*—  
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- Mauthe, Gustav: *See*—  
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- Mautner, Henry R.: *See*—  
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- Mauz, Otto: *See*—  
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- Mavity, Julian M.: *See*—  
Bielawski, Mitchell S., and Mavity. 3,112,350.
- Mavor & Coulson Ltd.: *See*—  
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- Mawby, James S. 3,113,662.
- Mawby, David H.: *See*—  
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- Mawney, Robert G., and W. R. Harper, Jr., to Texas Instruments Inc. Terminal construction and method of making the same. 3,112,978, 12-3-63, Cl. 339-217.
- Maxam, Inc.: *See*—  
Hurwitz, Max. 3,085,508.
- Hurwitz, Max. 3,092,023.
- Maxant Button & Supply Co.: *See*—  
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- Maxeiner, Gottfried: *See*—  
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- Maximoff, Paul A.: *See*—  
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- Maxner, Richard B., G. H. Cooper, and L. W. Kupreance, to United Shoe Machinery Corp. Cutting apparatus. 3,078,749, 2-26-63, Cl. 82-4.
- Maxon Construction Co., Inc.: *See*—  
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- Maxon Premix Burner Co., Inc.: *See*—  
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- Max-Planck-Gesellschaft Zur Foerderung der Wissenschaften E.V.: *See*—  
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- Max-Planck-Institut fur Eisenforschung: *See*—  
Fischer, Wilhelm A., Schutz, and Straube. 3,091,119.
- Maxson, Darwin B. Machine for brewing and dispensing hot beverages. 3,084,613, 4-9-63, Cl. 99-275.
- Maxson Electronics Corp.: *See*—  
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- Danis, Alan H., and Nelson. 3,115,461.
- Mooney, Vincent J. 3,103,008.
- Wallace, Aaron. 3,102,953.
- Maxwell, Carl R., to Caterpillar Tractor Co. Engine with turbocharger and aftercooler. 3,091,228, 5-28-63, Cl. 123-119.
- Maxwell, Charles T., to Beckman Instruments, Inc. Dual column gas chromatograph and method for analysis. 3,112,639, 12-3-63, Cl. 73-23.
- Maxwell, Charlie J. Masonry barbecue pit. 3,098,428, 7-23-63, Cl. 99-446.
- Maxwell, John L.: *See*—  
Cameron, Phillip G., and Maxwell. 3,078,336.
- Maxwell, Joseph A., Jr., to Whirlpool Corp. Sliding and rotating shelf. 3,107,959, 10-22-63, Cl. 312-322.
- Maxwell, Richard C.: *See*—  
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- Maxwell, Russell L.: *See*—  
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- Maxwell, William A.: *See*—  
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- Maxwell, William A., to Martin-Marietta Corp. Tubular fuel elements and fabricating techniques therefor. 3,109,797, 11-5-63, Cl. 204-154.2.
- May, Alex. Interchangeable reinforced pull and rocking toy. 3,075,763, 1-29-63, Cl. 272-52.5.
- May, Alex. Convertible pull and rocking toy base. 3,100,364, 8-13-63, Cl. 46-103.
- May & Baker Ltd.: *See*—  
Wright, Derek E. 3,102,890.
- May, Claude H., to Walker Mfg. Co. Pressure actuated fuel injector. 3,081,758, 3-19-63, Cl. 123-139.
- May, Claude H., to Walker Mfg. Co. Automotive device. 3,094,976, 6-25-63, Cl. 123-119.
- May, Clifford H., to The Briggs Filtration Co. Water separator. 3,085,690, 4-16-63, Cl. 210-307.
- May, Donald F. Door operating apparatus. 3,096,815, 7-9-63, Cl. 160-188.
- May, Ellwood H., to Mayline Co., Inc. Lock mechanism for drafting table. 3,079,726, 3-5-63, Cl. 45-131.
- May, Everette L.: *See*—  
Frey, Edward M., and May. 3,093,650.
- May-Fran Mfg. Co.: *See*—  
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- May, Frank H., to American Potash & Chemical Corp. Boroxine compositions. 3,083,225, 3-26-63, Cl. 260-462.
- May, Fred: *See*—  
Breazeale, Hershel T., and F. and G. May. 3,086,578.
- Breazeale, Hershel T., and F. and G. May. 3,094,156.
- Breazeale, Hershel T., and F. and G. May. 3,099,300.
- May, Fred, and G., to FMC Corp. Tire changing machine. 3,100,520, 8-13-63, Cl. 157-124.
- May, George: *See*—  
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- May, George, and J. H. Gorell, to Messrs. Dufaylite Developments Ltd. Method of making honeycomb material. 3,074,839, 1-22-63, Cl. 156-197.
- May, Gordon C., and C. G. Morley, to Rolls-Royce Ltd. Gas turbine engine fuel control with plural sleeve valves. 3,091,925, 6-4-63, Cl. 60-39.28.
- May, Gordon H. Fin for water skis. 3,089,157, 5-14-63, Cl. 9-310.
- May, Gordon H., to International Business Machines Corp. Fluid displacement device. 3,090,201, 5-21-63, Cl. 60-54.5.
- May, Gordon H., to International Business Machines Corp. Random access data storage access mechanism. 3,105,680, 10-1-63, Cl. 271-3.
- May, Griffith. Mechanical filter assembly. 3,079,001, 2-26-63, Cl. 210-492.
- May, Harold L.: *See*—  
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- May, Harry: *See*—  
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- May, Harry C., to Westinghouse Air Brake Co. Double check valve. 3,107,681, 10-22-63, Cl. 137-112.
- May, Harry F. Drill location jig. 3,073,188, 1-15-63, Cl. 77-62.
- May, Howard F., to General Electric Co. Combination heat exchanger and degasifier. 3,116,134, 12-31-63, Cl. 55-178.
- May, Howard J., to The Bendix Corp. Fluid shock absorbing system. 3,106,993, 10-15-63, Cl. 188-88.
- May, Jim. Motor scooter having detachable power trailing sections. 3,096,841, 7-9-63, Cl. 180-13.
- May, L. Chester: *See*—  
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- May, Matthew A. Sausage slitting hand tool. 3,095,603, 7-2-63, Cl. 17-25.
- May, Maxwell F. Livestock chute gate. 3,084,669, 4-9-63, Cl. 119-98.
- May, Melvin M.: *See*—  
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- May, Michael, and F. W. Schmidlin, to Thompson Ramo Wooldridge Inc. Cryotrons with ferromagnetic elements positioned within superconductor for concentrating flux to provide controlled switching. 3,116,422, 12-31-63, Cl. 307-88.5.
- May, Morrice W. Masonry butt gauge. 3,090,615, 5-21-63, Cl. 269-305.
- May, Paul D., and E. Kohn, to Monsanto Chemical Co. Purification of diethylaluminum chloride with crystalline titanium trichloride. 3,100,218, 8-6-63, Cl. 260-448.
- May, Richard J.: *See*—  
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- May, Richard J., to Aeroquip Corp. Fitting for hose spring guard. 3,088,756, 5-7-63, Cl. 285-116.
- May, Richard K., W. O. Sunafrank, and H. H. Powell, to General Dynamics Corp. Workholder with means for thermal compensation. 3,093,370, 6-11-63, Cl. 269-309.
- May, Russell D., to The Youngstown Sheet and Tube Co. Pressure equalizing valve mechanism. 3,073,337, 1-15-63, Cl. 137-398.
- May, Russell R., Jr.: *See*—  
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- May, Vivian G., to Checker Motors Corp. Latch structure. 3,094,347, 6-18-63, Cl. 292-228.
- May, Walter M., to Mack Trucks, Inc. Vehicle cab door latch handle and mechanism. 3,094,352, 6-18-63, Cl. 296-44.
- May, Walter M., and R. M. Webster, to Mack Trucks, Inc. Power drive assembly. 3,111,852, 11-26-63, Cl. 74-15.63.
- Maybach-Motorenbau G.m.b.H.: *See*—  
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- Maybee, Richard A. Multiple purpose portable and collapsible tent. 3,105,505, 10-1-63, Cl. 135-4.
- Maychark, Valentine J. Traction apparatus. 3,114,366, 12-17-63, Cl. 128-75.
- Maydl, Paul. Structural composition material and process for making same. 3,096,188, 7-2-63, Cl. 106-97.
- Mayeau, Elwin F.: *See*—  
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- Mayer, Abbott F.: *See*—  
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- Mayer, Adrian. Camera case. 3,071,172, 1-1-63, Cl. 150-52.
- Mayer, Alan H. Heater for bowling balls. 3,091,681, 5-28-63, Cl. 219-19.
- Mayer, Carl H., Jr., and D. W. Fergusson, to Rust-Oleum Corp. Can filling machine. 3,078,630, 2-26-63, Cl. 53-55.
- Mayer, Charles B., to General Electric Co. Broadband matching circuit. 3,090,016, 5-14-63, Cl. 333-33.
- Mayer, Edward: *See*—  
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- Mayer, Edward F., and V. E. Straughan, to Horizons Inc. Method for producing inorganic fibers. 3,082,054, 3-19-63, Cl. 18-54.
- Mayer, Edward F., and V. E. Straughan, to Horizons Inc. Method for producing inorganic oxide fibers. 3,082,055, 3-19-63, Cl. 18-54.
- Mayer, Edwin H., to Simmons Co. Exercise bar for bed. 3,077,613, 2-19-63, Cl. 5-317.
- Mayer, Ehrhard, to Garlock Inc. Slide ring packing. 3,075,780, 1-29-63, Cl. 277-59.
- Mayer, Endre A.: *See*—  
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- Mayer, Friedrich, to G. A. Messen-Jaschin. Apparatus for furnishing electrical signals for torque measurement. 3,081,624, 3-19-63, Cl. 73-136.
- Mayer, Friedrich, to G. A. Messen-Jaschin. Apparatus for furnishing electrical signals for torque measurement. 3,095,734, 7-2-63, Cl. 73-136.
- Mayer, George A., to Miami Stone, Inc. Stone splitter. 3,098,476, 7-23-63, Cl. 125-23.
- Mayer, H. J., & Sons Co., Inc.: *See*—  
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- Mayer, Hans F., and F. Butzke, to Siemens & Halske Aktiengesellschaft. Apparatus for punching a plurality of code combinations simultaneously. 3,101,172, 8-20-63, Cl. 234-42.
- Mayer, Ivan, to Esso Research and Engineering Co. Emulsion alkylation of olefins. 3,082,274, 3-19-63, Cl. 260-683.46.
- Mayer, Ivan, to Esso Research and Engineering Co. Olefin control in isoparaffin alkylation. 3,109,042, 10-29-63, Cl. 260-683.58.
- Mayer, Joseph R.: *See*—  
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- Mayer, Oscar, & Co., Inc.: *See*—  
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Maas, Russell H. 3,076,713.  
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Orloff, Daniel L., and Keating. 3,097,392.  
Schmook, Edward, Jr. 3,095,022.  
Schmook, Edward, Jr. 3,107,392.  
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Seiferth, Oscar E., and Austin. 3,108,005.  
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Vedvik, Andrew H., and Borsuk. 3,091,798.
- Mayer, Oscar J., ½ to D. J. M. Carpenter. Instant coffee and tea dispensing machine. 3,092,292, 6-4-63, Cl. 222-185.
- Mayer, Peter J., Jr., to Bell & Howell Co. Camera. 3,085,467, 4-16-63, Cl. 88-17.
- Mayer, Phillip B. Flap holding device for cartons. 3,094,827, 6-25-63, Cl. 53-381.
- Mayer, Rolf: *See*—  
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- Mayer, Walter, to M. Grundig. Television camera regulating system. 3,086,077, 4-16-63, Cl. 178-7.2.
- Mayerson, Israel: *See*—  
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- Mayes, Clell C. Brick laying device. 3,111,764, 11-26-63, Cl. 33-85.
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- Mayes, Fred M., to Sun Oil Co. Tank gauge. 3,078,715, 2-26-63, Cl. 73-313.
- Mayes, Fred M., to Sun Oil Co. Tank gauge. 3,090,232, 5-21-63, Cl. 73-321.
- Mayes, Fred M., to Sun Oil Co. Bore hole logging apparatus providing a pulse space modulated record. 3,103,625, 9-10-63, Cl. 324-1.
- Mayes, Paul E., and R. L. Carrel, to The University of Illinois Foundation. Log periodic backward wave antenna array. 3,108,280, 10-22-63, Cl. 343-792.5.
- Mayes, Ronald W. Fuel feeding system. 3,080,819, 3-12-63, Cl. 103-10.
- Mayes, Walter S., to Harvey Aluminum (Inc.). Reinforced light weight piston. 3,075,817, 1-29-63, Cl. 309-14.
- Mayeux, Robert F., 50% to Johnson, Crawford Co., Inc. Apparatus for controlling a container valve and filling the container with a carbonated liquid. 3,105,527, 10-1-63, Cl. 141-275.
- Mayfair Industries, Inc.: *See*—  
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- Mayfield, Alfred B., and M. C. Darling, to Davis Mfg., Inc. Variable ratio drive mechanism. 3,091,132, 5-28-63, Cl. 74-722.
- Mayfield, George C., to McQuay-Norris Mfg. Co. Piston ring assemblies. 3,080,172, 3-5-63, Cl. 277-141.
- Mayfield, George C., to McQuay-Norris Mfg. Co. Piston ring assembly. 3,099,455, 7-30-63, Cl. 277-163.
- Mayfield, Lawrence M.: *See*—  
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- Mayhew, Harry W., and H. E. Templeton, to Vulcan-Cincinnati, Inc. Centrifugal film evaporating apparatus and method. 3,110,646, 11-12-63, Cl. 159-6.
- Mayhew, John T., to National Steel Corp. Coiling apparatus. 3,086,729, 4-23-63, Cl. 242-78.1.
- Mayhew, John T., to National Steel Corp. Hot dip metal coating method. 3,104,981, 9-24-63, Cl. 117-46.
- Mayhew, Ray W., and R. L. Vogelpohl, to Owens-Illinois Glass Co. Cathode-ray tube envelope. 3,071,280, 1-1-63, Cl. 220-2.1.
- Mayhew, Raymond L.: *See*—  
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- Schultz, Herman S., Copes, and Mayhew. 3,073,822.
- Mayhew, Raymond L., and E. P. Williams, to General Aniline & Film Corp. Sulfates of alkenoxylated butynediol. 3,089,888, 5-14-63, Cl. 260-458.
- Mayhew Steel Products, Inc.: *See*—  
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- Mayline Co., Inc.: *See*—  
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- Maynard, George C. Door latching mechanism. 3,112,945, 12-3-63, Cl. 292-173.
- Maynard, Harlan J. Mist cooled cutting tool. 3,096,668, 7-9-63, Cl. 77-68.
- Maynard, Robert W., to The Mosler Safe Co. Time lock. 3,076,329, 2-5-63, Cl. 70-272.
- Maynard, Robert W., to The Mosler Safe Co. Tamper proof combination lock. 3,106,083, 10-8-63, Cl. 70-333.
- Maynard, Robert W., to The Mosler Safe Co. Tamper proof lock. 3,111,022, 11-19-63, Cl. 70-333.
- Mayne, Charles, to Hawley Products Co. Manufacture of articles from fibrous material. 3,090,432, 5-21-63, Cl. 162-393.



- Mayne, Robert A., deceased, (R. D. Mayne, executrix), and W. H. Teeter; said Teeter assor. to said Mayne. Hub. 3,072,424, 1-8-63, Cl. 287-52.
- Mayne, Ruth D.: See—
- Mayne, Robert A., and Teeter. 3,072,424.
- Maynier, Louis X. H. Laying of permanent way. 3,088,674, 5-7-63, Cl. 238-24.
- Mayo, Alfred M., and B. Nichols, Jr., to Douglas Aircraft Co., Inc. Anti-blackout valve. 3,106,203, 10-8-63, Cl. 128-1.
- Mayo, Bernard J., to Electric & Musical Industries Ltd. Apparatus for generating picture signals. 3,106,605, 10-8-63, Cl. 178-5.4.
- Mayo, Edward L., to Minneapolis-Honeywell Regulator Co. Machine for producing thin walled tubing. 3,076,359, 2-5-63, Cl. 80-12.
- Mayo, George L., to Clary Corp. Wood component member cutting apparatus. 3,080,895, 3-12-63, Cl. 143-38.
- Mayo, John S., to Bell Telephone Laboratories, Inc. Pulse repeater marginal testing system. 3,083,270, 3-26-63, Cl. 179-175.31.
- Mayo, William J. Sling psychrometer. 3,092,996, 6-11-63, Cl. 73-338.6.
- Mayon, Leon, and D. P. Schnoor, to Burroughs Corp. Control apparatus. 3,095,754, 7-2-63, Cl. 74-471.
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- Mercier, Robert M., Mayor, and Bieselaar. 3,077,488.
- Mayrath, Martin. Auger conveyor carriage. 3,074,535, 1-22-63, Cl. 198-120.5.
- Mayrath, Martin. Carriage for corn and hay elevators. 3,092,239, 6-4-63, Cl. 198-120.5.
- Mayrath, Martin. Carriage for elevators. 3,096,872, 7-9-63, Cl. 198-120.5.
- Mayrath, Martin. Articulated conveyor with transfer means. 3,103,274, 9-10-63, Cl. 198-108.
- Mayron, David, to American Home Products Corp. Pharmaceuticals with delayed release. 3,074,852, 1-22-63, Cl. 167-82.
- Mays, Charles E. Fluid dispensing systems for gasoline and the like. 3,079,960, 3-5-63, Cl. 141-232.
- Mays Equipment Development Corp.: See—
- Mays, James R. 3,091,004.
- Mays, Howard D.: See—
- Jordan, Roy E., Jr., Mays, and Claus. 3,084,402.
- Mays, James R., to Mays Equipment Development Corp. Sliding door. 3,091,004, 5-28-63, Cl. 20-19.
- Maytag Co., The: See—
- Decatur, Paul S. 3,083,557.
- Decatur, Paul S. 3,084,799.
- Kaldenberg, Henry J., and Dutcher. 3,090,391.
- Martin, Paul A. 3,090,249.
- Mazanek, Henry E.: See—
- Kitson, Harold, Jr., Marshall, and Mazanek. 3,079,519.
- Mazanek, John B., and L. J. Paquin, to International Paper Co. Planographic printing plates. 3,115,829, 12-31-63, Cl. 101-149.2.
- Mazanek, Walter J.: See—
- Sliwa, Arthur W., and Mazanek. 3,073,950.
- Maze, Perry V. Illuminated sign. 3,076,277, 2-5-63, Cl. 40-130.
- Mazur, Erwin, and H. Reiter, to Franz Muller Fulminawerk K.G. Steering gear for motor vehicles. 3,075,500, 1-29-63, Cl. 121-41.
- Mazzagatti, Roy P.: See—
- Savage, Kerry D., Mazzagatti, and Herzog. 3,102,992.
- Mazzagatti, Roy P., and B. D. Schuetz, to Texaco Inc. Coaxial cable coupling. 3,111,356, 11-19-63, Cl. 339-154.
- Mazzanti, Giorgio: See—
- Giustiniani, Piero, Natta, Mazzanti, and Crespi. 3,115,478.
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- Natta, Giulio, Pino, and Mazzanti. 3,112,301.
- Mazzarella, Emil D.: See—
- Wuzburg, Otto E., and Mazzarella. 3,102,064.
- Mazzarini, Janis, to General Motors Corp. Tractor suspension permitting pivotal movement of track frames. 3,096,840, 7-9-63, Cl. 180-9.5.
- Mazzi, Aramis. Circular knitting machines having a plurality of needle selection cams for the formation of tuck stitch patterns, underwelt patterns and the like. 3,076,326, 2-5-63, Cl. 66-50.
- Mazzio, Anthony J.: See—
- Du Bois, Edgar H., Mazzio, and Niesen. 3,095,796.
- Mazzio, Philip J., and E. H. Sharp, to Dana Corp. Universal joint. 3,071,944, 1-8-63, Cl. 64-21.
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- Mazzola, Claude J.: See—
- Morley, Richard E., and Mazzola. 3,110,889.
- McAdam, Raymond L.: See—
- Shaler, Richard G., McAdam, and R. G. Shaler, Jr. 3,100,707.
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- McAdams, Bruce, to International Telephone and Telegraph Corp. Multichannel communication system. 3,073,902, 1-15-63, Cl. 179-15.
- McAdams, Frederick L. Wire tightener. 3,078,534, 2-26-63, Cl. 24-71.1.
- McAdams, Hiramie T.: See—
- Andersen, Niels Y., Jr., and McAdams. 3,094,868.
- McAdams, Paul F., to Clark Equipment Co. Two speed power steering. 3,099,327, 7-30-63, Cl. 180-79.2.
- McAdams, Paul F., C. L. Ellis, and B. V. Christensen, to Clark Equipment Co. Cleaner for compaction machines. 3,085,484, 4-16-63, Cl. 94-50.
- McAdams, Willie E.: See—
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- McAfee, Kenneth B., Jr., to Bell Telephone Laboratories, Inc. Light gas detector using thin walled glass tubes for diffusion. 3,100,868, 8-13-63, Cl. 324-33.
- McAfee, Kyle E., Jr., to The New York Air Brake Co. Hydraulic device. 3,094,937, 6-25-63, Cl. 103-42.
- McAfee, Kyle E., Jr., and C. A. L. Ruhl, to The New York Air Brake Co. Hydraulic system. 3,106,135, 10-8-63, Cl. 91-217.
- McAfee, Robert E., J. R. Eddy, and R. L. Moser, to International Harvester Co. Lubricating means for a power transmission. 3,083,790, 4-2-63, Cl. 184-6.
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- McAfee, Samuel H. Bench plane cutter. 3,084,729, 4-9-63, Cl. 145-17.
- McAlister, Craig L., to McGraw-Edison Co. Protectors for electric circuits. 3,076,079, 1-29-63, Cl. 200-113.
- McAlister, George A., Jr., to Math-Master Labs, Inc. Desk and interpolator combination. 3,106,789, 10-15-63, Cl. 35-60.
- McAlister, George A., Jr., to Math-Master Labs, Inc. Chalk-board compass. 3,111,761, 11-26-63, Cl. 33-27.
- McAllister, Gordon: See—
- Heise, Howard L., and McAllister. 3,089,634.
- McAllister, Jess L. Tong return block. 3,094,222, 6-18-63, Cl. 212-87.
- McAllister, L. D., to Hupp Corporation, Compressors. 3,080,103, 3-5-63, Cl. 230-17.
- McAlpine, Charles H., K. G. McGowan, and H. C. Winkel, to Winkel Machine Co., Inc. Panel dispensing device. 3,075,671, 1-29-63, Cl. 221-238.
- McAlpine, John B., to Symington Wayne Corp. Platform operating system. 3,094,192, 6-18-63, Cl. 187-28.
- McAlvay, John C., to Webster Electric Co. Rotary pump or motor. 3,096,719, 7-9-63, Cl. 103-120.
- McAndrew, John B.,  $\frac{1}{2}$  to W. C. Jennings,  $\frac{1}{2}$  to I. T. Swartwood, and  $\frac{1}{2}$  to R. A. Sampson. Handle. 3,086,806, 4-23-63, Cl. 294-33.
- McAnney, Adrian W., to Trunkline Gas Co. Method of increasing efficiency of pipelines. 3,082,073, 3-19-63, Cl. 51-317.
- McAnulty, Gerald M.: See—
- Adams, Arthur A., Arvai, Bartson, Dudzinski, Grant, and McAnulty. 3,113,019.
- McArthur, Bruce E., to Light Metals Corp. Mechanism for breaking extrusions from dies. 3,084,795, 4-9-63, Cl. 207-1.
- McArthur, Colin S., to American Machine & Foundry Co. Cigarette making machine. 3,074,413, 1-22-63, Cl. 131-84.
- McArthur, Ralph F., and M. R. Mecusker, to Kobe, Inc. Fluid operated pump system with external pump passages. 3,078,804, 2-26-63, Cl. 103-4.
- McAulay, Robert, and W. G. Richardson, to Megator Pumps and Compressors Ltd. Liquid strainers. 3,109,812, 11-5-63, Cl. 210-242.
- McAuley, Anthony, to A. B. Chance Co. Stringing block. 3,098,638, 7-23-63, Cl. 254-134.3.
- McAuley, James E., to California Mfg. and Equipment Co. Vacuum breaker. 3,086,543, 4-23-63, Cl. 137-216.
- McAuley, James W., to Libbey-Owens Ford Glass Co. Sonic treating apparatus. 3,099,759, 7-30-63, Cl. 310-26.
- McAuliffe, Gerard K., to Westinghouse Electric Corp. Generator for producing a signal having a symbolic waveform. 3,078,416, 2-19-63, Cl. 328-27.
- McAuliffe, Gerard K., to Westinghouse Electric Corp. Individually triggered pulse generators feeding a buffer adder to produce particular output waveforms. 3,097,339, 7-9-63, Cl. 328-61.
- McAuslan, James H. L., and W. Nock, to Imperial Chemical Industries Ltd. Exploders. 3,075,125, 1-22-63, Cl. 317-80.
- McAx Corp.: See—
- Gray, George W. 3,087,586.
- McBee, Earl T., and O. R. Pierce, to Research Corp. Fluorine-containing alkoxychlorosilanes. 3,114,760, 12-17-63, Cl. 260-448.8.
- McBrady, William J.: See—
- Denton, Arnold E., Benk, Hogan, and McBrady. 3,098,614.
- McBride, Joseph J., Jr., and E. J. Miller, Jr., to Armour and Co. Preparation of dialkyl esters of alpha-sulfo fatty acids. 3,090,794, 5-21-63, Cl. 260-400.
- McBride, Joseph J., Jr., and A. Mais, to Armour and Co. Preparing esters of phosphinic acids. 3,092,650, 6-4-63, Cl. 260-461.
- McBride, Mark G., to Masonite Corp. Decorative sheet articles. 3,078,176, 2-19-63, Cl. 117-10.
- McBride, William R.: See—
- Branda, Robert W., Davey, Ebbert, and McBride. 3,076,548.
- Davey, Sidney M., Ebbert, and McBride. 3,094,826.
- McBride, Richard A. Excavating tooth structure. 3,106,256, 10-8-63, Cl. 172-750.
- McBrien, Edward F., to The Ohio Crankshaft Co. Induction heating coil. 3,081,989, 3-19-63, Cl. 266-4.
- McBrien, Edward F., to The Ohio Crankshaft Co. Adjustable inductor for induction heating. 3,109,909, 11-5-63, Cl. 219-10.79.



- McBurney, Alvin D. Adjustable jigs for holding elongated parts in predetermined angular positions. 3,072,396, 1-8-63, Cl. 269-45.
- McBurnie, Stuart G. Latch set. 3,073,640, 1-15-63, Cl. 292-254.
- McCabe, John E., and U. J. Schmid; said McCabe assor. to The Creamery Package Mfg. Co., and said Schmid, assor. to Foremost Dairies, Inc. Case filling mechanism. 3,099,906, 8-6-63, Cl. 53-59.
- McCabe, Owen J., to The Superior Electric Co. Transistor discriminating circuit with diode bypass means for the emitter-base circuit of each transistor. 3,100,266, 8-6-63, Cl. 307-88.5.
- McCabe-Powers Body Co.: See—
- Balogh, Roy O. 3,073,397.
- Balogh, Roy O. 3,082,842.
- Hall, Thomas R. 3,096,886.
- McCadam, William W., to Ched-O-Matic Corp. Method for making cheese. 3,078,169, 2-19-63, Cl. 99-116.
- McCaffray, Rex S., Jr.: See—
- Hoffman, Eugene M., Wilcox, and McCaffray. 3,073,354.
- McCaig, James C.: See—
- McCampbell, William M., and McCaig. 3,102,948.
- McCain, Billy B.: See—
- Nelson, Robert E., McCain, and Welsh. 3,093,786.
- McCain, George H.: See—
- Fordham, James W. L., and McCain. 3,100,199.
- McCain, William B., to Chicago Machinery Laboratory, Inc. Signature gathering and stitching machine. 3,087,721, 4-30-63, Cl. 270-54.
- McCaleb, Kirtland E.: See—
- Harrison, Stuart A., McCaleb, and Ward. 3,073,864.
- McCall, Jane L.: See—
- McCall, Oliver L. and J. L. 3,072,918.
- McCall, Marvin A., and N. H. Shearer, Jr., to Eastman Kodak Co. Preparation of [2-cyano-3-alkoxy (or hydroxy)] thio-2-alkanamides. 3,076,015, 1-29-63, Cl. 260-465.5.
- McCall, Marvin A., and R. L. McConnell, to Eastman Kodak Co. Phosphorothiolothionate derivatives of cyanoacrylates. 3,106,566, 10-8-63, Cl. 260-332.2.
- McCall, Oliver L. and J. L. Sitz bath pan. 3,072,918, 1-15-63, Cl. 4-6.
- McCall, Richard H., to Texaco Inc. Down hole tool. 3,105,554, 10-1-63, Cl. 166-169.
- McCall, William A. Model train electrical motor control system. 3,101,438, 8-20-63, Cl. 318-400.
- McCallion, John J.: See—
- Downey, Thomas A., and McCallion. 3,116,240.
- McCalls Macalloy Ltd.: See—
- Pennington, John S. 3,072,988.
- McCallum Albert R., and P. H. Danly, to Danly Machine Specialties, Inc. Mechanically operated friction clutch and brake assembly. 3,084,777, 4-9-63, Cl. 192-144.
- McCallum, Charles W.: See—
- Miller, Ira A. 3,084,898.
- McCallum, Duncan I.: See—
- Schwartz, Daniel M., Hackett, and McCallum. 3,081,890.
- McCallum, John, T. B. Johnson, W. E. Ditmars, Jr., and L. D. McGraw, to Remington Arms Co., Inc. Current generator cell. 3,093,512, 6-11-63, Cl. 136-100.
- McCallum, John, T. B. Johnson, W. E. Ditmars, Jr., and L. D. McGraw, to Remington Arms Co., Inc. Current generator cell. 3,093,513, 6-11-63, Cl. 136-100.
- McCallum, John, T. B. Johnson, W. E. Ditmars, Jr., and L. D. McGraw, to Remington Arms Co., Inc. Current generator cell. 3,093,514, 6-11-63, Cl. 136-100.
- McCallum, John H., to Collins Radio Co. Continuous counter. 3,095,146, 6-25-63, Cl. 235-117.
- McCallum, Laurette C.: See—
- Schwartz, Daniel M., Hackett, and McCallum. 3,081,890.
- McCally, William J., to National Rejectors, Inc. Money-handling devices. 3,101,981, 8-27-63, Cl. 312-222.
- McCammon, George A., to Esso Research and Engineering Co. Offshore combination ship mooring and ship loading apparatus-bow mooring. 3,093,167, 6-11-63, Cl. 141-387.
- McCammon, George A., to Jersey Production Research Co. Mobile marine drilling foundation. 3,104,531, 9-24-63, Cl. 61-46.5.
- McCammon, Robert F., to Minneapolis-Honeywell Regulator Co. Slide projector with remote control for reversing the slide storage tray. 3,072,016, 1-8-63, Cl. 88-28.
- McCammon, Robert F., to Minneapolis-Honeywell Regulator Co. Remote control unit for a photographic projector. 3,078,763, 2-26-63, Cl. 88-28.
- McCammon, Robert F., to Minneapolis-Honeywell Regulator Co. Tray advancing mechanism in a picture slide projector. 3,115,810, 12-31-63, Cl. 88-28.
- McCampbell, William M., and J. C. McCaig, to United States of America, National Aeronautics and Space Administration. Electric arc welding. 3,102,948, 9-3-63, Cl. 219-137.
- McCance, Henry B., and F. R. W. Sloan, to Bleachers Association Ltd. Treatment of fibrous materials. 3,071,430, 1-1-62, Cl. 8-116.4.
- McCandless, Ira L.: See—
- McCullough, Ray A., and McCandless. 3,080,798.
- McCandlish, Edgar A. Apparatus for frightening animals. 3,071,104, 1-1-63, Cl. 116-22.
- McCandliss, Robert K., to General Dynamics Corp. Vibration suppressor. 3,075,619, 1-29-63, Cl. 188-1.
- McCann, Francis D., to The Singer Mfg. Co. Controllable stitch fingers for sewing. 3,086,485, 4-23-63, Cl. 112-16.
- McCann, Frederick. Pressure operated shut-off valve. 3,079,938, 3-5-63, Cl. 137-118.
- McCann, Joe G., R. J. Stegen, and W. Falstrom, to Canoga Electronics Corp. Split parabolic radar antenna utilizing means to discriminate against cross-polarized energy. 3,092,834, 6-4-63, Cl. 343-756.
- McCann, Joseph A., to United States of America, Atomic Energy Commission. Subcooling detector. 3,114,263, 12-17-63, Cl. 73-359.
- McCann, Keith: See—
- Craggs, Joseph, and McCann. 3,106,284.
- McCann, Keith, to Goodman Mfg. Co. Troughing roller assembly and belt conveyor. 3,098,557, 7-23-63, Cl. 198-192.
- McCann, Samuel: See—
- Garrett, Frederick W., and McCann. 3,079,229.
- McCann, Thomas S. Lambswool duster. 3,092,864, 6-11-63, Cl. 15-235.
- McCann, William F., to Lyon Van & Storage Co. Pallet. 3,090,331, 5-21-63, Cl. 108-51.
- McCardell, Willard B., to Michigan Tool Co. Tooth forming tool. 3,115,052, 12-24-63, Cl. 80-16.
- McCarroll, Sidney J., to Howe Sound Co. Treatment of manganese ores. 3,085,875, 4-16-63, Cl. 75-101.
- McCarthy, Donald O.: See—
- Arnold, Melvin R., McCarthy, and Dienes. 3,075,915.
- McCarthy, George F.: See—
- Tuttle, Thomas W., and McCarthy. 3,081,416.
- McCarthy, Jeremiah T., 20% to M. St. J. McCarthy, Sr. and M. St. J. McCarthy, Jr., and 10% to L. S. Knox. Child's toy. 3,098,316, 7-23-63, Cl. 46-43.
- McCarthy, John: See—
- Wagner, Eric G., and McCarthy. 3,093,814.
- McCarthy, John, to Gar Wood Industries, Inc. Telescopic hoist assembly for tilting bodies of dumping vehicles. 3,085,828, 4-16-63, Cl. 298-22.
- McCarthy, John F.: See—
- Barnitz, Richard W., and McCarthy. 3,109,330.
- McCarthy, John J.: See—
- Russell, Robert A., and McCarthy. 3,108,086.
- McCarthy, John J. Sitz bath. 3,102,273, 9-3-63, Cl. 4-6.
- McCarthy, Joseph H., Jr., to Rheem Mfg. Co. Water heater and method of heating water. 3,080,118, 3-5-63, Cl. 236-32.
- McCarthy, Michael J.: See—
- Gancy, Alan B., and McCarthy. 3,111,379.
- McCarthy, Michael St. J., Sr.: See—
- McCarthy, Jeremiah T. 3,098,316.
- McCarthy, Patrick B., 20% to E. T. Saftig, 20% to B. J. Stansbury, and 20% to P. F. Loveridge. Electric oil well heater apparatus. 3,114,417, 12-17-63, Cl. 166-60.
- McCarthy, Paul R., and T. R. Orem, to Gulf Research & Development Co. Polyorgano siloxane thickened to a grease consistency with a diazo compound and an arylurea. 3,082,170, 3-19-63, Cl. 252-49.6.
- McCarthy, Raymond G.: See—
- Thornton, Paul, and McCarthy. 3,102,333.
- McCart, Donald L. Reverse wash strainer. 3,081,878, 3-19-63, Cl. 210-411.
- McCart, George W., and S. H. Kohler, to The Black and Decker Mfg. Co. Pivoting shoe for portable electric jig saw. 3,087,519, 4-30-63, Cl. 143-68.
- McCart, Horace G.: See—
- Bumm, Leonard M., and McCart. 3,082,589.
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- McCart, Horace G., to Sperry Rand Corp. Hay conditioner. 3,086,344, 4-23-63, Cl. 56-1.
- McCart, James P., and C. H. Curtis, to Duval Sulphur & Potash Co. Sensing and control apparatus for classifiers. 3,114,510, 12-17-63, Cl. 241-34.
- McCart, John C., and F. D. Stewart, to Celanese Corp. of America. Blend of vinylidene cyanide: vinyl acetate copolymer with a 4-vinyl pyridine copolymer. 3,103,497, 9-10-63, Cl. 260-41.
- McCart, Lourdes V.: See—
- Biermann, William A., Bauer, and McCart. 3,080,143.
- McCarver, Aarol D.: See—
- Fouts, H. D., and McCarver. 3,098,925.
- McCarry, Richard O., to General Electric Co. Current regulator. 3,079,541, 2-26-63, Cl. 323-7.
- McCaskill, Robert B.: See—
- Wilcox, Stanley W., Crossland, and McCaskill. 3,092,311.
- McCaskill, Robert B., to Seismograph Service Corp. Apparatus for use in setting voting machine for voter classification. 3,098,607, 7-23-63, Cl. 235-54.
- McCauley, David A., to Standard Oil Co. Hydrogen fluoride alkylation process. 3,078,322, 2-19-63, Cl. 260-683.51.
- McCauley, David A., to Standard Oil Co. Paraffin alkylation process using a hydrogen fluoride-silver fluoride catalyst solution. 3,080,439, 3-5-63, Cl. 260-683.51.
- McCauley, Harry J.: See—
- Bechtold, Max F., Little, and McCauley. 3,110,092.
- Little, Ernest L., Jr., McCauley, and Penzo. 3,110,091.
- McCauley, Herbert J. Toy automobile direction indicator. 3,091,212, 5-28-63, Cl. 116-50.
- McCauley, Herbert J., Jr. Sheet metal screw. 3,099,184, 7-30-63, Cl. 85-1.
- McCauley, John H., and S. Gavurnik, to Burroughs Corp. Gaseous cold cathode indicator glow tube. 3,101,427, 8-20-63, Cl. 313-188.
- McCay, Frank V., Jr.: See—
- Neilson, Jay C., and McCay. 3,099,289.



- McClaffin, Gifford G.: *See*—  
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- McClaffin, Gifford G., to Continental Oil Co. Process for the preparation of aluminum alkoxides. 3,087,954, 4-30-63, Cl. 260-448.
- McClaffin, Gifford G., and M. T. Atwood, to Continental Oil Co. Preparation of alcohols from aluminum trialkyls. 3,093,691, 6-11-63, Cl. 260-638.
- McClain, Roy H. Insulated junction tapping device. 3,087,006, 4-23-63, Cl. 174-71.
- McClain, Waite. Power lawn trimmer. 3,110,997, 11-19-63, Cl. 56-25.4.
- McClanahan, Bernard E., to Ace Tank and Heater Co. Water heating system. 3,109,414, 11-5-63, Cl. 122-33.
- McClanahan, Otis E. Live minnow fishing lure. 3,087,272, 4-30-63, Cl. 43-41.
- McClane, Elmer H.: *See*—  
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- McClaren, Jay L. Grain dryer. 3,107,160, 10-15-63, Cl. 34-174.
- McClarnon, Roscoe B. Wheeled vehicle steering device. 3,110,352, 11-12-63, Cl. 180-26.
- McClay, Marvin, to Beckman Industries, Inc. Combined variable resistance device and mechanism for driving same. 3,114,126, 12-10-63, Cl. 338-116.
- McCleary, Robert E.: *See*—  
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- McCleary, Roy E., to Atwood Vacuum Machine Co. Sheet metal wheel construction. 3,108,838, 10-29-63, Cl. 301-63.
- McCleary, Robert N., to The Delman Co. Bellows actuated switch. 3,113,190, 12-3-63, Cl. 200-83.
- McCleary, Robert N., and R. R. Mandy, to The Delman Co. Pump for windshield clearing system and the like. 3,103,685, 9-17-63, Cl. 15-250.02.
- McClellan, Allen. Shoe protector. 3,095,659, 7-2-63, Cl. 36-72.
- McClellan, Ralph E., to The Meilink Steel Safe Co. Tamper-proof safes. 3,076,420, 2-5-63, Cl. 109-38.
- McClellan, William R., to E. I. du Pont de Nemours and Co. Coupling by hydroxyl radicals and new triamino compounds. 3,076,846, 2-5-63, Cl. 260-583.
- McClelland, Alan L.: *See*—  
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- McClelland, Alan L., to E. I. du Pont de Nemours and Co. Process for making diborane and higher boron hydrides. 3,088,804, 5-7-63, Cl. 23-204.
- McClelland, Howard L.: *See*—  
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- McClelland, James B. Weed puller. 3,077,336, 2-12-63, Cl. 254-132.
- McClelland, James F., Jr., and W. L. Brown, to Admos, Inc. Article releasing device for inclined chutes or rollerways. 3,088,569, 5-7-63, Cl. 193-40.
- McClelland, Norman H.: *See*—  
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- McClenachan, Ellsworth C.: *See*—  
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- McClenny, Robert W., and H. M. Faison, Jr. Cultivator attachment. 3,086,597, 4-23-63, Cl. 172-119.
- McCleskey, Frank G. Air preheating assembly for use upon carburetors of internal combustion engines. 3,075,508, 1-29-63, Cl. 123-122.
- McClintick, William E. Household reminder turn knob. 3,073,281, 1-15-63, Cl. 116-133.
- McClintock, Fred L. Automobile leg rest. 3,106,425, 10-8-63, Cl. 297-436.
- McClintock, Ralph M., to United States of America, Air Force. Tensile cryostat. 3,078,708, 2-26-63, Cl. 73-15.6.
- McClintock, Ross A., R. E. Thompson, and K. E. Waggener. Pipe hanger detachable by an axial force. 3,097,000, 7-9-63, Cl. 285-142.
- McCloskey, Albert R., to SKF Industries, Inc. Process for manufacturing antifriction bearings. 3,109,223, 11-5-63, Cl. 29-148.4.
- McCloskey, Allen L.: *See*—  
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- Kitasaki, Kiyoshi, McCloskey, and Woods. 3,082,234.
- Newsom, Herbert C., Woods, and McCloskey. 3,072,718.
- Newsom, Herbert C., Woods, and McCloskey. 3,082,252.
- Peterson, Lowell L., Brotherton, Wilcockson, and McCloskey. 3,079,432.
- McCloskey, Allen L., R. J. Brotherton, and L. L. Peterson, to United States Borax & Chemical Corp. Organoboron polymers and their preparation. 3,103,514, 9-10-63, Cl. 260-289.
- McCloskey, Jack W.: *See*—  
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- McCloskey Varnish Co. of the West: *See*—  
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- McCloud, Don B., and D. E. Albon, to Airmite-Midwest Inc. Blasting agent of multi-sized and multi-density ammonium nitrate with fuel oil. 3,095,335, 6-25-63, Cl. 149-21.
- McCloud, James, to Skil Corp. Pneumatic system for a rotary hammer device. 3,114,421, 12-17-63, Cl. 166-138.
- McCloud, James R., to The I-T-E Circuit Breaker Co. Operating mechanism for circuit breakers. 3,106,137, 10-8-63, Cl. 92-10.
- McCloud, Willys W., to Douglas Aircraft Co., Inc. Duplex transmit-receive antenna system employing a dipole and a loop. 3,105,236, 9-24-63, Cl. 343-180.
- McClow, John H., Jr.: *See*—  
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- McClung, Jack P. Telescoping inside gage instrument. 3,082,536, 3-26-63, Cl. 33-143.
- McClure, Arthur W., to The Trane Co. Motor-compressor apparatus. 3,094,272, 6-18-63, Cl. 230-117.
- McClure, Charles G., to Automation Industries, Inc. Ultrasonic inspection apparatus. 3,107,521, 10-22-63, Cl. 73-67.8.
- McClure, John L., to General Electric Co. Timed switch actuation means. 3,096,407, 7-2-63, Cl. 200-38.
- McClure, Louis C., Sr. Expandable trailer. 3,070,850, 1-1-63, Cl. 20-2.
- McClure, Marshall R., Jr.: *See*—  
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- McClure, Robert E., Jr., to United States Steel Corp. Mechanism for preventing loss of steam from a space heater. 3,092,324, 6-4-63, Cl. 237-9.
- McClure, Robert R.: *See*—  
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- McClure, Stanley R. Auxiliary dynamotor for the ignition system of an internal combustion engine. 3,099,772, 7-30-63, Cl. 315-218.
- McClure, William L., to Sun Oil Co. Elevation of granular solids. 3,083,064, 3-26-63, Cl. 302-59.
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- McCobb, Paul W. Storage arrangements. 3,096,130, 7-2-63, Cl. 312-111.
- McColl, David R. S., to Raytheon Co. Means for modulating high frequency generators. 3,095,543, 6-25-63, Cl. 332-51.
- McCollough, William R., to Hewlett-Packard Co. Current limited transistor voltage regulator. 3,100,863, 8-13-63, Cl. 323-22.
- McCollum, Andrew O., to Novi Tool & Machine Co. Recycling poppet valve. 3,087,508, 4-30-63, Cl. 137-466.
- McCollum, Jack W., 1/2 to Deere & Co. Convertible hitch. 3,093,394, 6-11-63, Cl. 280-415.
- McCollum, Jack W., 1/2 to Deere & Co. Rotary beater with suction fails. 3,099,121, 7-30-63, Cl. 56-121.44.
- McCollum, Jack W. Projectile launcher. 3,111,938, 11-26-63, Cl. 124-19.
- McCombs, Edward E. Duplex apparatus for skipping and jumping rope. 3,072,402, 1-8-63, Cl. 272-74.
- McCombs, Howard L., and A. P. Schnable, to The Bendix Corp. Gas turbine fuel control including timing device for scheduling acceleration. 3,075,350, 1-29-63, Cl. 60-39.28.
- McCombs, Howard L., Jr., to The Bendix Corp. Control for hydraulic servo-actuated apparatus. 3,075,351, 1-29-63, Cl. 60-39.28.
- McCombs, Howard L., Jr., to The Bendix Corp. Fuel control for combustion engines. 3,105,354, 10-1-63, Cl. 60-39.28.
- McConathy, J. D. Game table with projectors. 3,082,003, 3-19-63, Cl. 273-126.
- McConeghey, George, Jr., and H. N. Grillot, to International Harvester Co. Hay baler. 3,110,246, 11-12-63, Cl. 100-139.
- McConegley, John P., to The Weinman Pump & Supply Co. Coil positioning control. 3,108,759, 10-29-63, Cl. 242-79.
- McConkey, James F., Jr., and D. J. Van Slooten, to Bell Telephone Laboratories, Inc. Cushion mounting for electrical apparatus. 3,087,095, 4-23-63, Cl. 317-101.
- McConkie, Howard S. Safety inner tube with means for securing same to wheel rim. 3,081,810, 3-19-63, Cl. 152-350.
- McConnaughay, Kenneth E. Paving composition and method of making it. 3,110,604, 11-12-63, Cl. 106-277.
- McConnaughey, Robert K. Venting closures and separators for hypodermic syringes. 3,075,525, 1-29-63, Cl. 128-218.
- McConnaughey, Robert K. Disposable hypodermic syringe. 3,084,688, 4-9-63, Cl. 128-218.
- McConnaughey, Robert K., and M. J. Cohen. Holder for hypodermic syringe cartridges. 3,076,455, 2-5-63, Cl. 128-218.
- McConnaughey, Robert K., and M. J. Cohen. Hypodermic syringe and ventable closure means. 3,091,240, 5-28-63, Cl. 128-218.
- McConnaughey, Robert K., and M. J. Cohen. Hypodermic syringes and needle hubs therefor. 3,096,763, 7-9-63, Cl. 128-221.
- McConnell, David P., to Mining Research Corp. Crushing apparatus. 3,079,096, 2-26-63, Cl. 241-218.
- McConnell, Duane J., to Foley Mfg. Co. Indexing device for saw grinding machine. 3,109,327, 11-5-63, Cl. 76-40.
- McConnell, James L., to Daystrom, Inc. Electronic pulse repetition rate indicator. 3,090,005, 5-14-63, Cl. 324-70.
- McConnell, John R. Welding machine for connecting structural details to structural steel members. 3,085,148, 4-9-63, Cl. 219-139.
- McConnell, Lattimer J.: *See*—  
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- McConnell, Peter J.: *See*—  
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- McConnell, Richard L.: *See*—  
McCall, Marvin A., and McConnell. 3,106,566.
- McConnell, Richard L., and H. W. Coover, Jr., to Eastman Kodak Co. Organophosphorus derivatives of 1,2,3-thiadiazole. 3,072,669, 1-8-63, Cl. 260-302.
- McConnell, Richard L., and H. W. Coover, Jr., to Eastman Kodak Co. Phosphorothiolothionates derived from glycols. 3,089,850, 5-14-63, Cl. 252-32.7.
- McConnell, Richard L., and H. W. Coover, Jr., to Eastman Kodak Co. Process for preparing  $\alpha$ -monoolefinic hydrocarbons. 3,096,385, 7-2-63, Cl. 260-683.15.



- McConnell, Wayne V., and H. E. Davis, to Eastman Kodak Co. Alkylation of phenols. 3,082,258, 3-19-63, Cl. 260-624.
- McConnell, William M., to Taylor-Wilson Mfg. Co. Pipe tester with automatic screw-off stations. 3,095,729, 7-2-63, Cl. 73-49.1.
- McConville, Joseph H., to Bell Telephone Laboratories, Inc. Semiconductor device contact. 3,075,282, 1-29-63, Cl. 29-155.55.
- McCook, Mildred T. Tether for babies' toys. 3,087,277, 4-30-63, Cl. 46-1.
- McCord, Eugene B., and P. T. Scott, to E. I. du Pont de Nemours and Co. Process of preparing linear terephthalate polyester structures. 3,091,510, 5-28-63, Cl. 18-54.
- McCord, Jesse L. Bushing removing and inserting tool. 3,110,958, 11-19-63, Cl. 29-263.
- McCord, Robert C.: *See*—
- O'Neill, Joseph V., Homanick, and McCord. 3,095,048.
- McCorkle, Jimmie D. Spinner attachment for shoes. 3,091,043, 5-28-63, Cl. 36-8.3.
- McCorkle, Max, to Thompson Ramo Wooldridge Inc. Liquid separator, vapor-gas injection steering system. 3,070,957, 1-1-63, Cl. 60-35.55.
- McCorkle, Max, to Thompson Ramo Wooldridge Inc. Missile roll control valve system. 3,115,887, 12-31-63, Cl. 137-82.
- McCorkle, Miles R., R. E. Baarson, S. H. Shapiro, and H. B. Treweek, to Armour and Co. Ore flotation collector and ore flotation process. 3,073,448, 1-15-63, Cl. 209-166.
- McCormack, John F.: *See*—
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- McCormack, Thomas L.: *See*—
- Fuller, Harrison W., Hale, and McCormack. 3,106,606.
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- McCormick, Dale B., to General Motors Corp. Method and apparatus for making flexible belts. 3,091,837, 6-4-63, Cl. 29-143.3.
- McCormick, David W.: *See*—
- Beers, John R., and McCormick. 3,087,034.
- McCormick, Frank, and O. Dorfmann, to Federa Carton Corp. Locked container. 3,103,626, 10-1-63, Cl. 229-33.
- McCormick, Hamilton L., to General Motors Corp. Stacked plate heat exchangers. 3,098,522, 7-23-63, Cl. 164-166.
- McCormick, James R. Slingshot. 3,101,704, 8-27-63, Cl. 124-20.
- McCormick, James B., to Lab-Tek Plastics Co. Centrifuge container. 3,115,460, 12-24-63, Cl. 233-26.
- McCormick, James W.: *See*—
- Blubaugh, Sylvester H. 3,075,819.
- Blubaugh, Sylvester H. 3,075,854.
- McCormick, Jerry R. D., and W. E. Gardner, to American Cyanamid Co. Naphthacenequinones. 3,074,975, 1-22-63, Cl. 260-377.
- McCormick, Milton H.: *See*—
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- McCormick, Rayna H. Football cleaning machine. Re. 25,462, 10-15-63, Cl. 15-21.
- McCormick, Rayna H. Football cleaning machine. 3,072,936, 1-15-63, Cl. 15-21.
- McCormick, Rayna H., to Gil-Mac Machine Co. Gauge for measuring diameters and pitches of holes in bowling balls. 3,109,243, 11-5-63, Cl. 33-174.
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- Horton, John L., Conrad, and McCormick. 3,116,136.
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- Copp, Frederick C., McCoubrey, and Billingham. 3,090,725.
- McCoubrey, Arthur O.: *See*—
- Holloway, Joseph H., and McCoubrey. 3,076,942.
- McCoubrey, Arthur O., and A. Ganssen, to National Co., Inc. Nuclear maser. 3,080,519, 3-5-63, Cl. 324-5.
- McCoubrey, George A.: *See*—
- Posniak, Benjamin, McCoubrey, and Babiarz. 3,106,963.
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- McCoy, Charles E., Jr., to The Dow Chemical Co. Solid gels of liquid hydrocarbons containing salts of alkylphenoxybenzoic acids. 3,113,849, 12-10-63, Cl. 44-7.
- McCoy, Claudius T., to Philco Corp. Modular circuitry. Re. 25,317, 1-8-63, Cl. 330-66.
- McCoy, Lawrence B., to Key Equipment Co. Filled can depalletizer. 3,075,652, 1-29-63, Cl. 214-8.5.
- McCoy, Richard W.: *See*—
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- McCoy, Thomas A., to Carando Machine Works. Welding unit for lap-welding machines. 3,109,914, 11-5-63, Cl. 219-64.
- McCracken, John H., and J. G. D. Schulz, to Gulf Research & Development Co. Nitric acid oxidation of 1,1-diarylalkanes to produce carboxy substituted diaryl ketones. 3,075,007, 1-22-63, Cl. 260-517.
- McCracken, John H., and J. G. D. Schulz, to Gulf Research & Development Co. Benzophenone-tetracarboxylic dianhydrides. 3,078,279, 2-19-63, Cl. 260-346.3.
- McCracken, Lyde S., to Economy Forms Corp. Adjustable aligner clamp for concrete forms. 3,092,363, 6-4-63, Cl. 248-316.
- McCracken, Norman L. Journal lubricator clearance gauge. 3,079,692, 3-5-63, Cl. 33-168.
- McCreary, Harold J., to Automatic Electric Laboratories, Inc. Full stroke energized rotary magnet. 3,092,737, 6-4-63, Cl. 307-112.
- McCreary, Harold J., to Automatic Electric Laboratories, Inc. Telephone line concentrator. 3,096,402, 7-2-63, Cl. 179-18.
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- Lamberti, Vincent, and McCrimlish. 3,107,258.
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- McCulloch Corp.: *See*—
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- Henry, Nelson R. 3,101,821.
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- McCullough, Campbell R., to Monsanto Chemical Co. Method of reducing water evaporation losses in open reservoirs. 3,098,701, 7-23-63, Cl. 21-60.5.
- McCullough, Douglas G.: *See*—
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- McCullough, Ira J. Power tool. 3,094,166, 6-18-63, Cl. 166-63.
- McCullough, Jack A., and W. R. Stuart, to Eitel-McCullough, Inc. Apparatus for making electron tubes. 3,102,180, 8-27-63, Cl. 219-9.5.
- McCullough, Ray A., and I. L. McCandless, to Blaw-Knox Co. Adjustable screed and adjustment linkage therefor. 3,080,798, 3-12-63, Cl. 94-45.
- McCullough, Robert W. Textile room traversing arrangement including bobbin doffing and room cleaning devices. 3,112,601, 12-3-63, Cl. 57-52.
- McCullough, Russell H., to Cinemiracle International Picture Inc. Mosaic motion picture projection apparatus. 3,101,643, 8-27-63, Cl. 88-16.6.
- McCullough, Stuart N.: *See*—
- Hollowich, Garrison G., and McCullough. 3,096,512.
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- McCune, James D., to Klean-Kote Inc. Method for the cleaning of pipelines. 3,073,687, 1-15-63, Cl. 51-317.
- McCune, James D., to Klean-Kote Inc. Method for cleaning pipelines. 3,073,688, 1-15-63, Cl. 51-317.
- McCurdy, William H.: *See*—
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- McCutchen, Brunson S., and H. D. Shumway. Sail and rigging therefor. 3,090,340, 5-21-63, Cl. 114-102.
- McCutcheon, Grover H.: *See*—
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- McCutcheon, Samuel R., C. N. Wittingstad, and C. H. Moulton, to Tektronix, Inc. Signal energy take off device. 3,105,945, 10-1-63, Cl. 333-9.
- McCutcheon, William N., Jr., to Bloom Engineering Co., Inc. Atomizing oil burner nozzle. 3,088,681, 5-7-63, Cl. 239-427.
- McDaniels, David L., R. W. Jech, J. W. Weeton, and D. W. Petrusek, to United States of America, National Aeronautics and Space Administration. Reinforced metallic composites. 3,084,421, 4-9-63, Cl. 29-183.5.
- McDaniel, Donald W., to General Motors Corp. Closure latch. 3,081,117, 3-12-63, Cl. 292-216.
- McDaniel, Gerald E. Hose guide. 3,097,827, 7-16-63, Cl. 254-190.
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- Rosekrans, David de L., and McDaniel. 3,088,634.
- McDaniel, Victor E., to Shell Oil Co. Wax deoiling process. 3,108,943, 10-29-63, Cl. 208-31.
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- McDarrach, James F. Disintegrating machine having cutting and impact action. 3,072,391, 1-8-63, Cl. 262-13.
- McDermid, Malcolm, and J. Pidany, to Howe Richardson Scale Co. Bagging machine. 3,090,409, 5-21-63, Cl. 141-282.
- McDermott, Charles B. Low volume contact laxative enema compositions. 3,088,870, 5-7-63, Cl. 167-56.
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- McDermott, Henry J., and H. P. Koppebele, to American Viscose Corp. Film extrusion nozzle. 3,072,962, 1-15-63, Cl. 18-12.
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- McDermott, Julian A. Bulb changing means. 3,076,123, 1-29-63, Cl. 315-58.
- McDermott, Lyle C., to H. G. Peckham. Communion device. 3,100,987, 8-6-63, Cl. 241-79.
- McDermott, Martin A. Storage container. 3,092,302, 6-4-63, Cl. 229-52.
- McDill, William H., to Douglas Aircraft Co., Inc. Joint for honeycomb structure. 3,114,470, 12-17-63, Cl. 220-10.
- McDonagh, Andrew C. Safety guard for power lawn mower. 3,106,812, 10-15-63, Cl. 56-25.4.
- McDonald, Frank J., to Socony Mobil Oil Co., Inc. Igniter for a repetitive seismic source. 3,072,829, 1-8-63, Cl. 317-83.
- McDonald, Bernard T.: *See—*  
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- McDonald, David. Knockdown scaffold. 3,095,070, 6-25-63, Cl. 189-15.5.
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- McDonald, Gerald W. G., to Universal Oil Products Co. Apparatus for contacting of different density fluids. 3,108,048, 10-22-63, Cl. 196-46.
- McDonald, Henry S., to Bell Telephone Laboratories, Inc. Apparatus for encoding pitch information in a vocoder system. 3,109,142, 10-29-63, Cl. 325-38.
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- McDonald, John W., E. H. Grosse, and O. R. Etheridge, to A. E. Staley Mfg. Co. Non-congealing cereal starch pastes. 3,103,451, 9-10-63, Cl. 127-32.
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- McDonald, Mary J. Device to clean footwear. 3,074,093, 1-22-63, Cl. 15-161.
- McDonald, Michael F., Sr., and G. B. Jolley, to Esso Research and Engineering Co. Aluminum halide recycle isomerization process. 3,077,504, 2-12-63, Cl. 260-683.67.
- McDonald, Robert G.: *See—*  
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- McDonald, Robert M., to James R. Kearney Corp. Adapter for switch operator. 3,090,853, 5-21-63, Cl. 200-114.
- McDonald, Russell H., to Packard-Bell Electronics Corp. Television receiver construction. 3,086,079, 4-16-63, Cl. 178-7.9.
- McDonald, Russell M. Voltage regulator for generators. 3,074,005, 1-15-63, Cl. 322-84.
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- McDonough, John J., to Scott & Williams, Inc. Throat plate. 3,080,741, 3-12-63, Cl. 66-125.
- McDonough, Paul F. Overhead track. 3,072,072, 1-8-63, Cl. 104-110.
- McDonough, Vincent T., H. Pearson, and F. C. Evans, to American District Telegraph Co. Electrical system and method for protecting premises subject to varying ambient conditions. 3,074,053, 1-15-63, Cl. 340-258.
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- McDougal, John A., to General Motors Corp. Vehicle control mechanism. 3,104,741, 9-24-63, Cl. 192-3.
- McDougal, Lawrence D., 1/2 to M. P. Bell. Load-carrying apparatus for an automobile top. 3,112,501, 12-3-63, Cl. 5-119.
- McDougall, Franklin M., to B., H., and C. J. Deutsch. Fluid mixing device. 3,072,137, 1-8-63, Cl. 137-216.
- McDougall, Franklin M., to B., H., and C. J. Deutsch, d.b.a. Standard Machine & Mfg. Co. Liquid injector. 3,084,634, 4-9-63, Cl. 103-262.
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- McDowell Co., Inc.: *See—*  
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- McDowell, Thomas E., and C. C. Whiteford; said McDowell assor. to Brandon Equipment Co., Inc., and said Whiteford assor. to Ford Motor Co. Winch mechanism for vehicle tie down. 3,092,368, 6-4-63, Cl. 254-164.
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- Nolt, Edwin B., and McDuffie. 3,115,823.
- McDuffie, James W., to Sperry Rand Corp. Tying mechanism. 3,074,343, 1-22-63, Cl. 100-31.
- McDuffie, James W., to Sperry Rand Corp. Hay baler. 3,086,643, 4-23-63, Cl. 198-221.
- McDuffie, James W., to Sperry Rand Corp. Hay baler. 3,115,088, 12-24-63, Cl. 100-142.
- McEachern, Loyd R., to The American Mono Rail Co. Fiber collecting apparatus. 3,080,598, 3-12-63, Cl. 15-312.
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- McElroy, Charles W., and J. S. Klein, to Safety Electrical Equipment Corp. Cargo cushioning systems. 3,093,455, 7-23-63, Cl. 105-369.
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- McElroy, Wilbur R., to Mobay Chemical Co. Blocked isocyanates from still residues. 3,084,182, 4-2-63, Cl. 260-471.
- McElroy, William N., and G. O. Haroldsen, to North American Aviation, Inc. Vapor pressure water boiler reactor. 3,098,810, 7-23-63, Cl. 204-193.2.
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- McElvy, Howell T. Casting machine. 3,107,466, 10-22-63, Cl. 53-61.
- McEver, James W., to Shell Oil Co. Method of acidizing wells. 3,115,931, 12-31-63, Cl. 166-42.
- McEvers, William R., Jr.: *See—*  
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- Jackson, John G., Jr., and Rhodes. 3,095,004.
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- McEvoy, James E., and H. Shalit, to Air Products and Chemicals, Inc. Fuel cell electrode. 3,097,974, 7-16-63, Cl. 136-120.
- McEvoy, Joseph A. Snow shoe for automobile wheel. 3,087,266, 4-30-63, Cl. 37-42.
- McEvoy, William T. Mooring device. 3,081,731, 3-19-63, Cl. 114-230.
- McEwan, Gilbert J., and R. P. Beimler, to Monsanto Chemical Co. Aqueous coating compositions containing a water soluble acrylamide polymer having colloidal silica sol dispersed therein and method of coating therewith. 3,084,131, 4-2-63, Cl. 260-29.6.
- McEwan, James. Stop means for chain saw sharpener. 3,103,134, 9-10-63, Cl. 76-37.
- McEwen, John C., to General Motors Corp. Bearing assembly. 3,101,222, 8-20-63, Cl. 308-58.
- McEwen, Norman S., to E. Adkins. Egg oiler. 3,078,821, 2-26-63, Cl. 118-2.
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- McFall, Charles R., and V. M. Eads, to Johnson City Foundry and Machine Works, Inc. Molding method and apparatus. 3,093,873, 6-18-63, Cl. 22-181.



- McFarland, Chester R., to De Laval Turbine Inc. Pump or the like. 3,103,892, 9-17-63, Cl. 103-108.
- McFarland, George C., to High Voltage Engineering Corp. Spark gap switch. 3,087,091, 4-23-63, Cl. 315-241.
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- McFarland, James E., to The Narda Microwave Corp. Wave guide attenuator using shaped absorber of iron powder loaded resin to equalize shunt and series losses. 3,080,540, 3-5-63, Cl. 333-81.
- McFarland, Keith E.: *See—*  
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- McFarland, Rolland, Jr., to Hills-McCanna Co. Sealed ball valve. 3,096,966, 7-9-63, Cl. 251-214.
- McFarland, William H., to Inland Steel Co. Method of coating a galvanized article with iron and article produced thereby. 3,078,555, 2-26-63, Cl. 29-196.5.
- McFarlane, Le Roy F. Coil form. 3,105,948, 10-1-63, Cl. 336-136.
- McFarlane, Maynard D., and C. A. Crafts, to Robertshaw Controls Co. Phase shift keying communication system. 3,112,448, 11-26-63, Cl. 325-163.
- McFarlin, Stanley B., to The Gorman-Rupp Co. Self-priming pump. 3,072,063, 1-8-63, Cl. 103-113.
- McFarren, Gerald A.: *See—*  
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- McFeaters, Harry L., and I. W. Lakin, to Pennsylvania Engineering Corp. Scrap churning. 3,093,253, 6-11-63, Cl. 214-18.
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- McGary, Charles W., Jr., to Union Carbide Corp. Polyolefin oxides stabilized with 1,1-diphenyl-2-picrylhydrazine and 1,1-diphenyl-2-picrylhydrazyl. 3,095,394, 6-25-63, Cl. 260-29.2.
- McGary, Charles W., Jr., and C. T. Patrick, Jr., to Union Carbide Corp. Diepoxy sulfones. 3,075,954, 1-29-63, Cl. 260-79.3.
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- McGavern, Sanford A., to Schwitzer Corp. Cable vibration damper. 3,073,887, 1-15-63, Cl. 174-42.
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- McGay, John B. Swinging gate valves. 3,084,904, 4-9-63, Cl. 251-218.
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- McGee, Bernard F. Depositories. 3,078,789, 2-26-63, Cl. 101-66.
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- McGee, Howard A., to United Electrodynamics, Inc. Stepping switch. 3,086,096, 4-16-63, Cl. 200-105.
- McGee, Hugh T., to Applied Power Industries, Inc. Hydraulic reciprocatory device. 3,115,751, 12-31-63, Cl. 60-52.
- McGee, James D., P. Muff, and J. W. Saunders, to Electric and Musical Industries Ltd. Electron multiplying devices and circuit arrangements therefor. 3,109,957, 11-5-63, Cl. 315-15.
- McGee, Jerry V., to Smith Industries International Inc. Grafting clamp. 3,106,271, 10-8-63, Cl. 189-84.
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- McGill, Chester T. Automatic flow control means for liquid treating apparatus. 3,092,574, 6-4-63, Cl. 210-130.
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- McGraw, Leslie D., and J. L. Stockdale, to Shuron Optical Co. Process for coating titanium articles. 3,075,896, 1-29-63, Cl. 204—37.
- McGraw, Woodrow W., to Allied Chemical Corp. Dual wheel assembly for coal cutting machines. 3,079,201, 2-26-63, Cl. 301—36.
- McGray, Harold E., and L. B. Paden, to Cabot Corp. Unitary air cleaner and flame arrester. 3,094,978, 6-25-63, Cl. 126—85.
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Lewis, Harry S., and McGuirk. 3,109,074.
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- McHenry, Thomas F., to Barnes Engineering Co. Calibration system. 3,115,030, 12-24-63, Cl. 73—1.
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- McIvaine, Oran T., to Energy Controls, Inc. Humidity indicating device. 3,077,774, 2-19-63, Cl. 73—336.5.
- McIvaine, Robert L., to Herbert Simpson Corp. Gas cleaner. 3,077,714, 2-19-63, Cl. 55—238.
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- McKee, Allan W., Jr., to Armstrong Cork Co. Method of preparing particles of thermoplastic composition. 3,101,241, 8-20-63, Cl. 18-47.5.
- McKee, Chester W. and H. D., to Welding Service, Inc. Electric control for carrier system. 3,089,432, 5-14-63, Cl. 104-88.
- McKee, Ernest M., Jr. Fence post construction. 3,109,629, 11-5-63, Cl. 256-59.
- McKee, Harry D.: *See*—
- McKee, Chester W. and H. D. 3,089,432.
- McKee, Henry O.: *See*—
- Fowler, Aubrey A., Jr., and McKee. 3,092,155.
- Fowler, Aubrey A., Jr., and McKee. 3,107,396.
- McKee, John F., to Yarnall-Waring Co. Check valve. 3,109,444, 11-5-63, Cl. 137-332.
- McKee, Robert G. T driving means. 3,074,719, 1-22-63, Cl. 273-33.
- McKee, Samuel C., to Weyerhaeuser Co. Method of manufacturing chemical pulp from lignocellulose material. 3,088,861, 5-7-63, Cl. 162-86.
- McKee, William H., to United-Carr Fastener Corp. Electrical connector. 3,115,379, 12-24-63, Cl. 339-47.
- McKee, William H., and L. B. Johnson, to United-Carr Fastener Corp. Closed-entry contact. 3,078,439, 2-19-63, Cl. 339-217.
- McKeegan, Richard G. Foam dispensing attachment for scrubbing machines. 3,075,540, 1-29-63, Cl. 137-312.
- McKeegan, Warren J., to Minneapolis-Honeywell Regulator Co. Recorder ink supply. 3,102,770, 9-3-63, Cl. 346-140.
- McKegney, Edgar L., and S. Ilyckyj, to Esso Research and Engineering Co. Oil composition having low pour point. 3,087,894, 4-30-63, Cl. 252-56.
- McKellar, Malcolm R., to General Motors Corp. Engine with side reservoir oil pan. 3,106,263, 10-8-63, Cl. 184-106.
- McKelvey, Harold E., to Pittsburgh Plate Glass Co. Molds for bending glass sheets. 3,092,482, 6-4-63, Cl. 65-291.
- McKelvey, John B.: *See*—
- Berni, Ralph J., McKelvey, and Benerito. 3,079,214.
- McKelvey, Richard B.: *See*—
- Cook, Walter L., and McKelvey. 3,092,360.
- McKelvy, Neville C.: *See*—
- Black, Du Wayne G., McKelvy, and George. 3,107,819.
- McKenna, Frederic W., to American Air Filter Co., Inc. Apparatus for humidifying an air stream. 3,096,817, 7-9-63, Cl. 165-60.
- McKenna, Jack G., to Mormac Mfg. Co., Inc. Adjustable sheave assembly. 3,113,467, 12-10-63, Cl. 74-242.14.
- McKenney, Ralph W.: *See*—
- MacDonald, Frederick W. 3,089,702.
- McKenzie, Archibald M. Self cleaning ash tray. 3,095,108, 6-25-63, Cl. 220-20.5.
- McKenzie, Edwin C., to Babcock & Wilcox, Ltd. Unitary Y-jet spray head assembly. 3,072,344, 1-8-63, Cl. 239-425.
- McKenzie, Robert D., to United Aircraft Corp. High temperature valve. 3,101,094, 8-20-63, Cl. 137-340.
- McKenzie, Roger W.: *See*—
- Giger, Adolph J., Haury, McKenzie, and Staehler. 3,109,997.
- McKenzie, Paul J., ½ to Dr. D. Catalano. Flat bed trailer clearance lights. 3,112,888, 12-3-63, Cl. 240-8.3.
- McKenzie, Theodore R.: *See*—
- Pollock, Charles W., and McKenzie. 3,112,275.
- McKenzie, Thomas, and W. C. Ridley. Washing of casein. 3,075,533, 1-29-63, Cl. 134-130.
- McKenzie, William G.: *See*—
- Hathaway, Robert K., McKenzie, and Seils. 3,083,832.
- McKenzie, William G., to Walker Mfg. Co. Plastic fitting with metallic tubing gripping element. 3,104,899, 9-24-63, Cl. 285-343.
- McKenzie, William G., to Walker Mfg. Co. Forced feed dispensing system. 3,115,282, 12-24-63, Cl. 222-318.
- McKeon Edwin M.: *See*—
- Naab, George A., and McKeon. 3,110,376.
- McKeon, William D.: *See*—
- Charron, Antonio P., and McKeon. 3,075,211.
- McKeown, Patrick J., to Sperry Rand Corp., Ford Instrument Co. Division. External pulse source target restituter. 3,112,484, 11-26-63, Cl. 343-112.
- McKernan, Edward J.: *See*—
- Braun, Harry L. and A. R. 3,085,753.
- McKewen, John L.: *See*—
- Cummings, Harry B., Drenning, McKewen, and Morgret. 3,109,720.
- McKibben, Horace E., and P. F. Jones, to Blueberry Equipment, Inc. Machine for packaging loose articles such as blueberries. 3,099,115, 7-30-63, Cl. 53-67.
- McKibbin, J. R.: *See*—
- Kelling, Charles B. 3,078,952.
- McKie, Robert T. Automatic switchover coupling for water systems. 3,080,880, 3-12-63, Cl. 137-113.
- McKiernan, Charles J.: *See*—
- Gibbs, Joe W., McKiernan, and Davis. 3,107,930.
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- McKimmy, Henry L.: *See*—
- Oliver, Kenneth R., Jr., and McKimmy. 3,107,523.



- McKinlay, Don E. Locking type safety breech plug for firearms. 3,089,272, 5-14-63, Cl. 42-1.
- McKinley, Donald E. Adjustable ladder base. 3,086,612, 4-23-63, Cl. 182-200.
- McKinley, Earl W.: *See*—  
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- McKinley, William. Interchangeable turnable heels. 3,087,264, 4-30-63, Cl. 36-35.
- McKinley, William. Interchangeable turnable heels. 3,087,265, 4-30-63, Cl. 36-35.
- McKinney, Alfred H., to E. I. du Pont de Nemours and Co. Textile filaments. 3,097,416, 7-16-63, Cl. 28-82.
- McKinney, Alfred H., and H. E. Stanley, to E. I. du Pont de Nemours and Co. Tetralobal cross-sectioned filaments. 3,109,220, 11-5-63, Cl. 139-420.
- McKinney, Aubrey R., to Standard Oil Co. Purification of DMT by filtration. 3,108,132, 10-22-63, Cl. 260-475.
- McKinney, Charles H. Skewer holder. 3,104,605, 9-24-63, Cl. 99-421.
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- McKinney Mfg. Co.: *See*—  
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- McKinney, Michael J. Combination wall storage sliding doors and frame. 3,100,916, 8-20-63, Cl. 20-19.
- McKinney, Ralph E., to Hoover Ball and Bearing Co. Bin closure assembly. 3,104,035, 9-17-63, Cl. 222-185.
- McKinnie, Roston C. Combination step-extension ladder with an adjustable pail shelf. 3,111,193, 11-19-63, Cl. 182-22.
- McKinnis, Art C., to Collier Carbon and Chemical Corp. Polymerization of olefines with a group Va or Via metal oxide-aluminum trialkyl-alkanol catalyst. 3,081,286, 3-12-63, Cl. 260-937.
- McKinnis, Art C., to Union Oil Co. of California. Solvent extraction method. 3,082,270, 3-19-63, Cl. 260-674.
- McKinnis, Art C., to Union Oil Co. of California. Recovery of naphthalenic hydrocarbons. 3,109,039, 10-29-63, Cl. 260-674.
- McKinnis, Art C., and D. L. Flint, to Union Oil Co. of California. Azeotropic distillation process. 3,114,679, 12-17-63, Cl. 202-42.
- McKinnis, Art C., and I. D. Webb, to Union Oil Co. of California. Azeotropic distillation method. 3,114,680, 12-17-63, Cl. 202-42.
- McKinnon, Robert B. Control device for cranes. 3,084,805, 4-9-63, Cl. 212-21.
- McKinnon, Roy A., to Thompson Ramo Wooldridge Inc. Rocket engine. 3,084,504, 4-9-63, Cl. 60-35.6.
- McKinnon, Roy A., and H. P. Smreker, to Thompson Ramo Wooldridge Inc. Dual thrust rocket engine. 3,088,274, 5-7-63, Cl. 60-35.6.
- McKinsey, Charles R., to Union Carbide Corp. Process for heat treating titanium-copper alloy. 3,078,199, 2-19-63, Cl. 148-133.
- McKinstry, William S. Cleaning tool with rotatable cleaning implements mounting head. 3,115,656, 12-31-63, Cl. 15-115.
- McKirdy, Elizabeth C.: *See*—  
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- McKirdy, Robert W.,  $\frac{1}{2}$  to J. W. Schmidt,  $\frac{1}{2}$  to R. W. McKirdy, and E. C. McKirdy, as joint tenants. Extensible electric conduit. 3,100,240, 86-63, Cl. 174-69.
- McKittrick, Herbert E. Pipe organ servicing apparatus. 3,083,608, 4-2-63, Cl. 84-456.
- McKnight, Harry F., and J. Noble. Lock and magnetic release device. 3,095,723, 7-2-63, Cl. 70-69.
- McKnight, Robert J.: *See*—  
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- McKnight, William B., L. N. McClusky, and R. D. Cleven, to United States of America, Army. Nutational scanning mirror. 3,071,036, 1-1-63, Cl. 88-1.
- McLagan, Russell G., to McGraw-Edison Co. Proportional measuring timer. 3,108,798, 10-29-63, Cl. 270-81.
- McLain, George A.: *See*—  
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- McManus, James M., and McLamore. 3,102,882.
- McLamore, William M., and G. D. Laubach, to Chas. Pfizer & Co., Inc. Derivatives of 3,6-disubstituted-7-sulfamylbenzothiadiazine dioxides. 3,110,716, 11-12-63, Cl. 260-243.
- McLamore, William M., and G. D. Laubach, to Chas. Pfizer & Co., Inc. Derivatives of 3,4-dihydrobenzothiadiazine dioxides. 3,111,517, 11-19-63, Cl. 260-243.
- McLane, Martin M., to Monsanto Chemical Co. Sodium cyanide production. 3,079,239, 2-26-63, Cl. 23-230.
- McLane, Stanley R.: *See*—  
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- McLarn, William D.: *See*—  
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- McLarnon, Thomas J., J. B. Stark, and C. O. Sutton, to Foremost Dairies, Inc. Photographic recording apparatus. 3,101,232, 8-20-63, Cl. 346-107.
- McLarty, Frank W. Amphibious vehicles. 3,099,977, 8-6-63, Cl. 115-1.
- McLaughlan, A. B., Co., Inc.: *See*—  
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- McLaughlan, James C. Sweat cooled articles. 3,103,885, 9-17-63, Cl. 102-49.
- McLaughlan, Robert D., to A. B. McLaughlan Co., Inc. Automatic filling and weighing device for successive containers. 3,095,055, 6-25-63, Cl. 177-53.
- McLaughlin Co., The: *See*—  
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- McLaughlin, Donal, Jr. Rubber stamp. 3,096,713, 7-9-63, Cl. 101-379.
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- McLaughlin, Frank L., to Container Corp. of America. Interlocking container and cover arrangement. 3,077,284, 2-12-63, Cl. 220-60.
- McLaughlin, George F. Aseptic milk shake product and method of producing same. 3,084,052, 4-2-63, Cl. 99-189.
- McLaughlin, James A. Mowing machine. 3,077,718, 2-19-63, Cl. 56-25.4.
- McLaughlin, James H., to Lever Brothers Co. Dispensing device. 3,079,944, 3-5-63, Cl. 137-453.
- McLaughlin, John J., to The Wilkie Co. Deflector mechanism. 3,093,236, 6-11-63, Cl. 198-185.
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- McLaughlin, John W., to Eitel-McCullough, Inc. Interdigital line magnetron. 3,084,280, 4-2-63, Cl. 315-39.73.
- McLaughlin, Ray: *See*—  
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- McLaughlin, Robert W.: *See*—  
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- McLaughlin, Samuel C., Jr. Strabismus therapy device. 3,082,763, 3-26-63, Cl. 128-76.5.
- McLaughlin, William I. Vapor separator and filter for compressed air. 3,093,467, 6-11-63, Cl. 55-218.
- McLaughlin, William J., to Huyck Corp. Papermakers felts and method of making them. 3,093,880, 6-18-63, Cl. 28-72.2.
- McLaughlin, William R., to Picker X-ray Corp., Waite Mfg. Division, Inc. X-ray tube protection mechanism. 3,094,618, 6-18-63, Cl. 250-93.
- McLaurin, Colin A., to Northwestern University. Hip joint. 3,090,964, 5-28-63, Cl. 3-15.
- McLay, Gavin S. Flexible couplings. 3,084,524, 4-9-63, Cl. 64-14.
- McLean, Bob N., to Santa Barbara Research Center. Composite infrared radiation detector. 3,082,392, 3-19-63, Cl. 338-18.
- McLean, David A., to Bell Telephone Laboratories, Inc. Film-forming metal capacitors. 3,079,536, 2-26-63, Cl. 317-230.
- McLean, Donald, N. H. Kent, and T. Steel, to Rolls-Royce Ltd. Gas turbine engine having adjustable guide vanes. 3,095,010, 6-25-63, Cl. 137-601.
- McLean, Douglas K., to Harvest Queen Mill & Elevator Co. Pipeline coating thickness control. 3,079,888, 3-5-63, Cl. 118-7.
- McLean, Douglas K., to Harvest Queen Mill & Elevator Co. Apparatus for pipeline treatment with contaminant-free fluid. 3,104,671, 9-24-63, Cl. 134-168.
- McLean, Douglas K., to Harvest Queen Mill & Elevator Co. Pipeline access joint assembly. 3,107,380, 10-22-63, Cl. 15-104.6.
- McLean, Edward S.: *See*—  
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- McLean, Edward S., to Speakman Co. Removable valve head and seat unit. 3,082,786, 3-26-63, Cl. 137-454.5.
- McLean Engineering Laboratories: *See*—  
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- McLean, George S., to The Polymer Corp. Device for masking and supporting an article. 3,099,583, 7-30-63, Cl. 118-505.
- McLean, I. William, Jr., and F. W. Trader, Jr., to Parke, Davis & Co. Vaccine products and method of preparing same. 3,100,178, 8-6-63, Cl. 167-78.
- McLean, I. William, Jr., and W. A. Rightsel, to Parke, Davis & Co. Antigens and process of producing same. 3,105,011, 9-24-63, Cl. 167-78.
- McLean, John D.: *See*—  
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- McLean, Melville J.: *See*—  
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- McLean, Philip S. Garment hangers with self-adjusting garment holding means. 3,115,995, 12-31-63, Cl. 223-91.
- McLean, Robert E., W. A. Chappell, and J. E. Briar, to J. C. Hockery, trustee for H. J. and F. L. Talge. Power operated can opener. 3,078,568, 2-26-63, Cl. 30-4.
- McLean, Robert K.: *See*—  
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- McLean, Ronald L., to Lord Mfg. Co. Temperature compensated viscous damper. 3,107,752, 10-22-63, Cl. 188-87.
- McLean, Wayne W. Buoyancy apparatus. 3,084,358, 4-9-63, Cl. 9-337.
- McLellan, Kenneth M., to Midland-Ross Corp. Method for the manufacture of novelty yarn. 3,109,279, 11-5-63, Cl. 57-157.
- McLennan, Peter J. Shoe cleaner. 3,109,188, 11-5-63, Cl. 15-3.
- McLeod, Hector B. Regulating valve. 3,098,501, 7-23-63, Cl. 137-505.1.
- McLeod, Lloyd A.: *See*—  
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- McLeod, Stewart B., to Duras Corp. Fluid pressure control. 3,106,064, 10-8-63, Cl. 60-52.
- McLeod, Willard W., Jr., to Raytheon Co. Feedback system for reed modulated magnetrons. 3,087,124, 4-23-63, Cl. 332-16.
- McLeod, Willard W., Jr., to Raytheon Co. Antenna systems. 3,096,515, 7-2-63, Cl. 343-9.
- McLucas, John L.: *See*—  
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- McLyman, Kenneth A.: *See*—  
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- McMackin, Edwin E.: *See*—  
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- McMackin, John J., and M. J. Paruolo, to Brockway Glass Co., Inc. Light collecting apparatus for photosensitive device. 3,092,728, 6-4-63, Cl. 250-239.
- McMackin, Robert E. and E. E. Shot hole pole and coupling. 3,075,424, 1-29-63, Cl. 86-21.
- McMackin, Luther V., to The Springs Cotton Mills. Continuous peroxide bleaching of cross linked cellulose fabrics. 3,104,152, 9-17-63, Cl. 8-111.
- McMahon, Howard O., to Kalvar Corp. Photo-thermolytical vesicular composition. 3,108,872, 10-29-63, Cl. 96-91.
- McMahon, Howard O., and A. E. Slade, to Arthur D. Little, Inc. Superconductive data processing devices. 3,106,648, 10-8-63, Cl. 307-88.5.
- McMahon, James M.: *See*—  
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- McMahon, John F., Jr., and J. R. Fahey, to Philco Corp. Method of making glass to metal seal. 3,088,299, 5-7-63, Cl. 65-49.
- McMahon, Joseph F., G. P. Jamieson, and H. Ozkardes, to The M. W. Kellogg Co. Oil feed system for fluid catalytic cracking unit. 3,071,540, 1-1-63, Cl. 208-163.
- McMahon, Martin E., to Phillips Petroleum Co. Waste disposal method and apparatus. 3,084,107, 4-2-63, Cl. 202-48.
- McManama, Charles E. Band-saw machine. 3,115,909, 12-31-63, Cl. 143-19.
- McManus, Albert T., to United States Rubber Co. Pneumatic member. 3,076,564, 2-5-63, Cl. 214-10.5.
- McManus, James M., to Chas. Pfizer & Co., Inc. Novel N-morpholinesulfonyl ureas. 3,108,098, 10-22-63, Cl. 260-247.1.
- McManus, James M., and W. M. McLamore, to Chas. Pfizer & Co., Inc. Derivatives of 3,4-dihydro-1,2,4-benzothiadiazine-1,1-dioxide. 3,102,882, 9-3-63, Cl. 260-243.
- McManus, Richard O.: *See*—  
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- McManus, Robert P. Frequency diversity system. 3,114,106, 12-10-63, Cl. 325-56.
- McMaster, Archie J., to G-M Laboratories Inc. Floor cleaning and polishing machine. 3,072,941, 1-15-63, Cl. 15-98.
- McMaster, Archie J., and K. M. Maierhofer, to G-M Laboratories, Inc. Automatic slide projector. 3,079,840, 3-5-63, Cl. 88-28.
- McMaster, Clarence O., to Minnesota Mining and Mfg. Co. Developer. 3,076,752, 2-5-63, Cl. 204-18.
- McMaster, Elmer L.: *See*—  
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- McMaster, John B., to California Research Corp. Process for the manufacture of polybutenes. 3,073,876, 1-15-63, Cl. 260-683.15.
- McMath, Marl, and C. R. Sims, to The Cincinnati Butchers' Supply Co. Electric stunner for livestock. 3,110,925, 11-19-63, Cl. 17-1.
- McMath, Robert R., to United Aircraft Corp. Sump tank including pump. 3,082,784, 3-26-63, Cl. 137-207.
- McMichael, John D., to General Motors Corp. Fuel tank strainer. 3,108,065, 10-22-63, Cl. 210-172.
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- McMillan, Donald, and C. C. Quarles, to E. I. du Pont de Nemours and Co. Preparation of hydrogen fluoride. 3,102,787, 9-3-63, Cl. 23-153.
- McMillan, Peter W., and B. P. Hodgson, to The English Electric Co. Ltd. Electrically conductive glasses. 3,093,598, 6-11-63, Cl. 252-521.
- McMillan, Stephen L., to General Electric Co. Brake mechanism for washing machine. 3,100,030, 8-6-63, Cl. 188-68.
- McMillan, Stewart H.: *See*—  
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- McMillen, George H., to Morgan Construction Co. Oil cleaning apparatus. 3,109,811, 11-5-63, Cl. 210-172.
- McMillen, Jack W., Jr., and G. E. Rhodes, to Westinghouse Electric Corp. Bus bar apparatus and supporting means. 3,097,259, 7-9-63, Cl. 174-153.
- McMillan, Lonnie S., Jr., and W. T. Eddins, to Radiation Inc. Broken ring counter circuit with internal pulse reset means. 3,100,850, 8-13-63, Cl. 307-88.5.
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- McMordie, Warren C., Jr., and G. J. Petrovich, Jr., to General Dynamics Corp. Reclamation of hydraulic fluid. 3,098,826, 7-23-63, Cl. 252-78.
- McMullen, Bryce H.: *See*—  
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- McMullen, John J., Associates, Inc.: *See*—  
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- Ripley, Kenneth C. 3,083,671.
- Ripley, Kenneth C. 3,083,672.
- Ripley, Kenneth C. 3,083,673.
- Ripley, Kenneth C. 3,083,674.
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- McMullin, Earl L. Telescoping pole. 3,103,375, 9-10-63, Cl. 287-58.
- McMurray, Eugene C.: *See*—  
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- McMurray, Eugene C., and R. C. Schniers, to General Motors Corp. Vehicle speed warning and cruise control system. 3,109,507, 11-5-63, Cl. 180-82.1.
- McMurray, George F.: *See*—  
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- McMurray, Herman J., to said H. J. McMurray and N. B. McMurray. Ear tag pliers. 3,091,770, 6-4-63, Cl. 1-220.
- McMurray, Neva B.: *See*—  
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- McMurray, Paul H., and J. M. Haggard, to A. O. Smith Harvestore Products, Inc. Farrowing pen construction. 3,084,668, 4-9-63, Cl. 119-20.
- McMurray, Paul H. Farrowing pen. 3,106,188, 10-8-63, Cl. 119-20.
- McMurry, Marshall, and L. C. Labbe. Conformable, reinforced, soft base denture. 3,083,459, 4-2-63, Cl. 32-2.
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- McNabb, George C. to The Foxboro Co. Split flow gas analysis detector. 3,084,536, 4-9-63, Cl. 73-27.
- McNabb, Robert W., and H. L. Dahlstrom, to Walker Mfg. Co. Filter. 3,116,245, 12-31-63, Cl. 210-508.
- McNair, Melvin L. Cultivator. 3,080,004, 3-5-63, Cl. 172-587.
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- Meese, Heinz G.: *See*—  
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- Melli, Otto, and J. Raschle, to Heberlein Patent Corp. Yarn twisting apparatus. 3,103,097, 9-10-63, Cl. 57-77.4.
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- Meimberg, Julius. Process and apparatus for spinning fibrous materials. 3,107,477, 10-22-63, Cl. 57-50.
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- Meister, Heinrich, to Baxter Laboratories, Inc. Liquid chill proofing composition. 3,095,358, 6-25-63, Cl. 195-63.
- Meister, Jack B., to Monroe Calculating Machine Co. Read-out and recording apparatus. 3,106,340, 10-8-63, Cl. 235-60.27.
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- Mekjean, Matthew, to Hooker Chemical Corp. Salt bath for electrolytic cleaning of metals. 3,096,261, 7-2-63, Cl. 204-141.
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- Meletti, Adolph, to Vacuum Cleaner Corp. of America. Cord reel. 3,093,341, 6-11-63, Cl. 242-107.
- Melhart, Leonard J. Capacitor discharging device. 3,097,256, 7-9-63, Cl. 174-5.
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- Melikian, Vaughn W. Fruit drying tray. 3,097,077, 7-9-63, Cl. 34-93.
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- Mell, Jack R. Display package. 3,089,590, 5-14-63, Cl. 206-78.
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- Mellin, L. H., Inc.: See—
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- Mellinger, Ernest F., to Ryan Aeronautical Co. Brazing and heat treating apparatus for honeycomb core panels. 3,087,046, 4-23-63, Cl. 219-85.
- Mello, William. Modified pump for viscous material. 3,113,525, 12-10-63, Cl. 103-126.
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- Mellott, Robert N., and A. D. Scarbrough, to Thompson Ramo Wooldridge Inc. Timing signal generator. 3,080,487, 3-5-63, Cl. 307-88.5.
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- Mellowes, Charles N., to Positive Lock Washer Co. Apparatus for producing lock washers. 3,086,228, 4-23-63, Cl. 10-73.
- Melloy, George F.: *See*—Epstein, Samuel, Frame, and Melloy. 3,076,361.
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- Melnick, Daniel: *See*—Josefowicz, Edmund L., and Melnick. 3,094,420.
- Melnikoff, Zachery. Reservoir seal for semi-fluid materials. 3,115,270, 12-24-63, Cl. 220-60.
- Melnor Industries, Inc.: *See*—Rinkewich, Isaac. 3,081,950.
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- Melton, Donald F., and H. E. Froehlich, to General Mills, Inc. Underwater vehicle system. 3,099,913, 8-6-63, Cl. 61-69.
- Melton, James F., to Alto Scientific Co., Inc. Temperature sensor. 3,085,216, 4-9-63, Cl. 338-28.
- Melton, James O., and T. B. Wilkinson, to Jamco, Inc. Pivotal bearing assembly for connecting two relatively moving members. 3,072,448, 1-8-63, Cl. 308-238.
- Melton, James O., and I. M. Carpenter, to The Geograph Co. Device for compensating for temperature changes in a hydraulic system. 3,074,272, 1-22-63, Cl. 73-141.
- Melton, James O., and T. B. Wilkinson. Ball joint assembly. 3,079,183, 2-26-63, Cl. 287-90.
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- Melton, James O., and T. B. Wilkinson. Bearing assembly for connecting two relatively moving members. 3,088,784, 5-7-63, Cl. 308-72.
- Melton, James O., and I. M. Carpenter, to The Geograph Co. Automatic control device for drilling apparatus. 3,104,864, 9-24-63, Cl. 254-173.
- Melton, Thomas M., to Virginia-Carolina Chemical Corp. S,S-dipropyl O-methyl phosphorodithioite. 3,095,439, 6-25-63, Cl. 260-461.
- Meltzer, Henry E., to Master Appliance Corp. Heat blow gun with scraper. 3,109,083, 10-29-63, Cl. 219-39.
- Meltzer, Henry E. Heat blow gun. 3,115,557, 12-24-63, Cl. 219-39.
- Meltzer, Jacques: *See*—Koopmans, Martinus J., Meltzer, Hutsman, van den Bos, Wellinga, and Schoot. 3,111,526.
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- Meltzer, Jacques, K. Wellinga, and B. G. van den Bos, to North American Philips Co., Inc. Certain phosphorus ester derivatives of 3-aminotriazole. 3,111,525, 11-19-63, Cl. 260-308.
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- Meltzer, Robert I., to Warner-Lambert Pharmaceutical Co. Process of preparing diiodinated analogs of thyronine. 3,102,136, 8-27-63, Cl. 260-519.
- Meltzer, Robert I., and W. B. Lutz, to Warner-Lambert Pharmaceutical Co. Polyalkyl substituted-4-guanido-piperidines. 3,072,663, 1-8-63, Cl. 260-293.
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- Meltzer, Robert I., and W. B. Lutz, to Warner-Lambert Pharmaceutical Co. 1,4-bis (tetramethyl-4-hydroxy-4-piperidyl) butadiene. 3,072,668, 1-8-63, Cl. 260-294.7.
- Meltzer, Robert I., and W. B. Lutz, to Warner-Lambert Pharmaceutical Co. 1,6-bis(2,2,6,6-tetramethylpiperidino)-2,4-hexadiene. 3,085,093, 4-9-63, Cl. 260-293.
- Meltzer, Robert I., and W. B. Lutz, to Warner-Lambert Pharmaceutical Co. 1,4-bis(polyalkyl substituted-4-hydroxy-4-piperidyl) butanes. 3,086,022, 4-16-63, Cl. 260-294.7.
- Meltzer, Robert I., and R. J. Stanaback, to Warner-Lambert Pharmaceutical Co. Method of preparing thyroxine and its analogs. 3,109,024, 10-29-63, Cl. 260-519.
- Meltzer, Robert J., to Bausch & Lomb Inc. Contour projector with means for adjusting the viewing angle. 3,099,185, 7-30-63, Cl. 88-24.
- Melville, John W.: *See*—Eichorn, Roger H., and Melville. 3,100,111.
- Melville, Wilbur J. Control means for registration control device. 3,084,579, 4-9-63, Cl. 83-74.
- Melvin, Fred J., and M. P. Haverstick, to National Rejectioners Inc. Coin-actuated devices. 3,082,852, 3-26-63, Cl. 194-10.
- Melvin, James M.: *See*—Hoose, Francis D., and Melvin. 3,091,345.
- Melvin, John R., to The Brush Beryllium Co. Method for trepanning tapered metal shapes. 3,109,232, 11-5-63, Cl. 29-413.
- Melvin, Myron F. Variable resistor. 3,090,024, 5-14-63, Cl. 338-170.
- Melvin, Paul A., and H. L. Wallin; said Wallin assor. to said Melvin. Adjustable portable strike-off. 3,095,789, 7-2-63, Cl. 94-45.
- Melzer, Julius F. Heating method and apparatus. 3,094,280, 6-18-63, Cl. 236-93.
- Membrino, Herman. Container forming mechanism and process. 3,111,063, 11-19-63, Cl. 93-8.
- Memelink, Oscar W., to North American Philips Co., Inc. P-I-N semiconductor device having negative differential resistance properties. 3,081,404, 3-12-63, Cl. 307-88.5.
- Memering, Leroy J.: *See*—Einborn, Stanley C., and Memering. 3,114,722.
- Menasco Mfg. Co.: *See*—Selikson, Nathan. 3,100,108.
- Mench, John W.: *See*—Malm, Carl J., Fulkerson, and Mench. 3,103,506.
- Mench, John W., and B. Fulkerson, to Eastman Kodak Co. Process for preparing nitrogen-containing cellulose derivatives. 3,089,870, 5-14-63, Cl. 260-226.
- Mendels, Irwin J. Copyholder attachment. 3,081,739, 3-19-63, Cl. 120-33.
- Mendels, Irwin J. Copyholder. 3,089,464, 5-14-63, Cl. 120-33.
- Mendelsohn, Bernard E. Storm window. 3,080,620, 3-12-63, Cl. 20-55.
- Mendelsohn, Bernard E. Storm window. 3,080,621, 3-12-63, Cl. 20-55.
- Mendelsohn, Bernard E. Storm sash. 3,080,622, 3-12-63, Cl. 20-55.
- Mendelsohn, Bernard E. Storm window. 3,081,503, 3-19-63, Cl. 20-52.2.
- Mendelsohn, Bernard E. Window frame for storm sash. 3,081,852, 3-19-63, Cl. 189-75.
- Mendelsohn, Meyer: *See*—Yardney, Michel N., and Mendelsohn. 3,087,861.
- Mendelsohn, Meyer, to Yardney International Corp. Metal polyvinylpyrrolidone compound and process for preparing same. 3,082,193, 3-19-63, Cl. 260-88.3.
- Mendelsohn, Meyer, and C. Horowitz, to Yardney International Corp. Antimicrobial treatment of organic materials and composition therefor. 3,079,213, 2-26-63, Cl. 8-115.5.
- Mendelsohn, Meyer, and C. Horowitz, to Yardney International Corp. Antimicrobial composition and process for applying same. 3,087,774, 4-30-63, Cl. 8-115.5.
- Mendelsohn, Meyer, and C. Horowitz, to Yardney International Corp. Method of dyeing with polyvinyl alcohol ester and quaternary ammonium compounds. 3,104,933, 9-24-63, Cl. 8-85.
- Mendelsohn, Robert A.: *See*—Wagner, Charles E., and Mendelsohn. 3,099,433.
- Mendelson, Emanuel S. Ear plug. 3,110,356, 11-12-63, Cl. 181-23.
- Mendelson, Hans, and C. I. Tighe, Jr., to Radio Corp. of America. Portable radio receiver casing and battery holder means. 3,071,639, 1-1-63, Cl. 136-173.
- Mendenhall, Charles A.: *See*—Hood, Edwin E., and Mendenhall. 3,090,247.
- Mendez Llamozas, Juan D. High pressure ejection impeller. 3,098,354, 7-23-63, Cl. 60-35.54.
- Mendiola, Emilio S. Washers in predetermined form made of plastic for screw caps for bottles and containers. 3,079,023, 2-26-63, Cl. 215-40.
- Mendus, Carl, Jr., to Silbrico Corp. Process for material abatement of odor arising from sewage effluent. 3,113,924, 12-10-63, Cl. 210-63.
- Menell, Hans: *See*—Beckadolph, Richard, Menell, and Niclas. 3,081,814.
- Menemotron Corp.: *See*—Clynes, Manfred E. 3,087,487.
- Meng, Karl H.: *See*—Brown, Winton, and Meng. 3,108,120.
- Mengani, Carl M.: *See*—Relis, Matthew J., and Mengani. 3,091,738.
- Menge, Carl. Plant guard and support. 3,088,245, 5-7-63, Cl. 47-47.



- Mengel, William F. Machine for spreading concrete and other road materials. 3,107,592, 10-22-63, Cl. 94-46.
- Mengelkamp, Richard A.: *See—*
- Grantham, Lloyd B. and Mengelkamp. 3,077,745.
- Menicanti, Adriano, to Ing. C. Olivetti & C., S.p.A. Type action for hand-operated typewriters. 3,073,428, 1-15-63, Cl. 197-27.
- Menk, Melvin A., to General Motors Corp. Timer controlled clothes dryer. 3,071,864, 1-8-63, Cl. 34-45.
- Menkart, John H., and R. S. Allan, to Chemical Development of Canada, Ltd. Readily dissolving cellulose derivatives and process therefor. 3,072,635, 1-8-63, Cl. 260-232.
- Menke, John R., to United States of America, Atomic Energy Commission. Composite neutronic reactor. 3,093,563, 6-11-63, Cl. 204-193.2.
- Menke, Joseph F., to Eltro Gesellschaft fur Strahlungstechnik m.b.H. Electrical power source for rockets. 3,088,988, 5-7-63, Cl. 136-4.
- Menkin, Benjamin D.: *See—*
- Phinizy, Robert E., and Menkin. 3,073,995.
- Menn, Walter A.: *See—*
- Kress, George H., and Menn. 3,099,413.
- Mennell, Alton I. Fireplace log conserver. 3,110,342, 11-12-63, Cl. 158-12.
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- Gonnella, Carmen J., and Marchant. 3,095,598.
- Mennen, Frederick C., to American Home Products Corp. Apparatus for shaping metal foil. 3,110,233, 11-12-63, Cl. 93-84.
- Mennesson, André L., to Societe Industrielle de Brevets et d'Etudes S.I.B.E. Carburetors comprising an auxiliary device to increase the fuel feed for cold starting conditions. 3,109,874, 11-5-63, Cl. 261-39.
- Mennesson, Bernard R., to The Societe d'Appareils de Controle et d'Equipement des Moteurs (S.A.C.E.M.). Internal combustion engines protected against transmission of radio interferences, in particular for lightweight vehicles. 3,100,480, 8-13-63, Cl. 123-148.
- Mennie, Cecil A., 20% to J. L. Roche, 10% to H. I. Shealey, 5% to A. M. Healey, and 10% to S. McGuinness. Sound reproducing device. 3,073,605, 1-15-63, Cl. 274-25.
- Mennitt, Joseph L., to Owens-Illinois Glass Co. Apparatus for supporting and cutting semiplastic bodies. 3,088,186, 5-7-63, Cl. 25-112.
- Meno, Stanley J. Quick release anchor. 3,071,096, 1-1-63, Cl. 114-208.
- Menolasino, Dominic: *See—*
- Menolasino, Nicholas J. and D. 3,115,992.
- Menolasino, Nicholas J. and D., ¼ to A. S. Belcove and ¼ to S. Santow. Disc dispenser. 3,115,992, 12-31-63, Cl. 221-264.
- Menoret, Yves, and R. Gautheret, to Societe en nom collectif Pernod & Ricard. Apparatus for storing fermentable liquids. 3,094,060, 6-18-63, Cl. 99-269.
- Mense, Inc.: *See—*
- Younger, Joy M. 3,098,484.
- Mensforth, Thomas. Single-phase or like alternating current electric motors. 3,082,365, 8-19-63, Cl. 318-244.
- Mentel, Raymond, and A. W. Curtis, to International Radiant Corp. Gas-fueled infrared generator. 3,084,736, 4-9-63, Cl. 158-114.
- Menter, Daniel J.: *See—*
- Conti, Alfred R., and Menter. 3,102,326.
- Mentink, John P.: *See—*
- Manning, Edward V., and Mentink. 3,106,057.
- Mention, Maurice, to Les Usines de Melle (Societe Anonyme). Process for separating mixtures containing carbonyl compounds and corresponding alcohols. 3,073,752, 1-15-63, Cl. 202-42.
- Mentzer, Charles R., to AMP Inc. Crimping machine. 3,091,275, 5-28-63, Cl. 153-1.
- Mentzer, Everett K., and E. C. Webb, to The Cleveland Trust Co. Bowling game apparatus. 3,091,457, 5-28-63, Cl. 273-54.
- Mentzer, Robert E., to Philco Corp. Electrical apparatus. 3,084,287, 4-2-63, Cl. 200-122.
- Menuhin, Yehudi, and E. M. Goldberger. Violin with chin rest. 3,090,275, 5-21-63, Cl. 84-279.
- Menz, Charles N., and J. B. Clancy, to The Bendix Corp. Feeding mechanism calendaring machine. 3,074,105, 1-22-63, Cl. 18-9.
- Menz, Lothar: *See—*
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- Menzel, Martin and K. H. Apparatus for the production of masts, tubes, columns and the like. 3,110,074, 11-12-63, Cl. 25-127.
- Menzel, Wolfgang A., to United States of America, Navy. Aerodynamic computer and method. 3,095,735, 7-2-63, Cl. 73-147.
- Menzl, Robert F., to Dr. A. Wander, S.A. Edible low calorie composition and process of production. 3,097,946, 7-16-63, Cl. 99-1.
- Meopta-Praha, narodni podnik: *See—*
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- Meranto, Samuel R. Automobile window screen. 3,085,621, 4-16-63, Cl. 160-91.
- Merbler, Rudolph, and C. Sroka. Spare wheel locking device. 3,081,924, 3-19-63, Cl. 224-42.24.
- Mercer, Frank B., to Plastic Textile Accessories Ltd. Extrusion of plastic sheeting or netting. 3,070,840, 1-1-63, Cl. 18-12.
- Mercer, George K., to Dunlop Rubber Co. Ltd. Automatic release hook assembly. 3,109,676, 11-5-63, Cl. 294-84.
- Mercer, George K., and D. Dewar, to Dunlop Rubber Co. Ltd. Quick-release device. 3,075,208, 1-29-63, Cl. 9-33.
- Mercer, Neil H., and R. J. Bequette, to Mead Johnson & Co. Bronchodilator expectorant composition containing theophylline and a guaiacol. 3,109,773, 11-5-63, Cl. 167-55.
- Mercer, Roy C., Sr. Clamp-on lubricating appliance. 3,101,812, 8-27-63, Cl. 184-105.
- Mercer, William R., to ACF Industries Inc. Pressure actuated closure assembly. 3,079,035, 2-26-63, Cl. 220-46.
- Mercer, William R., to Sanders Associates, Inc. Automatic range tracking radar system. 3,092,831, 6-4-63, Cl. 343-7.3.
- Merchant, Chester O., to Swanson-Erie Corp. Horizontal tube flaring machine. 3,077,095, 2-12-63, Cl. 65-177.
- Merchant, Donald R.: *See—*
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- Harbers, Henry C., and Merchant. 3,111,346.
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- Mercier, Jean. Piston accumulator. 3,074,437, 1-22-63, Cl. 138-31.
- Mercier, Jean. Pressure container. 3,077,208, 2-12-63, Cl. 138-30.
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- Mercier, Jean. Pressure vessels. 3,095,013, 6-25-63, Cl. 138-30.
- Mercier, Jean. Control valves. 3,100,508, 8-13-63, Cl. 137-625.66.
- Mercier, Jean. Pressure vessels. 3,109,458, 11-5-63, Cl. 138-30.
- Mercier, Jean. Bladder construction for pressure vessels. 3,113,592, 12-10-63, Cl. 138-30.
- Mercier, Pierre E., to Andre Citroen Societe Anonyme. Pumps, more particularly volumetric pumps. 3,099,223, 7-30-63, Cl. 103-161.
- Mercier, Robert M., Y. P. P. Mayor, and D. Bieselaar. Method of oxidizing ferrous salts into ferric salts in the presence of a gas containing free oxygen. 3,077,488, 2-12-63, Cl. 260-439.
- Merck & Co., Inc.: *See—*
- Baumgarten, Werner, and Cole. 3,107,203.
- Benzing, Walter C., Schaarschmidt, and Grammer. 3,112,997.
- Beyler, Roger E. 3,105,840.
- Bicking, John B. 3,097,210.
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- Brown, Horace D. 3,102,074.
- Brown, Horace D., Matzuk, and Sarett. 3,107,251.
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- Chamberlin, Earl M. 3,094,542.
- Chemerda, John M., and Erickson. 3,074,934.
- Chemerda, John M., and Hirschmann. 3,079,383.
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- Cope, Arthur C. 3,079,449.
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- Cutler, Frank A., Jr., and Chemerda. 3,116,290.
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- Grim, Wayne M. 3,113,073.
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- Hall, Victor C. 3,114,369.
- Hazen, George G., and Rosenberg. 3,094,543.
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- Hirschmann, Ralph F., and Patchett. 3,072,639.
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- Meredith, Frederick W., to S. Smith & Sons (England) Ltd. Automatic pilot for aircraft. 3,086,732, 4-23-63, Cl. 244-77.
- Meredith Publishing Co.: *See*—  
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- Merex Furniture Co. Ltd.: *See*—  
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- Mergy, James I.: *See*—  
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- Merian, Ernest, and O. Senn, to Sandoz Ltd. Process for the dyeing, padding and printing of hydrophobic fibers with indandione dyestuffs. 3,093,437, 6-11-63, Cl. 8-21.
- Merian, Ernest, and B. J. R. Nicolaus, to Sandoz Ltd. Monazo dyestuffs to the benzothiazol series. 3,105,829, 10-1-63, Cl. 260-158.
- Mericola, Francis C.: *See*—  
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- Merigold, Peter A., to Rank Precision Industries Ltd. Optical objectives. 3,099,701, 7-30-63, Cl. 88-57.
- Merit Product, Inc.: *See*—  
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- Meriwether, Henry R., Jr., C. A. Mewbourne, R. E. Warren, and A. E. Badger, to Libbey-Owens-Ford Glass Co. Method and apparatus for treating glass. 3,094,578, 6-18-63, Cl. 13-6.
- Meriwether, Lewis S., to American Cyanamid Co. Preparation of 4-aminopyrimidines. 3,113,945, 12-10-63, Cl. 260-256.4.
- Merk, Andrew W. Orchard platform. 3,085,650, 4-16-63, Cl. 182-63.
- Merkel, Ewald. Endless sealing ring. 3,112,933, 12-3-63, Cl. 277-229.
- Merkel, Karl, H.-U. Werner, and A. Palm, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of chlorinated isocyanuric acid. 3,073,823, 1-15-63, Cl. 260-248.
- Merker, Alfred H. Universal press. 3,100,438, 8-13-63, Cl. 100-214.
- Merker, Dwight R., to Swift & Co. Color improvement of peanut butter. 3,085,016, 4-9-63, Cl. 99-128.
- Merkle, Charles R. Feed dispenser. 3,099,980, 8-6-63, Cl. 119-57.
- Merkle, Georg, to Allwood Inc. Method and means for producing wood-composition panels. 3,071,805, 1-8-63, Cl. 18-4.
- Merkle, Ralph H., to General Motors Corp. Battery retainer means. Re. 25,480, 11-12-63, Cl. 180-68.5.
- Merkle, Theodore C., Jr.: *See*—  
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- Merkley, Thurman G., and R. H. Kruger. Water ski. 3,099,025, 7-30-63, Cl. 9-310.
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- Merlen, Monty M., to Barnes Engineering Co. Temperature and gain insensitive bi-stable transistor trigger circuit. 3,109,943, 11-5-63, Cl. 307-88.5.
- Merli, Bruno, and G. Jannuzzi, to Ing. C. Olivetti & C., S.p.A. Recording machine for a sheet record having two opposite recording faces. 3,093,436, 6-11-63, Cl. 346-125.
- Merlin, Philip: *See*—  
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- Merlub-Sobel, Menahem, to Curtiss-Wright Corp. Nuclear fuel compositions and method of making the same. 3,102,848, 9-3-63, Cl. 204-154.2.
- Merner, Kenneth E.: *See*—  
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- Merola, Alfred: *See*—  
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- Merriam, Charles N.: *See*—  
 Brown, Alexander, Merriam, and Miller. 3,078,139.
- Merriam, Charles N., and W. A. Miller, to Union Carbide Corp. Plastic fibers. 3,099,067, 7-30-63, Cl. 28-82.
- Merriam, Charles N., Jr.: *See*—  
 Miller, Walter A., and Merriam. 3,097,991.
- Merriam, Frank R., Jr., to Ford Motor Co. Alternator brush mounting means. 3,106,656, 10-8-63, Cl. 310-239.
- Merriam, Marshal F.: *See*—  
 Kurnick, Samuel W., La Grange, Fitzpatrick, and Merriam. 3,073,882.
- Merrick, Vernon K., to Hawker Siddeley Aviation Ltd. Aircraft wing and tiltable ducted fan. 3,115,317, 12-24-63, Cl. 244-12.
- Merrifield, Dudley B.: *See*—  
 Nudenberg, Walter, and Merrifield. 3,080,338.
- Merrill, Bennett W.: *See*—  
 Zimmerman, Hollis P., Merrill, and Piro. 3,073,382.
- Merrill, Bennett W., to New Castle Products, Inc. Foldable door sealing arrangement. 3,082,817, 3-26-63, Cl. 160-40.
- Merrill Brothers: *See*—  
 Gardner, Edward M. 3,074,753.
- Merrill, Charles W., and A. A. Gebhardt, to Mefco Sales & Service Corp. Remotely controlled positioning apparatus. 3,110,177, 11-12-63, Cl. 73-143.
- Merrill, Howard E., to Esso Research and Engineering Co. Isomerization process and catalyst. 3,072,731, 1-8-63, Cl. 260-683.75.
- Merrill, Jesse P. Sweeper scrubber. 3,110,055, 11-12-63, Cl. 15-544.
- Merrill, Joseph R., to Magic Seal Truck Door Corp. Multiple interlocking closure. 3,109,483, 11-5-63, Cl. 160-209.
- Merrill, Leland H. Capsule and tablet inspection machine. 3,084,781, 4-9-63, Cl. 198-33.
- Merrill, Leland H., and C. F. Bross; said Bross assor. to said Merrill. Capsule cleaning and polishing machine. 3,105,986, 10-8-63, Cl. 15-21.
- Merrill, Richard D., and M. L. Tinker, to Union Wadding Co. Seed planter. 3,080,681, 3-12-63, Cl. 47-56.
- Merrill, Speeter E., and W. C. Anthony, to The Upjohn Co. Novel process for the preparation of tryptophols and to novel compounds produced therein. 3,076,814, 2-5-63, Cl. 260-319.



- Merrill, Stewart H., and C. C. Unruh, to Eastman Kodak Co. Polymeric azides and azidophthalic anhydrides. 3,096,311, 7-2-63, Cl. 260—78.5.
- Merrimac Research and Development, Inc.: See—  
Oliner, Arthur A. 3,089,103.  
Oliner, Arthur A. 3,098,983.
- Merriman Bros., Inc.: See—  
Milk, Robert L. 3,105,252.  
Wayson, Andrew J. 3,107,480.
- Merriman, Glenn A. Game apparatus. 3,115,129, 12-24-63, Cl. 124—5.
- Merriman, Henry H. Coupling for tube expander. 3,084,961, 4-9-63, Cl. 285—242.
- Merriman, Henry H. Bushing. 3,104,136, 9-17-63, Cl. 308—237.
- Merriman, Henry H. Insert bushing. 3,108,500, 10-29-63, Cl. 77—62.
- Merriner, Delbert L.: See—  
Landsverk, Ole G., and Merriner. 3,075,081.
- Merritt, A. Jay, and L. Freedman, to U.S. Vitamin & Pharmaceutical Corp. Process for the preparation of cis-*p*-hydroxycinnamic acid. 3,094,471, 6-18-63, Cl. 204—158.
- Merritt Bird Feeder Co.: See—  
Merritt, Willie M., and Forth. 3,090,354.
- Merritt-Chapman & Scott Corp.: See—  
Davidson, Jack. 3,081,600.
- Merritt, Earl L. Rocket toy. 3,113,398, 12-10-63, Cl. 56—233.
- Merritt, Everett L., to Photogrammetry, Inc. Zenith camera system. 3,080,801, 3-12-63, Cl. 95—1.1.
- Merritt, Henry B., R. C. Geitz, and W. J. Nellen, to American Machine & Foundry Co. Drum dryer. 3,101,722, 8-27-63, Cl. 131—136.
- Merritt, Henry E., to Massey-Ferguson (United Kingdom) Ltd. Trailer hitch arrangement. 3,073,622, 1-15-63, Cl. 280—405.
- Merritt, Henry E., P. F. Tiberghien, and A. H. E. Gougolot, to Massey-Ferguson, Ltd. Hydraulic power unit and control system for tractors. Re. 25,415, 7-16-63, Cl. 172—9.
- Merritt, Jimmie L. Manual transmission gear shift controls for speed shifting. 3,088,329, 5-7-63, Cl. 74—473.
- Merritt, Philip E., and C. M. Steele, to General Electric Co. Spurious signal suppression in automatic symbol reader. 3,092,809, 6-4-63, Cl. 340—146.3.
- Merritt, Robert E., and F. Synnor, to Renfro Hosiery Mills Co. Apparatus and method for forming sales packages. 3,094,823, 6-25-63, Cl. 53—28.
- Merritt, Thomas W., and C. A. Thomas, to Babson Bros. Co. Vacuum regulator. 3,078,870, 2-26-63, Cl. 137—534.
- Merritt, Willie M., and F. F. Forth, to Merritt Bird Feeder Co. Bird feeders. 3,090,354, 5-21-63, Cl. 119—52.
- Merrrow Machine Co., The: See—  
Hornberger, Harry M., Sr. 3,109,399.  
Pierce, Bernard N. 3,079,881.  
Washburn, John M. 3,079,882.  
Washburn, John M. 3,082,724.  
Washburn, John M. 3,100,469.
- Merry, Clayton B., to W. E. Wilson, Sr. Spring frame for scooter-type trail vehicle. 3,096,997, 7-9-63, Cl. 280—275.
- Merry, John M. P., to News Syndicate Co. Inc. Transversely scanning transducer with fixed electromagnet and moving pole pieces. 3,081,881, 3-12-63, Cl. 179—100.2.
- Merry Maid Co., Inc.: See—  
Hulst, Cornelius R. 3,115,663.
- Merryweather, John P.: See—  
Borkley, Herbert L., and Merryweather. 3,097,121.
- Mersereau, John M., and P. J. Mester, to United States Rubber Co. Chlorinated pyrolysis oil. 3,097,187, 7-9-63, Cl. 260—45.7.
- Merten, Rudolf, ½ to Farbenfabriken Bayer Aktiengesellschaft and ½ to Mobay Chemical Co. Polyethers from polyacetals and olefins. 3,081,343, 3-12-63, Cl. 260—491.
- Mertens, Edward W., to California Research Corp. Cationic bituminous emulsions. 3,096,292, 7-2-63, Cl. 252—311.5.
- Mertens, Edward W., to California Research Corp. Storage-stable cationic bituminous emulsions. 3,097,174, 7-9-63, Cl. 252—311.5.
- Mertens, Edward W., to California Research Corp. Bituminous emulsions containing adhesion agents. 3,108,971, 10-29-63, Cl. 252—311.5.
- Mertens, Heinrich: See—  
Stilz, Walter, Pommer, Gehm, Schmidt, Mertens, Hehl, and Grunwald. 3,076,020.
- Mertens, Heinrich, and J. Stadler, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process for feltproofing and shrinkproofing wool and textiles containing wool in alkaline baths and treatment baths therefor. 3,071,431, 1-1-63, Cl. 8—128.
- Mertens, Johan J., to Onderzoekingsinstituut Research, N.V. Balloon-control on false-twist spindle. 3,087,299, 4-30-62, Cl. 57—77.3.
- Mertes, Thomas S., to Sun Oil Co. Gas oil hydrocracking process to produce a high octane gasoline. 3,080,311, 3-5-63, Cl. 208—78.
- Martin, Theodor, to Olympia Werke A.G. Control circuit arrangement for electric typewriter. 3,091,320, 5-28-63, Cl. 197—13.
- Mertler, Charles S., to Stevens Mfg. Co., Inc. Temperature sensing unit. 3,107,288, 10-15-63, Cl. 219—37.
- Mertler, Charles S., and J. G. Jessen to Stevens Mfg. Co., Inc. Indicator thermostat. 3,086,399, 4-23-63, Cl. 73—378.3.
- Mertler, Charles S., and R. H. Jordan, to Stevens Mfg. Co., Inc. Thermo-sensing unit. 3,088,016, 4-30-63, Cl. 219—37.
- Mertwoy, Abraham, M. I. Trachtman, and H. Gisser, to United States of America, Army. Oxidatively auto-inhibitive compounds. 3,112,273, 11-26-63, Cl. 252—52.
- Mertz, Clyde W., to Phillips Petroleum Co. Process for controlling O<sub>2</sub> content during polymerization. 3,073,808, 1-15-63, Cl. 260—82.1.
- Mertz, Clyde W., to Phillips Petroleum Co. Automatic control of fluid blending. 3,116,242, 12-31-63, Cl. 210—70.
- Mertz, Fred A.: See—  
Walker, Robert S., and Mertz. 3,083,846.
- Mertz, Roland F.: See—  
Yarrick, Charles J., and Mertz. 3,097,904.
- Mertzweiler, Joseph K., L. V. Robbins, Jr., and P. J. Berkeley, Jr., to Esso Research and Engineering Co. Removal of metal residues from carbonylation products. 3,094,564, 6-18-63, Cl. 260—604.
- Mervan & Co.: See—  
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- Meryman, Harold T., to United States of America, Navy. Apparatus for freeze-drying at atmospheric pressure. 3,096,163, 7-2-63, Cl. 34—43.
- Merz Engineering, Inc.: See—  
Mummert, John R. 3,074,561.
- Merz, Kenneth A., to The Torrington Mfg. Co. Blower wheel. 3,080,105, 3-5-63, Cl. 230—134.
- Merz, Max G. Weed burner. 3,112,742, 12-3-63, Cl. 126—271.2.
- Merz, Rudolf, to Crosman Arms Co., Inc. Underwater projectile. 3,071,883, 1-8-63, Cl. 43—6.
- Merz, Rudolf, to Crosman Arms Co., Inc. Semi-automatic gas powered gun. 3,103,212, 9-10-63, Cl. 124—11.
- Meschino, Joseph A., and G. I. Foos, to McNeil Laboratories, Inc. 2-amino-5,6-dihydro-4 H-1,3-oxazines and a process for their preparation. 3,115,494, 12-24-63, Cl. 260—244.
- Meschino, William G.: See—  
Rzewinski, Leonard, and Meschino. 3,078,801.
- Meserve, Forrest C., to Micro Machinery Products, Inc. Sole slitting machine. 3,089,164, 5-14-63, Cl. 12—40.
- Mesherberg, Philip: See—  
Silson, John E., Mesherberg, and Abramson. 3,107,670.
- Mesherberg, Philip. Selective dispensing nozzle. 3,083,872, 4-2-63, Cl. 222—42.
- Mesick, Donald B., and J. M. Means for cleaning paint brushes. 3,085,282, 4-16-63, Cl. 15—544.
- Mesick, Jane M.: See—  
Mesick, Donald B., and J. M. 3,085,282.
- Mesinger, Robert H. Cycle saddle covers. 3,077,363, 2-12-63, Cl. 297—214.
- Mesrobian, Robert B., and C. J. Ammondson, to Continental Can Co., Inc. Method of preparing mixtures of hydrocarbon polymer resins and linear polyamide resins and product thereof. 3,093,255, 6-11-63, Cl. 215—1.
- Messen-Jaschin, G.A.: See—  
Mayer, Friedrich. 3,081,624.  
Mayer, Friedrich. 3,095,734.  
Oswald, Karl. 3,079,791.
- Messenger, Charles B.: See—  
Swanberg, Harry W., and E. W. 3,100,946.
- Messer, Chester R., to Page Belting Co. Picker stick control strap. 3,114,397, 12-17-63, Cl. 139—161.
- Messer, Elmer S., to Conch International Methane Ltd. Dispensing means having liquid storage tank and liquid removal means. 3,093,269, 6-11-63, Cl. 222—333.
- Messer, Elmer S., to Conch International Methane Ltd. Portable insulated storage tanks and valve means. 3,107,498, 10-22-63, Cl. 62—45.
- Messer, Elmer S., to Conch International Methane Ltd. Storage tank and liquid flow control means. 3,109,294, 11-5-63, Cl. 62—55.
- Messer, Elmer S., to Conch International Methane Ltd. Pumping system for cold liquids. 3,112,049, 11-26-63, Cl. 222—333.
- Messerly, George H., to The Bendix Corp. Pneumatic temperature measurement and control system. 3,083,574, 4-2-63, Cl. 73—357.
- Messerschmidt, Sebastian. Method for the production of round, profiled mouldings, particularly for ball bearing races. 3,110,953, 11-19-63, Cl. 29—148.4.
- Messerschmitt AG: See—  
Madelung, Gero. 3,099,422.  
Madelung, Gero. 3,100,611.  
Messerschmitt, Willy. 3,073,552.  
Messerschmitt, Willy, and Madelung. 3,099,420.
- Messerschmitt, Willy, to Messerschmitt AG. Means for mounting a power unit or units on thin wings or control surfaces of aircraft. 3,073,552, 1-15-63, Cl. 244—54.
- Messerschmitt, Willy. Telescopic strut. 3,112,102, 11-26-63, Cl. 267—64.
- Messerschmitt, Willy, and G. Madelung, to Messerschmitt AG. Wing-tail mounted, pivotable jet power units on an aircraft. 3,099,420, 7-30-63, Cl. 244—12.
- Messin, Sam, and G. D. Haville, to Varo Inc. Elektrokinetics Div. Frequency tracking and deviation indicating system including signal storage means. 3,105,192, 9-24-63, Cl. 324—79.



- Messing, Hjalmar S., to The Block-Clawson Co. Cone press. 3,105,434, 10-1-63, Cl. 100-158.
- Messing, Ralph A.: *See*—  
Kohl, Won Y., and Messing. 3,096,253.
- Messing, Ralph A., to Ethicon, Inc. Process for enzyme purification. 3,104,206, 9-17-63, Cl. 195-66.
- Messinger, Bernard L., to Lockheed Aircraft Corp. System for starting gas turbine power plants. 3,098,626, 7-23-63, Cl. 244-53.
- Messinger, Frederic C. Portable snow remover. 3,107,446, 10-22-63, Cl. 37-130.
- Messinger, Joseph H.: *See*—  
Carroll, Lawrence K., Messinger, Whitcomb, and Baxter. 3,101,758.
- Messinger, Lester H., to E. I. du Pont de Nemours and Co. Process for hot-wet calendering fabrics. 3,096,557, 7-9-63, Cl. 26-1.
- Messinger, Lester H., to E. I. du Pont de Nemours and Co. Novel fabric of improved cover and reduced slickness. 3,096,563, 7-9-63, Cl. 28-78.
- Messinger, Lester H., to E. I. du Pont de Nemours and Co. Apparatus for compressional finishing of fabrics. 3,100,925, 8-20-63, Cl. 26-18.6.
- Messinger, Werner: *See*—  
Futterer, Bodo, and Messinger. 3,111,755.
- Messner, Georg. Aluminum production from alloy. 3,102,805, 9-3-63, Cl. 75-68.
- Messner, Georg, to Oronzio de Nora Impianti Elettrochimici. Anodes for electrolytic chlorine evolution. 3,103,484, 9-10-63, Cl. 204-290.
- Messrs. Dufaylite Developments Ltd.: *See*—  
May, George, and Gorell. 3,074,839.
- Messwarb, Günter: *See*—  
Kramer, Hans B. A., Messwarb, and Denk. 3,105,064.
- Messwarb, Günter, K. T. Schott, and W. Dummer, to Farbwerk Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Coating organic films with mixture of amorphous and crystalline dispersions of vinylidene chloride copolymers. 3,108,017, 10-22-63, Cl. 117-138.8.
- Mester, Paul J.: *See*—  
Mersereau, John M., and Mester. 3,097,187.
- Mesthos, George A. Portable coin counter. 3,093,148, 6-11-63, Cl. 133-8.
- Mestre, Luis. Stapling machine. 3,076,196, 2-5-63, Cl. 1-7.
- Mestre, Luis. Collator with fixed storage pockets. 3,108,797, 10-29-63, Cl. 270-58.
- Metachemical Processes Ltd.: *See*—  
Hughes, Herbert D., and Lewis. 3,092,558.
- Metallier, Roger, to Societe Auxiliaire de l'Entreprise (Auxen). Arrangement of lateral spades for an earthmoving appliance mounted on pneumatic tires. 3,113,641, 12-10-63, Cl. 188-7.
- Metal Box Co. Ltd., The: *See*—  
Cookson, Harold. 3,112,692.
- Hill, John C. 3,086,672.
- Jackson, John M., and Whitbourn. 3,081,489.
- Kalman, John. 3,071,868.
- Mosse, Richard W. E. 3,088,644.
- Mosse, Richard W. E., Cookson, and Virgo. 3,083,511.
- Mosse, Richard W. E., and Partridge. 3,107,469.
- Mosse, Richard W. E., and Partridge. 3,110,433.
- Oakley, John R. 3,087,391.
- Simpson, Alfred M. 3,096,693.
- Stuchbery, Arthur L. 3,084,382.
- Stuchbery, Arthur L., and Brookes. 3,094,092.
- Stuchbery, Arthur L., and Cook. 3,098,725.
- Stuchbery, Arthur L., and Franek. 3,083,663.
- Stuchbery, Arthur L., and Franek. 3,089,533.
- Metal Closures Ltd.: *See*—  
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- Metal Diffusions Ltd.: *See*—  
Weatherley, Eric G., and Garnett. 3,083,122.
- Metal Edge Industries: *See*—  
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- Speidel, George B. 3,076,389.
- Metal Fabrications, Inc.: *See*—  
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- Metal Film Co., Inc.: *See*—  
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- Metal Hydrides Inc.: *See*—  
Banus, Mario D. 3,112,989.
- Burr, Francis K. 3,081,265.
- Hinckley, Alfred A. 3,072,698.
- Hinckley, Alfred A. 3,112,982.
- Metal Improvement Equipment Co.: *See*—  
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- Metal Research and Development Ltd.: *See*—  
Jury, Harold R. 3,080,650.
- Metal Specialties Mfg. Co.: *See*—  
Semler, Loren H. 3,087,367.
- Metal Specialty Co., The: *See*—  
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- Metal Textile Corp.: *See*—  
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- Metal & Thermit Corp.: *See*—  
Leaming, Robert R. 3,093,727.
- Passal, Frank. 3,088,884.
- Ramsden, Hugh E. 3,072,699.
- Metalastik Ltd.: *See*—  
Hirst, Archie J. 3,097,839.
- Hirst, Archie J. 3,101,938.
- Hirst, Archie J., and Liversage. 3,099,967.
- Horovitz, Marcus. 3,099,879.
- Metalastik Ltd.: *See*—Continued  
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- Reed, Alun J. 3,082,613.
- Metaline Corp.: *See*—  
Rubrecht, Charles J., and Minnotte. 3,100,634.
- Metalbau Semler, G.m.b.H.: *See*—  
Schoppe, Fritz. 3,098,704.
- Metallgesellschaft A.-G.: *See*—  
Friese, Gunter. 3,098,886.
- Müller, Curt. 3,107,385.
- Steuernagel, Walter. 3,113,852.
- Stieler, Jurg, and Munch. 3,102,153.
- Metallic Engineering Co. Inc.: *See*—  
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- Valverde, David E. 3,110,374.
- Metallizing Co. of America, Inc.: *See*—  
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- Metallizing Engineering Co., Inc.: *See*—  
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- Metallurgical Development Co.: *See*—  
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- Woods, Stephen E., and Davey. 3,080,227.
- Metallurgical Processes Ltd.: *See*—  
Davey, Thomas R. A., and Linton. 3,098,110.
- Lumsden, John, and Keeping. 3,073,696.
- Woods, Stephen E., and Davey. 3,080,227.
- Metallurgique de Prayon, Societe Anonyme: *See*—  
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- Metallwerk Bahre K.G.: *See*—  
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- Metallwerke Adolf Hopf K.G.: *See*—  
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- Metals & Thermit Corp.: *See*—  
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- Metal-Tech, Inc.: *See*—  
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- Metalwash Machinery Co.: *See*—  
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- Nolte, Robert K. 3,103,936.
- Nolte, Robert K., and Cowles. 3,094,997.
- Metalwash Machinery Corp.: *See*—  
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- Nolte, Robert K. 3,076,730.
- Metalex d'Overpelt-Lommell et de Corphalie S.A., Compagnie des: *See*—  
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- Metaverpa, N.V.: *See*—  
Van de Bilt, Pieter A. 3,081,957.
- Van de Bilt, Pieter A. 3,115,085.
- Metcalf, Helen S.: *See*—  
Metcalf, Walter W. 3,090,572.
- Metcalf, Walter W., deceased, by H. S. Metcalf, administratrix, to Stevens & Thompson Paper Co. Toilet tissue holding and dispensing device. 3,090,572, 5-21-63, Cl. 242-55.3.
- Metcalf, Kenneth A., and R. J. Wright, to The Commonwealth of Australia, Department of Supply. Controlled developer for use in electrophotography and electro-radiography. 3,078,231, 2-19-63, Cl. 252-62.1.
- Metcalf, Kenneth A., and R. J. Wright, to Commonwealth of Australia, The Department of Supply. Precipitation of particulate or molecular materials in electrostatic developing. 3,081,263, 3-12-63, Cl. 252-62.1.
- Metcalf, Kenneth A., R. J. Wright, J. F. McNeil, and D. Jolly, to The Commonwealth of Australia, as represented by The Secretary of the Department of Supply. Electrophotographic reflex and contact printing. 3,102,026, 8-27-63, Cl. 96-1.
- Metcalf, Kenneth A., and R. J. Wright, to The Commonwealth of Australia, Care of The Secretary, Department of Supply. Production of patterns on cloth or similar substances. 3,102,045, 8-27-63, Cl. 117-37.
- Metcalf, Kenneth A., and R. J. Wright, to The Commonwealth of Australia, care of the Secretary of the Department of Supply. Production of printing blocks, resists, transparencies, prints and the like by electro-deposition. 3,104,169, 9-17-63, Cl. 96-1.
- Metcalf, Samuel N., Jr.: *See*—  
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- Metco Inc.: *See*—  
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- Wilson, Charles K., and Siebein. 3,073,528.
- Meter-All Mfg. Co., Inc.: *See*—  
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- Meterflo Dispensers, Inc.: *See*—  
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- Metevia, Virgil L.: *See*—  
Polmanteer, Keith E., and Metevia. 3,086,954.
- Metivier, Jean, to Societe des Usines Chimiques Rhone-Poulenc. Phytohormonal methods. 3,087,805, 4-30-63, Cl. 71-2.6.
- Metivier, Jean, to Societe des Usines Chimiques Rhone-Poulenc. Thiocarbamic esters. 3,089,887, 5-14-63, Cl. 260-455.
- Merko, Earl D., to Sunbeam Corp. Portable electric drill. 3,077,547, 2-12-63, Cl. 310-50.
- Metlesics, Werner: *See*—  
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- Metrailler, William J., to Esso Research and Engineering Co. Shale oil refining process. 3,085,061, 4-9-63, Cl. 208-98.



- Metrailler, William J., to Esso Research and Engineering Co. Residuum feed injection in transfer line coking. 3,113,985, 12-10-63, Cl. 260-683.
- Metreud, Claude G., to The International Silver Co. Cosmetic container. 3,083,823, 4-2-63, Cl. 206-56.
- Metrimpey Magyar Muszeripari Kulkereskedelmi Vallalat: *See—*
- Takatsy, Gyula. 3,077,780.
- Metro Corp.: *See—*
- Smith, Horace V. 3,090,323.
- Metro, Stephen J.: *See—*
- Matuszak, Alfred H., Allen, and Metro. 3,090,753.
- Metro, Stephen J., and A. H. Matuszak, to Esso Research and Engineering Co. Lubricating compositions comprising esters of tricarboxy acids. 3,102,098, 8-27-63, Cl. 252-56.
- Metrodynamics Corp., The: *See—*
- Wales, Nathaniel B., Jr. 3,100,400.
- Wales, Nathaniel B., Jr. 3,100,440.
- Wales, Nathaniel B., Jr. 3,100,825.
- Metro-Mac, Inc.: *See—*
- Chakiris, Demetrius G. 3,106,981.
- Metropolitan Oil & Gas Industries Inc.: *See—*
- Pavia, Robert. 3,074,459.
- Metropolitan-Vickers Electrical Co. Ltd.: *See—*
- Kenvon, Harold F. 3,078,432.
- Mets, Edwin J., to General Electric Co. Method of protecting metal from corrosion. 3,073,720, 1-15-63, Cl. 117-105.
- Metsky, Donald: *See—*
- Nashman, Alvin E., and Metsky. 3,090,240.
- Mettentleiter, Michael W. Admixture of aluminum metal powder and powdered vegetable gum for treatment of open wounds. 3,098,790, 7-23-63, Cl. 167-58.
- Metttersheimer, John H., Jr., to AAPCD Automotive, Inc. Oil pump. 3,090,322, 5-21-63, Cl. 103-126.
- Mettetal, Donald, Jr.,  $\frac{1}{2}$  to H. W. Kasper and  $\frac{1}{2}$  to A. F. Wintercorn. Power steering and shifting mechanisms. 3,080,721, 3-12-63, Cl. 60-60.
- Mettetal, Jean-Claude, and G. Fritz, to Electricite de France-Service National. Manipulator. 3,095,095, 6-25-63, Cl. 214-1.
- Mettler, Carlo. Pneumatic-effected delayed-action tripping devices. 3,094,935, 6-25-63, Cl. 102-70.
- Mettler's Fr. Sohne, Aktiengesellschaft: *See—*
- Aschwanden, Paul. 3,092,341.
- Metz, Harald: *See—*
- Mannhardt, Heinz-Jurgen, Bork, Bruckner, and Metz. 3,074,977.
- Metz, Paul, to ARBED, Acieries Reunies de Burbach-Eich-Dudelage, Societe Anonyme. Manufacture of steel. 3,076,703, 2-5-63, Cl. 75-52.
- Metz, Paul, to ARBED, Acieries Reunies de Burbach-Eich-Dudelage, Societe Anonyme. Tuyere arrangement. 3,101,384, 8-20-63, Cl. 266-41.
- Metz, Paul, to ARBED, Acieries Reunies de Burbach-Eich-Dudelage. Method of producing dense refractory blocks having large dimensions. 3,111,397, 11-19-63, Cl. 25-156.
- Metz, Paul, to ARBED Acieries Reunies de Burbach-Eich-Dudelage, Societe Anonyme. Process for the production of refractory material. 3,111,415, 11-19-63, Cl. 106-58.
- Metz, Peter P., to Northwest Metal Products, Inc. Roof ventilator with removable hood. 3,093,059, 6-11-63, Cl. 98-42.
- Metzger, Benjamin A.: *See—*
- Shafer, Homer J., and Metzger. 3,089,430.
- Metzger, Hans S., to Moeller & Neumann G.m.b.H. Rolling mill structure. 3,098,403, 7-23-63, Cl. 80-38.
- Metzger, Hans S. Hydraulic adjusting means for rolling mills. 3,111,047, 11-19-63, Cl. 80-56.
- Metzger, Horst: *See—*
- Von Schiekh, Otto, and Metzger. 3,078,306.
- Von Schiekh, Otto, and Metzger. 3,103,534.
- Metzger, James F., to M. Tucker. Slidable door mounting. 3,085,298, 4-16-63, Cl. 20-19.
- Metzger, Louis G., to A. S. Minchenberg. Apparatus and control device for forming belt loops on garments. 3,095,842, 7-2-63, Cl. 112-104.
- Metzger, Louis G., and H. Goodman, to Cosmos Industries, Inc. Serially connected coarse and fine inductors with continuous adjustment. 3,098,989, 7-23-63, Cl. 336-131.
- Metzger, Martin C.: *See—*
- Kaufmann, William M., Metzger, and Schultz. 3,114,358.
- Metzger, Samuel W.: *See—*
- Calehuff, James M., Englert, and Metzger. 3,074,441.
- Metzger, William J., to National Malleable and Steel Castings Co. Transitional coupling device. 3,071,256, 1-1-63, Cl. 213-112.
- Metzger, William J., to National Castings Co. Coupler operating mechanism. 3,079,010, 2-26-63, Cl. 213-167.
- Metzger, William J., to National Castings Co. Car coupler. 3,086,662, 4-23-63, Cl. 213-100.
- Metzger, William J., to National Castings Co. Car coupler. 3,088,601, 5-7-63, Cl. 213-166.
- Metzger, William J., to National Castings Co. Car coupler centering device. 3,108,697, 10-29-63, Cl. 213-21.
- Metzler, Charles L., and J. D. Wark, to American Can Co. Dish or the like. 3,099,377, 7-30-63, Cl. 229-2.5.
- Metzler, Hermann: *See—*
- Hopf, Heinrich, Hoffmann, and Metzler. 3,110,700.
- Hopf, Heinrich, and Metzler. 3,114,733.
- Metzler, Kurt. Adjustable V-belt pulley assembly. 3,071,019, 1-1-63, Cl. 74-230.17.
- Metzler, Phares H. Line retaining means for fishing line accessories. 3,091,050, 5-28-63, Cl. 43-44.88.
- Metzmeier, Erwin. Force measuring. 3,087,330, 4-30-63, Cl. 73-140.
- Metzner, Arthur B.: *See—*
- Hamilton, Gene E., Metzner, and Ehrreich. 3,091,647.
- Metzner, Robert B., to Wheeling Steel Corp. Shear means having intermittently operated cam means to hold shear in open position. 3,093,022, 6-11-63, Cl. 83-320.
- Meuche, Howard, to Powered Staplers, Inc. Water sprinkler. 3,078,045, 2-19-63, Cl. 239-98.
- Meulendyk, John W., to Pneumo Dynamics Corp. Hydraulic control valve. 3,081,787, 3-19-63, Cl. 137-83.
- Meulien, Henri: *See—*
- Mission, Gilbert, and Meulien. 3,102,089.
- Meunier, Gerard: *See—*
- Brichard, Edgard, Plumet, Meunier, and Dellere. 3,088,850.
- Meurer, Alfred, to F. Soennecken. Paper retaining devices for files. 3,083,713, 4-2-63, Cl. 129-11.
- Meurer, Siegfried, to Maschinenfabrik Augsburg-Nurnberg A.G. Process and apparatus for operating a continuous or intermittent combustion engine. 3,078,672, 2-26-63, Cl. 60-39.71.
- Meurer, Siegfried, to Maschinenfabrik Augsburg-Nurnberg. Combustion chambers for pistons. 3,085,557, 4-16-63, Cl. 123-32.
- Meurer, Siegfried, to Augsburg-Nurnberg A.G., Maschinenfabrik. Ignition device. 3,107,658, 10-22-63, Cl. 123-32.
- Meurer von Infield, Karl L. G. Food dicer. 3,115,172, 12-24-63, Cl. 146-78.
- Meverden, Leslie G.: *See—*
- Martin, Irvin J., Stowe, and Meverden. 3,096,653.
- Mewbourne, Curtis A.: *See—*
- Meriwether, Henry R., Jr., Mewbourne, Warren, and Badger. 3,094,578.
- Nyquist, Roy A., Zellars, and Mewbourne. 3,107,162.
- Mewhinney, Albert B.: *See—*
- Busch, Paul A., Mewhinney, and Wirtz. 3,072,349.
- Meybeck, Jean, R. Kircher, and J. Leclerc, to Societe d'Etudes Chimiques Pour l'Industrie l'Agriculture. Production of bromine oxygen compounds. 3,085,854, 4-16-63, Cl. 23-85.
- Meybeck, Jean, and C. Shirle, deceased (by A. J. A. C. Shirle, administratrix). Process for bleaching and shrinkproofing wool. 3,097,049, 7-9-63, Cl. 8-108.
- Meyer, A. F., Mfg. Co.: *See—*
- Batterton, Elmo L., and Lonsdale. 3,078,590.
- Meyer, Alvin. Matrix for interproximal anterior restorations. 3,108,377, 10-29-63, Cl. 32-63.
- Meyer, Alvin L., Jr., and R. D. Meyer. Three-point hitch. 3,076,512, 2-5-63, Cl. 172-448.
- Meyer, Andre J., Jr.: *See—*
- Faget, Maxime A., Meyer, Chilton, Blanchard, Kehlet, Hammack, and Johnson. 3,093,346.
- Meyer, Andre J., Jr., to United States of America, National Aeronautics and Space Administration. Vehicle parachute and equipment jettison system. 3,079,113, 2-26-63, Cl. 244-140.
- Meyer, Barthold F., and T. A. Schaad, to General Motors Corp. Clutch. 3,110,380, 11-12-63, Cl. 192-8.
- Meyer, Beverly: *See—*
- Meyer, Joseph E. 3,094,966.
- Meyer, Burton C.: *See—*
- Glass, Marvin I., and Meyer. 3,081,997.
- Meyer, Charles A., and D. D. Rosard, to Westinghouse Electric Corp. Fluid control apparatus. 3,073,563, 1-15-63, Cl. 251-86.
- Meyer, Charles F.: *See—*
- Eckl, James J., and Meyer. 3,071,699.
- Meyer, Cornelius A., to Van Leer Industries Ltd. Sheet metal containers and a method of and apparatus for the manufacture thereof. 3,076,670, 2-5-63, Cl. 285-221.
- Meyer, David, to E. W. Bliss Co. Liquid fuel atomizer. 3,093,314, 6-11-63, Cl. 239-417.
- Meyer, Davis: *See—*
- Meyer, Joseph E. 3,094,966.
- Meyer, Delbert H.: *See—*
- Wise, Robert H., and Meyer. 3,102,137.
- Meyer, Delbert H., and M. M. Garvey, to Standard Oil Co. Purification of phthalates by treatment with phosphites. 3,076,018, 1-29-63, Cl. 260-475.
- Meyer, Donald J. Retractable water ski fin. 3,087,173, 4-30-63, Cl. 9-310.
- Meyer, Edward: *See—*
- Kling, Harry P., and Meyer. 3,074,873.
- Meyer, Edward, to Overload Control, Inc. Overload release. 3,111,211, 11-19-63, Cl. 192-150.
- Meyer, Edward J.: *See—*
- Nachtseheim, Henry G., Meyer, and Grande. 3,089,786.
- Meyer, Engelbert A., to General Motors Corp. Sheet metal fastener with an angularly oriented screw receiving body portion. 3,073,368, 1-15-63, Cl. 151-41.75.
- Meyer, Engelbert A., to General Motors Corp. Moulding fastener. 3,080,629, 3-12-63, Cl. 24-73.
- Meyer, Engelbert A., to General Motors Corp. Moulding fastener. 3,103,265, 9-10-63, Cl. 189-88.
- Meyer, Engelbert A., to General Motors Corp. Molding fastener. 3,107,939, 10-22-63, Cl. 296-93.
- Meyer, Engelbert A., to General Motors Corp. Fastening device. 3,114,949, 12-24-63, Cl. 24-73.
- Meyer, Eugen, to Brown, Boveri & Cie, Aktiengesellschaft. Rotor construction for waterwheel driven electrical generator. 3,112,420, 11-26-63, Cl. 310-261.



- Meyer, Ferdinand, and K. Demmler, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of diglycidyl ethers of diols. 3,096,349, 7-2-63, Cl. 260—348.6.
- Meyer, Frank H.: *See*—  
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- Meyer, Franklin, and A. M. Multari. Electronic timing apparatus with precise starting point for selected interval. 3,082,329, 3-19-63, Cl. 307—88.5.
- Meyer, Frederick F.: *See*—  
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- Meyer, Friedrich, to Ebauches S.A. Watch with jump operated indicator. 3,093,958, 6-18-63, Cl. 58—58.
- Meyer, Fritz O. W. G., to E. D. Jones Corp. Dissolving gas in liquid. 3,100,810, 8-13-63, Cl. 261—115.
- Meyer, George J. Kitchen range ventilator. 3,109,358, 11-5-63, Cl. 98—115.
- Meyer, George J., Jr.: *See*—  
Massell, Edward M., May, and Meyer. 3,111,653.
- Meyer, Geo. J., Mfg. Co.: *See*—  
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Carter, Sidney T. 3,108,033.  
Carter, Sidney T. 3,109,529.  
Carter, Sidney T. 3,115,232.  
Meyer, George L. N. 3,101,834.  
Meyer, George L. N. 3,106,283.  
Meyer, George L. N., and Spies. 3,110,387.  
Meyer, George L. N., Werner, and Spies. 3,081,859.
- Meyer, George L. N., to Geo. J. Meyer Mfg. Co. Bottle carrier construction for bottle washer. 3,101,834, 8-27-63, Cl. 198—131.
- Meyer, George L. N., to Geo. J. Meyer Mfg. Co. Bottle carrier construction for bottle washers. 3,106,283, 10-8-63, Cl. 198—131.
- Meyer, George L. N., C. C. Werner, and R. H. Spies, to Geo. J. Meyer Mfg. Co. Bottle loading apparatus. 3,081,859, 3-19-63, Cl. 198—27.
- Meyer, George L. N., and R. H. Spies, to Geo. J. Meyer Mfg. Co. Bottle handling apparatus. 3,110,387, 11-12-63, Cl. 198—25.
- Meyer, Gerhardt E.: *See*—  
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- Meyer, Gustav, to Maybach-Motorenbau G.m.b.H. Clutch-actuating system. 3,105,578, 10-1-63, Cl. 192—084.
- Meyer, H. D.: *See*—  
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- Meyer, Hans: *See*—  
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- Meyer, Hans R.: *See*—  
Gabler, Rudolf, and Meyer. 3,105,833.  
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- Meyer, Helmut P.: *See*—  
Clark, Richard B., and Meyer. 3,100,422.
- Meyer, Henry L.: *See*—  
Penote, Vincent S., and Meyer. 3,091,044.
- Meyer, Herbert: *See*—  
Meyer, Joseph E. 3,094,966.
- Meyer, Herbert, to J. M. Voith G.m.b.H. Method of and apparatus for quickly and safely withdrawing water from fiber suspensions. 3,091,563, 5-28-63, Cl. 162—217.
- Meyer, Horst. Method for making hollow bodies from plastic material. 3,095,261, 6-25-63, Cl. 18—59.
- Meyer, James: *See*—  
Meyer, Joseph E. 3,094,966.
- Meyer, James R., to Chemical Design, Inc. Adsorption apparatus and method. 3,103,425, 9-10-63, Cl. 55—62.
- Meyer, Jerome H., and R. P. La Branche. Cleansing apparatus. 3,085,573, 4-16-63, Cl. 128—240.
- Meyer, John C., to Jonathan Mfg. Co. Shock resisting support for slide structure for drawers, shelves and the like. 3,074,766, 1-22-63, Cl. 308—3.8.
- Meyer, John F.: *See*—  
Dryden, Hugh L. 3,100,294.
- Meyer, John S. Photovoltaic device for translating signals. 3,093,741, 6-11-63, Cl. 250—212.
- Meyer, Joseph E., to W. H. M. H., J., B. D., and E. Meyer. Screw-type propulsion unit. 3,094,966, 6-25-63, Cl. 115—15.
- Meyer, Karl-Heinrich, and H. Schnell, to Farbenfabriken Bayer Aktiengesellschaft. Process for the recovery of phenols and carbonyl compounds from crude bisphenolic condensation products. 3,075,015, 1-22-63, Cl. 260—586.
- Meyer, Kenneth H.: *See*—  
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- Meyer, Lambert: *See*—  
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- Meyer, Leo J. Conveyor bucket control. 3,083,814, 4-2-63, Cl. 198—145.
- Meyer, Leonard S. Archery or similar targets and their associated supporting easels. 3,088,738, 5-7-63, Cl. 273—102.4.
- Meyer, Ludwig J., to Hazemag. Impellers for comminutors. 3,098,614, 7-23-63, Cl. 241—193.
- Meyer, Martha: *See*—  
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- Meyer, Maurice A., to Laboratory for Electronics, Inc. Signal switching apparatus. 3,072,903, 1-8-63, Cl. 343—16.
- Meyer, Maurice A., to Laboratory for Electronics, Inc. Signal selection system. 3,082,417, 3-19-63, Cl. 343—8.
- Meyer, Maurice A., to Laboratory for Electronics, Inc. Signal processing apparatus. 3,088,109, 4-30-63, Cl. 343—8.
- Meyer, Maurice A., to Laboratory For Electronics, Inc. Doppler radar system. 3,102,263, 8-27-63, Cl. 343—8.
- Meyer, Owen L., to United States of America, Army. Semiconductor solid circuits. 3,100,276, 8-6-63, Cl. 317—234.
- Meyer, Peter R. Device for mounting cameras on tripods. 3,109,617, 11-5-63, Cl. 248—186.
- Meyer, Ralph J., to Collins Radio Co. Rocker switch assembly. 3,098,902, 7-23-63, Cl. 200—5.
- Meyer, Raymond: *See*—  
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- Meyer, Ree V. L., to Midwest Rubber Reclaiming Co. Pads. 3,081,035, 3-12-63, Cl. 238—283.
- Meyer, Robert F., to Parke, Davis & Co. Oxazoline compounds and method for producing same. 3,074,956, 1-22-63, Cl. 260—307.
- Meyer, Robert F., to Parke, Davis & Co. 3-alkyl-4-hydroxy-7-chlorocoumarin-6-sulfonamides. 3,089,878, 5-14-63, Cl. 260—343.2.
- Meyer, Robert F., to Parke, Davis & Co. Novel 2-chloro-4-hydroxy-5-sulfamoylacylbenzenesulfonamides and the process for producing the same. 3,111,540, 11-19-63, Cl. 260—556.
- Meyer, Ronald F.: *See*—  
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- Meyer, Roy D.: *See*—  
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- Meyer, Roy E. Tower hoist. 3,088,545, 5-7-63, Cl. 187—6.
- Meyer, Rudolf X.: *See*—  
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- Meyer, Rudolf X. to Space Technonolgy Laboratories, Inc. Gas accelerating method and apparatus. 3,113,427, 12-10-63, Cl. 60—35.5.
- Meyer, Saul, to Minneapolis-Honeywell Regulator Co. Electrical apparatus. 3,088,054, 4-30-63, Cl. 317—120.
- Meyer, Vernon H.: *See*—  
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- Meyer, William. Calculating divider. 3,100,938, 8-20-63, Cl. 33—149.
- Meyer, William C., to American Telephone and Telegraph Co. Pressure transducer testing circuit. 3,105,882, 10-1-63, Cl. 179—175.3.
- Meyer, William H.: *See*—  
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Phelan, Richard R., Hammel, Meyer, and Dunkel. 3,112,285.
- Meyercordt, Fritz, and H. Honnens, to Malmédie Maschinenfabrik G.m.b.H. Continuously operable apparatus for chamfering the ends of elongated workpieces. 3,097,378, 7-16-63, Cl. 10—21.
- Meyerdick, Clarence E., to C. F. Meyerdick. Structural connector. 3,099,468, 7-30-63, Cl. 287—54.
- Meyerdick, Clarence F.: *See*—  
Meyerdick, Clarence E. 3,099,468.
- Meyerer, Paul: *See*—  
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- Meyerer, Paul, to Siemens & Halske Aktiengesellschaft. Travelling wave tube. 3,099,765, 7-30-63, Cl. 315—3.5.
- Meyerhofer, Carl E., to Lewyt Corp. Vacuum cleaner assembly. 3,085,279, 4-16-63, Cl. 15—323.
- Meyerhofer, Carl E., to Trans-Lux Corp. Apparatus for illumination and projection of data. 3,104,587, 9-24-63, Cl. 88—24.
- Meyerhoff, Albert J.: *See*—  
Disson, Stanley B., Meyerhoff, and Winsor. 3,100,869.  
Schneider, Robert P., Meyerhoff, and Shafer. 3,103,617.
- Meyerhoff, Leonard, to L. and S. A. Meyerhoff, d.b.a. Eastern Research Group. Propeller design. 3,096,930, 7-9-63, Cl. 230—120.
- Meyerhoff, Stanley A.: *See*—  
Meyerhoff, Leonard. 3,096,930.
- Meyer-Jagenberg, Gunther, to Jagenberg-Werke Akt.-Ges. Method of treating adhesive coated blanks to nullify the adhesive effect in selected areas. 3,094,432, 6-18-63, Cl. 117—63.
- Meyer-Jagenberg, Gunther, to Jagenberg-Werke A.G. Container of paper, cardboard or like carton-forming material. 3,101,879, 8-27-63, Cl. 229—7.
- Meyerotto, Beatrice M. Anti-fence-jumping attachment for dogs. 3,115,867, 12-31-63, Cl. 119—137.
- Meyers, Cal Y.: *See*—  
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- Meyers, Douglas C., to Shell Oil Co. Method and apparatus for producing high-pressure wells. 3,098,523, 7-23-63, Cl. 166—45.
- Meyers, Douglas C., to Shell Oil Co. Low-temperature dehydration of well fluids. 3,105,855, 10-1-63, Cl. 260—676.
- Meyers, Ellwood H., to Klaas Machine and Mfg. Co. Ball or jar mill. 3,104,836, 9-24-63, Cl. 241—175.
- Meyers, Fredric J., to Cutler-Hammer, Inc. Hinged oven heating element. 3,086,102, 4-16-63, Cl. 219—37.
- Meyers, Frederick C. Disposable lighter construction. 3,092,988, 6-11-63, Cl. 67—7.1



- Meyers, George L., to American Can Co. Carton opening means. 3,085,736, 4-16-63, Cl. 229-51.
- Meyers, George L., to American Can Co. Opening means for vermin-proof carton. 3,097,785, 7-16-63, Cl. 229-51.
- Meyers, George L., to American Can Co. Dispensing carton. 3,108,735, 10-29-63, Cl. 229-51.
- Meyers, Harold S., to Waldorf Paper Products Co. Extra panel cartons. 3,099,381, 7-30-63, Cl. 229-37.
- Meyers, Joseph. Electron storage and power cell. 3,105,178, 9-24-63, Cl. 317-262.
- Meyers, Martin B.: *See*—
- Graber, Robert P., and Meyers. 3,085,090.
- Graber, Robert P., and Meyers. 3,101,351.
- Meyers, Norman H., to International Business Machines Corp. Superconductor commutator circuits. 3,114,845, 12-17-63, Cl. 307-88.5.
- Meyers, Norman H., N. Rochester, and E. S. Schlig, to International Business Machines Corp. Cryogenic coupling device. 3,086,130, 4-16-63, Cl. 307-88.5.
- Meyers, Norman W.: *See*—
- Young, David M., and Meyers. 3,074,812.
- Meyers, Richard K., and S. M. Pier, to Texaco Inc. Oil-in-water emulsion lubricants. 3,089,854, 5-14-63, Cl. 252-49.5.
- Meyers, Robert A., H. B. O. Davis, and W. E. Dietrich, to United States of America, Navy. Function control unit (difference in absolute magnitude method). 3,105,145, 9-24-63, Cl. 235-193.
- Meyers, Robert L. Fruit and vegetable container. 3,086,646, 4-23-63, Cl. 206-45.33.
- Meyers, Stanley T., to Bell Telephone Laboratories, Inc. Remote testing arrangement. 3,084,231, 4-2-63, Cl. 179-175.
- Meyers, Sydney: *See*—
- Cox, Wilbur C., Meyers, and Keon. 3,097,122.
- Meyers, Vernon J., to United States of America, Navy. Bidirectional cold-cathode counting control circuit. 3,098,946, 7-23-63, Cl. 315-84.6.
- Meyers, William F., to W. H. & G. Corson, Inc. Current-producing cell and method of generating current with same. 3,083,252, 3-26-63, Cl. 136-90.
- Meyfarth, George H., Jr., to May-Fran Mfg. Co. Bucket type conveyor mechanism. 3,112,822, 12-3-63, Cl. 198-145.
- Meypro AG: *See*—
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- Meysan, Charles H., and L. A. Clifton; said Clifton assor. to said Meysan. Electrified fishing lure. 3,083,491, 4-2-63, Cl. 43-17.1.
- Meystre, Charles: *See*—
- Jeger, Oskar, Arigoni, Wettstein, Anner, Heusler, Meystre, Wieland, and Kalvoda. 3,092,625.
- Wettstein, Albert, Anner, Kalvoda, and Meystre. 3,092,627.
- Wettstein, Albert, Anner, Meystre, Wieland, Ehmann, Heusler, Hunger, and Kehrle. 3,098,085.
- Wettstein, Albert, Heusler, Kehrle, Meystre, and Wieland. 3,072,686.
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- Wettstein, Albert, and Meystre. 3,109,850.
- Wettstein, Albert, Meystre, and Voser. 3,098,087.
- Wettstein, Albert, Vischer, and Meystre. 3,076,828.
- Meystre, Charles, A., Wettstein, G., Anner, K., Heusler, and P. Wieland, to Ciba Corp. 9-halogenated 18:11-lactones of 11 $\beta$ -hydroxy-pregnane-18-acids. 3,093,070, 7-16-63, Cl. 260-239.57.
- Mezel, Ernesto. Vegetable one-bath pretanning process. 3,081,142, 3-12-63, Cl. 8-94.19.
- Mezzino, Joseph F.: *See*—
- Baldwin, Robert R., Lowry, Mezzino, and Ohan. 3,108,874.
- Miagkich, Tamara N.: *See*—
- Rosenfeld, Elias B., Miagkich, Villiam-Vilmont, Josse, and Plotnikov. 3,096,756.
- Miale, Goliardo: *See*—
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- Miami Herald Publishing Co., The: *See*—
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- Corcoran, Thomas J. 3,071,829.
- Mangus, George. 3,071,866.
- Miami Stone, Inc.: *See*—
- Mayer, George A. 3,098,476.
- Micafl A.-G.: *See*—
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- Gertsch, Georges-Albert. 3,111,619.
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- Michael, Bayard H., to Lake Shore, Inc. Load handling apparatus. 3,107,791, 10-22-63, Cl. 212-58.
- Michael, Earl C.: *See*—
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- Michael, Gregor: *See*—
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- Strauss, Wennemar, and Michael. 3,081,240.
- Michael, Gregor, and W. Strauss, to Debydag, Deutsche Hydrierwerke G.m.b.H. Nickel electroplating baths. 3,116,225, 12-31-63, Cl. 204-49.
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- Brandes, Lothar, and Michael. 3,077,632.
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- Chase, David R., and Michaelis. 3,077,530.
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- Bartlett, Ronald S., Michaels, and Thomas. 3,079,447.
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- Michaels, Raymond J., Jr.: *See*—
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- Michalos, Constantine A.: *See*—
- Collins, Robert C., and Michalos. 3,105,721.
- Doundoulakis, Helias. 3,092,800.
- Michalowski, Conrad M., to Pekay Machine & Engineering Co., Inc. Apparatus for moistening sand and the like. 3,082,497, 3-26-63, Cl. 22-89.
- Michalski, John P., to United States of America, Navy. Detecting and classifying bodies on an ocean floor. 3,106,437, 10-8-63, Cl. 346-33.
- Michatek, Chester W.: *See*—
- Horton, William H., Sturm, and Michatek. 3,081,683.
- Michaud, George E. Rheostat voltage compensator for ignition systems. 3,075,029, 1-22-63, Cl. 123-148.
- Michel, David D. Valve and dispensing apparatus for pressure containers and the like. 3,101,875, 8-27-63, Cl. 222-394.
- Michel, Donald P., and J. E. Irvine, to The Bauer Bros. Co. Refiner construction. 3,114,061, 12-10-63, Cl. 310-60.
- Michel, Erhard J.: *See*—
- Jensen, Dennis C., and Michel. 3,098,167.
- Michel, Henri: *See*—
- Perraut, Jean M., and Michel. 3,075,714.
- Michel, Karl: *See*—
- Matter, Max, Glatthard, Kuhn, and Michel. 3,087,933.
- Michel, Philip L., to United Aircraft Corp. Variable stabilizing means. 3,081,052, 3-12-63, Cl. 244-17.19.
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- Neuville, Louis P. F. A., and Saint-Frison. 3,074,456.
- Michellini, Richard J.: *See*—
- Marsh, Byron E., Haughn, and Michellini. 3,111,178.
- Micelli, William P., and R. B. Singer, to Dana Corp. Automatic clutch control system. 3,074,524, 1-22-63, Cl. 192-103.
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- Michels, Julian G., to The Norwich Pharmacal Co. 3-aminoalkylated-1-(5-nitrofururylideneamino) hydantoin. 3,075,973, 1-29-63, Cl. 260-240.



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- Michels, Julian G., to The Norwich Pharmacal Co. 1-(2-hydroxyethyl)-3-amino-2-imidazolidine-thione. 3,115,499, 12-24-63, Cl. 260—309.7.
- Michels, Lawrence: *See—*  
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- Michels, Roy S., Jr. Stroller convertible to walker and carriage. 3,079,162, 2-26-63, Cl. 280—7.1.
- Michelson, Charles: *See—*  
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- Michie, Amanda A.: *See—*  
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- Michigan Equity Corp.: *See—*  
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- Michigan State University of Agriculture and Applied Science: *See—*  
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- Michigan Tool Co.: *See—*  
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- Michromatic Hone Corp.: *See—*  
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- Mick, Stanley H., to General Motors Corp. Air valve carburetor. 3,078,079, 2-19-63, Cl. 261—44.
- Mick, William F., to The Dow Chemical Co. Steel pipe having organic thermoplastic liner with glass fiber reinforcement. 3,071,162, 1-1-63, Cl. 138—140.
- Mickel, Blanchard L.: *See—*  
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- Mickel, Blanchard L., to Standard Oil Co. Engine fuel test device. 3,108,468, 10-29-63, Cl. 73—61.
- Mickel, Blanchard L., and F. K. Kawahara, to Standard Oil Co. Hydrocarbon jet fuel containing decaborane and alkanols or phenols. 3,086,355, 4-23-63, Cl. 60—35.4.
- Mickelson, Nils B., to United States of America, Navy. Analog computing device. 3,113,170, 12-3-63, Cl. 35—10.4.
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- Mickley, Günter: *See—*  
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- Micks, William R., to The Rand Corp. Novel structural composite material. 3,098,723, 7-23-63, Cl. 29—183.5.
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- Microcell Ltd.: *See—*  
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- Microdot Inc.: *See—*  
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- Micro Machinery Products, Inc.: *See—*  
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- Micro-Mega, Societe Anonyme: *See—*  
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- Micro Products Inc.: *See—*  
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- Microwave Associates, Inc.: *See—*  
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- Microwave Associates, Inc.: *See—Continued*  
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- Mid-Century Corp.: *See—*  
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- Middendorf, Eugene H., to International Harvester Co. Engine coolant system. 3,080,857, 3-12-63, Cl. 123—41.1.
- Middendorf, Karl H., to The Prescon Corp. Anchors for stranded pretensioned members. 3,115,727, 12-31-63, Cl. 50—128.
- Middendorf, William H., to The Wadsworth Electric Mfg. Co., Inc. Toggle common trip interlock for multi-pole circuit breakers. 3,116,387, 12-31-63, Cl. 200—116.
- Middendorf, William H., and E. W. Landmeier, deceased (L. Landmeier, executrix), to Wadsworth Electric Mfg. Co., Inc. Panel board and circuit breaker combination. 3,089,063, 5-7-63, Cl. 317—119.
- Middleditch, Stanley W., to De La Rue Instruments, Ltd. Banknote handling machine. 3,077,983, 2-19-63, Cl. 209—73.
- Middle States Corp.: *See—*  
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- Middleton, Carl W., Jr., and E. F., to The Warner Brothers Co. Press for forming continuous planar thermoplastic sheet material. 3,073,499, 1-15-63, Cl. 226—120.
- Middleton, Carl W., Jr., and E. F., to The Warner Brothers Co. Stand-up blister packages. 3,093,244, 6-11-63, Cl. 206—78.
- Middleton, Carlisle A. and T. B., and H. P. Johnson. Material spreader. 3,094,334, 6-18-63, Cl. 275—8.
- Middleton, Carlisle A.: *See—*  
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- Middleton, Earl F.: *See—*  
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- Middleton, Forest L., to Lesco, Inc. Ash tray. 3,109,688, 11-5-63, Cl. 312—246.
- Middleton, Robert E. Lens soaking kit. 3,072,132, 1-8-63, Cl. 134—137.
- Middleton, Robert E., and C. C. Christopherson, to Superior Visual Products Co. Grinding tool for lenses. 3,122,585, 12-3-63, Cl. 51—204.
- Middleton, Thomas B.: *See—*  
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- Middleton, Carlisle A. and T. B., and Johnson. 3,094,334.
- Middleton, William J., to E. I. du Pont de Nemours and Co. Substituted 3,6-dihydro-2H-1-thiopyrans and the process for producing them. 3,073,845, 1-15-63, Cl. 260—327.
- Middleton, William J., to E. I. du Pont de Nemours and Co. Fluorothiacyl chlorides and polymers thereof. 3,113,936, 12-10-63, Cl. 260—79.
- Middletown Mfg. Co.: *See—*  
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- Midgley, Noel H., to Midgley Shoe Systems, Inc. Method of forming a laminated insole of varying thickness. 3,080,589, 3-12-63, Cl. 12—146.
- Midgley, Noel H., to Midgley Shoe Systems, Inc. Laminated insole of varying thickness. 3,095,658, 7-2-63, Cl. 36—44.
- Midgley Shoe Systems, Inc.: *See—*  
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Midgley, Noel H. 3,095,658.
- Midkiff, James C., to Avco Corp. Signal selector and automatic gain control for satellite command receiver. 3,108,225, 10-22-63, Cl. 325—415.
- Midland Bank Executor and Trustee Co.: *See—*  
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- Midland Chemical Corp.: *See—*  
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- Midland Industrial Finisher Co.: *See—*  
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- Midland Mfg. Co., Inc.: *See—*  
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- Midland-Ross Corp.: *See—*  
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- Midway Mfg. Co.: *See*—  
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- Mid-West Abrasive Co.: *See*—  
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- Midwest Conveyor Co., Inc.: *See*—  
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- Mid-West Metallic Products, Inc.: *See*—  
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- Midwest Mower Corp.: *See*—  
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- Mieher, Walter W., to Sperry Rand Corp. Monopulse radar system. 3,090,951, 5-21-63, Cl. 343-16.
- Miehle-Goss-Dexter, Inc.: *See*—  
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- Miehle, Walter F., to Seal, Inc. Process of preparing transparencies. 3,083,132, 3-26-63, Cl. 156-234.
- Mielenz, Richard C.: *See*—  
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- Mieras, John H., to American Radiator & Standard Sanitary Corp. Oil burner control system. 3,109,480, 11-5-63, Cl. 158-28.
- Miessner, Benjamin F., to The Wurlitzer Co. Electrical pick-up for a reed musical instrument. 3,077,137, 2-12-63, Cl. 84-104.
- Mietzsch, Fritz: *See*—  
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- Mievie, André, to M.-L. Spira-Klein. Machine for drilling holes in hard materials. 3,105,482, 10-1-63, Cl. 125-30.
- Miffin, Edward L., Jr.: *See*—  
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- Mighell, Russell L., to Kewanee Machinery & Conveyor Co. Wing gang coupling. 3,102,598, 9-3-63, Cl. 172-568.
- Mighton, Charles J.: *See*—  
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- Migietti, Italo P., and V. V. Warner, to General Motors Corp. Reinforced seal for rotatable members. 3,114,559, 12-17-63, Cl. 277-94.
- Mihal, Michael F.: *See*—  
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- Mihalakis, Agis I., to AIM Pump Corp. Rotary pump or motor. 3,107,846, 10-22-63, Cl. 230-149.
- Mihalakis, Agis I., to AIM Pump Corp. Check valve. 3,109,451, 11-5-63, Cl. 137-516.11.
- Mihalek, Robert M.: *See*—  
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- Mihalik, Robert, to The Patent Scaffolding Co. Inc. Safety ladder. 3,112,010, 11-26-63, Cl. 182-106.
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- Mihelich, Joseph B., to North American Aviation, Inc. Apparatus for comparing maps. 3,102,260, 8-27-63, Cl. 343-5.
- Mihm, Howard J., to Turner Corp. Paint scraper. 3,079,980, 3-5-63, Cl. 158-13.6.
- Mihran, Theodore G., to United States of America, Navy. Insulated seal for a rod movable in a wall. 3,101,387, 8-20-63, Cl. 174-18.
- Mihulowicz, George: *See*—  
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- Mika, Henry S., to United States Rubber Co. Apparatus for developing a signal representing the condition of balance of an object. 3,098,392, 7-23-63, Cl. 73-485.
- Mika, Thomas F., to Shell Oil Co. Cyano-substituted polyamides and their use as curing agents for polyepoxides. 3,091,595, 5-28-63, Cl. 260-18.
- Mikami, Tôru: *See*—  
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- Mike, John G. Pneumatic anti-skid or snow tire. 3,095,918, 7-2-63, Cl. 152-208.
- Mikhailov, Vladimir V.: *See*—  
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- Miklosek, Martin: *See*—  
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- Mikrovaerk A/S: *See*—  
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- Miksch, Russell S., to American Radiator & Standard Sanitary Corp. Mass transfer attitude-control for space vehicles. 3,091,417, 5-28-63, Cl. 244-76.
- Mikstis, Reinhold, to Tervakoski Osakeyhtio. Impregnated paper to serve as a dielectric, especially in condensers to improve their critical performance. 3,090,705, 5-21-63, Cl. 117-154.
- Mikula, Adam, to Sandoz Ltd. (also known as Sandoz A.G.). Process for the dyeing of copolymers of acrylonitrile and vinyl-acetate or vinyl-pyridine. 3,079,210, 2-26-63, Cl. 8-55.
- Mikulak, John: *See*—  
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- Mikulas, William. Device for opening nuts. 3,074,449, 1-22-63, Cl. 146-13.
- Mikulski, Henry M., and E. F. Holben, to Conoflow Corp. Positioner. 3,083,696, 4-2-63, Cl. 121-41.
- Milam, Robert A. Radar resolutions. 3,107,351, 10-15-63, Cl. 343-5.
- Milan Box Corp.: *See*—  
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- Milan, Emil P., to Magnatron Corp. Magnetic conveyor. 3,109,532, 11-5-63, Cl. 198-41.
- Milan, Nicholas M., to R & M Mfg. Corp. Height gauge. 3,106,022, 10-8-63, Cl. 33-170.
- Milani, Virgil I.: *See*—  
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- Milanos, Angelo: *See*—  
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- Milanos, Jerry L., and A. Dispenser. 3,105,320, 10-1-63, Cl. 43-56.
- Milanovits, Thomas: *See*—  
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- Milanovits, William T. and T., to M.L. Mfg. Co. Pipeline stopping tool. 3,091,260, 5-28-63, Cl. 138-94.
- Milazzo, Victor, to Van-Mico Products, Inc. Pin-attached button forming machine. 3,083,596, 4-2-63, Cl. 79-3.
- Milbert, Arthur H. Medical applicator. 3,078,848, 2-26-63, Cl. 128-251.
- Milbourne, Benjamin K., to R. S. Curtis. Folding chair. 3,083,051, 3-26-63, Cl. 297-19.
- Milbourne, Benjamin K. Denture cleaner. 3,098,496, 7-23-63, Cl. 134-166.
- Milbrandt, Rdell M. Eyebrow shaver-trimmer. 3,106,017, 10-8-63, Cl. 30-32.
- Milburn, Frank L., to General Motors Corp. Counterbalanced door for an oven door. 3,096,755, 7-9-63, Cl. 126-191.
- Milburn, Frank L., and T. L. Sigman, to General Motors Corp. Oven door mounting means. 3,113,566, 12-10-63, Cl. 126-194.
- Milbury, Elwood E.: *See*—  
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- Milbury, Elwood E., and E. W. Shultz, to Humane Slaughtering Device Corp. Apparatus for separating the windpipe from the esophagus of an animal. 3,099,857, 8-6-63, Cl. 17-1.
- Mildner, Karl: *See*—  
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- Mildner, Raymond C. Coaxial cable and temporary tensile member therefor. 3,100,812, 8-13-63, Cl. 174-10.
- Mildrum, W. W., Jewel Co.: *See*—  
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- Mile Hi Tackle Co.: *See*—  
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- Milek, Robert C. Portable material handling apparatus. 3,092,264, 6-4-63, Cl. 214-2.
- Milenkovic, Veljko, to American Machine and Foundry Co. Automatic transmission for a bicycle or the like. 3,071,984, 1-8-63, Cl. 74-751.
- Miles, Charlie A., to Alamance Industries, Inc. Knit fabric for a welt or the like. 3,098,368, 7-23-63, Cl. 66-178.
- Miles, Edward E.: *See*—  
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- Miles, George G.: *See*—  
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- Miles, George N., to G. O. Halsted. Surgical stapling device. 3,082,426, 3-26-63, Cl. 1-349.
- Miles, John R., to F. E. Aufhauser. Projection lens system. 3,088,369, 5-7-63, Cl. 88-57.
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Adams, Ernest C., Jr., and Smeby. 3,092,465.  
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- Miles Laboratories, Inc.: *See*—Continued  
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 Foster, James A., Sr., and Butler. 3,072,273.  
 Free, Alfred H. 3,099,605.  
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 Free, Alfred H., and Kercher. 3,095,277.  
 Schut, Robert N. 3,087,930.  
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 Miles, Marshall, to Stewart-Warner Corp. Electric tachometer sender. 3,094,656, 6-18-63, Cl. 323-60.  
 Miles, Merthen L., S. W. Brown, and O. K. Ward. Seed potato cutter. 3,096,801, 7-9-63, Cl. 146-78.  
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 Miles, William B. Type holder. 3,079,860, 3-5-63, Cl. 101-394.  
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 Miller, Carl F., E. F. Smart, and W. H. McCurdy, to Westinghouse Electric Corporation. Apparatus and method of assembly for electron discharge devices. 3,081,520, 3-19-63, Cl. 29-25.19.  
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 Miller, Donald P., to Texas Instruments Inc. Method of forming clean iron-lead telluride high temperature pressure contacts. 3,093,719, 6-11-63, Cl. 219-9.5.  
 Miller, Donald W., and A. Clarkson. Rotary plug valve. 3,111,299, 11-19-63, Cl. 251-175.  
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- Miller, Earle C., to Riley Stoker Corp. Slag tap furnace. 3,110,272, 11-12-63, Cl. 110-28.
- Miller, Earle C., to Riley Stoker Corp. Steam generating unit. 3,110,291, 11-12-63, Cl. 122-479.
- Miller, Edgar S.: See—  
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- Miller, Edward B.: See—  
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- Miller, Edwin A.: See—  
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- Miller Electric Mfg. Co.: See—  
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- Miller Engineering Corp.: See—  
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- Miller, Eugene J., Jr.: See—  
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- Miller, Francis A., and J. H. Albert, to Joseph P. Miller Co., Inc. Hub cap construction. 3,111,347, 11-19-63, Cl. 301-108.
- Miller, Frank H., Jr., to Miller Engineering Corp. Conveyor transfer machine. 3,082,495, 3-26-63, Cl. 22-31.
- Miller, Frederick J., to General Foods Corp. Process of preparing a quick-cooking brown rice. 3,086,867, 4-23-63, Cl. 99-80.
- Miller, Frederick L. B., to Chipper Machines and Engineering Corp. Veneer feeder. 3,086,769, 4-23-63, Cl. 270-93.
- Miller, Garrett H. Stone grapple. 3,099,476, 7-30-63, Cl. 294-112.
- Miller, Gene L.: See—  
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- Miller, George. Apparatus for cleaning feathers and the like. 3,081,533, 3-19-63, Cl. 34-2.
- Miller, George, and G. R. Colclough, 1/2 to Silkauf Mfg. Co., Inc., and 1/2 to Stauffer Chemical Co. Toilet seat assembly. 3,080,572, 3-12-63, Cl. 4-240.
- Miller, George A.: See—  
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- Miller, George B., to Associated Electrical Industries Ltd. Inductive loop communication systems. 3,076,058, 1-29-63, Cl. 179-82.
- Miller, George T., to Hooker Chemical Corp. Method of preparing phosphine. 3,109,790, 11-5-63, Cl. 204-101.
- Miller, George T., and J. Steingart, to Hooker Chemical Corp. Process for the preparation of phosphine. 3,109,786, 11-5-63, Cl. 204-101.
- Miller, George T., and J. Steingart, to Hooker Chemical Corp. Electrolytic production of phosphine. 3,109,788, 11-5-63, Cl. 204-101.
- Miller, George T., and J. Steingart, to Hooker Chemical Corp. Preparation of phosphine. 3,109,789, 11-5-63, Cl. 204-101.
- Miller, Glen E., to Boeing Airplane Co. Stabilized phase-sensitive servo loop demodulators. 3,099,798, 7-30-63, Cl. 329-124.
- Miller, Gustave: See—  
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- Huber, Robert D. 3,101,163.
- Johnson, Kirby R. 3,101,021.
- Miller, H. Paul, and W. A. Soper, to The B. F. Goodrich Co. Pipe joint sealing wrapper. 3,100,658, 8-13-63, Cl. 255-230.
- Miller, Harold A., to Francis Earle Laboratories, Inc. Nacreous material from titanium dioxide. 3,071,482, 1-1-63, Cl. 106-148.
- Miller, Harold A., and W. P. Kurtenbach, to Francis Earle Laboratories, Inc. Method of preparing plastic articles exhibiting variegated colors and resulting article. 3,082,179, 3-19-63, Cl. 260-17.
- Miller, Harold E., and R. W. McCoy. Ski equipment carrier. 3,114,487, 12-17-63, Cl. 224-45.
- Miller, Harold G., to Racine Hydraulics and Machinery, Inc. Material compacting device. 3,073,219, 1-15-63, Cl. 94-48.
- Miller, Harold G., to Racine Hydraulics and Machinery, Inc. Railroad maintenance machine. 3,073,258, 1-15-63, Cl. 104-7.
- Miller, Harold L.: See—  
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- Miller, Harold L., to Vemco Products, Inc. Card key system. 3,116,380, 12-31-63, Cl. 200-46.
- Miller, Harry: See—  
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- Jude, George F., and Miller. 3,079,109.
- Pippert, Elvin B., Sr., and Miller. 3,101,599.
- Miller, Harry, to Sperry Rand Corp. Control wheel force transducer. 3,114,124, 12-10-63, Cl. 336-30.
- Miller, Harry B., to Leesona Corp. Yarn retaining device. 3,102,702, 9-3-63, Cl. 242-128.
- Miller, Harry B., to Clevite Corp. Folded transducer. 3,110,825, 11-12-63, Cl. 310-87.
- Miller, Harry C. Compromise resisting combination lock. 3,098,376, 7-23-63, Cl. 70-333.
- Miller, Harry J., Jr.: See—  
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- Linsley, Douglas F., and Miller. 3,101,627.
- Miller, Harry L., to Ways & Means, Inc. Conveyor arrangement. 3,092,237, 6-4-63, Cl. 198-19.
- Miller, Henry, Spring and Mfg. Co.: See—  
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- Miller, Imrich M., to Universal Mfg. Corp. Terminal board. 3,116,099, 12-31-63, Cl. 339-198.
- Miller, Ira A., 1/2 to C. W. McCallum. Fluid actuated valve. 3,084,898, 4-9-63, Cl. 251-1.
- Miller, J. Vance. Two speed motor. 3,097,331, 7-9-63, Cl. 318-221.
- Miller, Jack: See—  
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- Miller, Jack. Sectional fountain type toothbrush. 3,081,783, 3-19-63, Cl. 132-84.
- Miller, Jack, to United States of America, Atomic Energy Commission. Method for air carbon-arc cutting or gouging. 3,100,255, 8-6-63, Cl. 219-70.
- Miller, Jack M., M. Long, and C. F. Rapp, to Marlen Equipment Co. Control apparatus for forming mechanism. 3,096,540, 7-9-63, Cl. 17-32.
- Miller, Jack M., M. Long, C. F. Rapp, and L. F. Alley, to Marlen Equipment Co. Machine for stuffing sausage and similar casings. 3,103,318, 10-29-63, Cl. 17-39.
- Miller, James A.: See—  
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- Miller, James A., to Reynolds Metals Co. Cathode structure for electrolytic reduction cell. 3,110,660, 11-12-63, Cl. 204-243.
- Miller, James C., to Radio Corp. of America. Negative resistance diode memory. 3,089,126, 5-7-63, Cl. 340-173.
- Miller, James C., to Radio Corp. of America. Shift register including two tunnel diodes per stage. 3,097,312, 7-9-63, Cl. 307-88.5.
- Miller, James F.: See—  
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- Miller, James H., to Gould-National Batteries, Inc. Battery vent plugs. 3,108,911, 10-29-63, Cl. 136-177.
- Miller, James K. Apparatus for making and projecting stereoscopic pictures employing a spherical mirror segment. 3,083,612, 4-2-63, Cl. 88-16.6.
- Miller, James K., and J. N. Lomonte, to The Dow Chemical Co. Recovery of hexamethylphosphorotriamide. 3,084,190, 4-2-63, Cl. 260-551.
- Miller, James L.: See—  
Pansing, Nelson J., Long, and Miller. 3,102,008.
- Miller, James N., to Gulf Oil Corp. Process and apparatus for distilling and visbreaking reduced crude. 3,110,663, 11-12-63, Cl. 208-93.
- Miller, James R., and D. H. Willson, to Jersey Production Research Co. Hydraulic fracturing fluid. 3,105,047, 9-24-63, Cl. 252-8.55.
- Miller, Jennings F., Jr. Miniature solar system displays. 3,089,259, 5-14-63, Cl. 35-45.
- Miller, Jerome F.: See—  
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- Miller, Jerry: See—  
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- Miller, Joan E.: See—  
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- Miller, John C. Pump and operating means. 3,075,471, 1-29-63, Cl. 103-151.
- Miller, John C., to Mine Safety Appliances Co. Helmet eye-shield adjuster. 3,081,460, 3-19-63, Cl. 2-6.
- Miller, John C., to Mine Safety Appliances Co. Coupling between helmet and pressure suit. 3,112,130, 11-26-63, Cl. 285-276.
- Miller, John D., to Miller Dial & Name Plate Co. Edge-lighted panel. 3,070,913, 1-1-63, Cl. 40-130.
- Miller, John H., and M. O. Helms. Soil agitator. 3,094,174, 6-18-63, Cl. 172-531.
- Miller, John L. Folding machine for tubular knitted fabrics. 3,083,008, 3-26-63, Cl. 270-31.
- Miller, John L. Earth tamper. 3,091,159, 5-28-63, Cl. 94-49.
- Miller, John L., to The Bendix Corp. Fluid brake pedal arrangement. 3,108,651, 10-29-63, Cl. 180-90.6.
- Miller, John M. Gas warning device. 3,102,257, 8-27-63, Cl. 340-237.



- Miller, John R.: *See*—  
Aldrich, Barry I., Frew, Miller, and Rayner. 3,107,605.
- Miller, John W. Electrical lead connectors. 3,092,430, 6-4-63, Cl. 339-32.
- Miller, John W., and H. W. Nidenberg, to General Electric Co. Material working machine with multiple tool holder. 3,074,147, 1-22-63, Cl. 29-26.
- Miller, Joseph, and P. Staudhammer, to The Regents of the University of California. Analyzer for determining concentration of combustibles in gases. 3,076,697, 2-5-63, Cl. 23-254.
- Miller, Joseph F.: *See*—  
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- Miller, Joseph F. Reverse gear transmission shifter. 3,106,852, 10-15-63, Cl. 74-365.
- Miller, Joseph N., to Jackes-Evans Mfg. Co. Valve. 3,079,952, 3-5-63, Cl. 137-625.49.
- Miller, Joseph P. Machine and method for loading portable tanks. 3,113,685, 12-10-63, Cl. 214-77.
- Miller, Joseph P., Co., Inc.: *See*—  
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- Miller, Joseph R., and C. O. Wilson. Derrick. 3,111,225, 11-19-63, Cl. 212-8.
- Miller, Keith W.: *See*—  
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- Miller, Kenneth. Gastight pressure vessel. 3,109,552, 11-5-63, Cl. 220-46.
- Miller, Kenneth C., to Baldwin-Lima-Hamilton Corp. Welding control construction. 3,108,181, 10-22-63, Cl. 219-131.
- Miller, Kenneth F., and T. M. Place, Sr., to Beckman Instruments, Inc. Variable resistor contact. 3,102,990, 9-3-63, Cl. 338-162.
- Miller, Kenneth J., to Bell Telephone Laboratories, Inc. Etching of germanium surfaces prior to evaporation of aluminum. 3,116,184, 12-31-63, Cl. 148-179.
- Miller, Kenneth W. Acceleration devices and indicating apparatus. 3,078,922, 1-15-63, Cl. 200-61.48.
- Miller, Laura E.,  $\frac{1}{2}$  to L. L. Shelton. Rug and method of making the same. 3,071,777, 1-8-63, Cl. 2-278.
- Miller, Lawrence E., to Rockford Sewing Machine Co. Sewing machine. 3,083,656, 4-2-63, Cl. 112-158.
- Miller, Lee A.: *See*—  
Katon, John E., and Miller. 3,097,086.
- Miller, Lee A., to Monsanto Chemical Co. Nitrile-ester pesticide. 3,078,210, 2-19-63, Cl. 167-22.
- Miller, Lee A., to Monsanto Chemical Co. Sulfonyl glycol dipropiolates. 3,082,244, 3-19-63, Cl. 260-486.
- Miller, Lee A., to Monsanto Chemical Co. Polyalkylene glycol dipropiolates. 3,082,245, 3-19-63, Cl. 260-486.
- Miller, Lee A., to Monsanto Chemical Co. Acetylenic diamides. 3,093,646, 6-11-63, Cl. 260-268.
- Miller, Lee A., to Monsanto Chemical Co. Diphosphonate alkyl esters. 3,093,672, 6-11-63, Cl. 260-461.
- Miller, Lee A., to Monsanto Chemical Co. Esterinylation of aromatic amines. 3,093,679, 6-11-63, Cl. 260-471.
- Miller, Lee A., to Monsanto Chemical Co. Esters. 3,093,680, 6-11-63, Cl. 260-486.
- Miller, Lee A., to Monsanto Chemical Co. Aryl propiolates. 3,097,230, 7-9-63, Cl. 260-473.
- Miller, Lee A., to Monsanto Chemical Co. Haloacrylate pesticides. 3,097,998, 7-16-63, Cl. 167-22.
- Miller, Lee A., to Monsanto Chemical Co. Esters of acetylenic acids. 3,100,794, 8-13-63, Cl. 260-486.
- Miller, Lee A., and J. M. Butler, to Monsanto Chemical Co. Esters of acetylenic acids and polyhydric alcohols. 3,082,242, 3-19-63, Cl. 260-486.
- Miller, Leo D. Humidifier preservative. 3,110,684, 11-12-63, Cl. 252-389.
- Miller, Leon F., to The Osborn Mfg. Co. Blow-squeeze molding machine. 3,089,207, 5-14-63, Cl. 22-36.
- Miller, Leonidas C.: *See*—  
Plumb, Lewis R., and Miller. 3,106,837.
- Miller, Leonidas C., to L. W. Kuhn. Tool head with removable tool holder. 3,107,562, 10-22-63, Cl. 82-36.
- Miller, Lewis F., and N. M. Callaghan, Jr., to International Business Machines Corp. Moisture set magnetic inks. 3,072,577, 1-8-63, Cl. 252-62.5.
- Miller, Lloyd G., to United Shoe Machinery Corp. Inseam sewing and upper tensioning machines. 3,077,844, 2-19-63, Cl. 112-35.
- Miller, Lloyd G., to United Shoe Machinery Corp. Shoe inseam sewing machines. 3,088,426, 5-7-63, Cl. 112-58.
- Miller, Louis D., and E. M. Musselman, to Radio Corp. of America. Photoconductive pickup tube having an electrically isolated mesh assembly. 3,073,981, 1-15-63, Cl. 313-65.
- Miller, Lowell A.: *See*—  
Whitfield, Robert E., Miller, and Wasley. 3,079,216.
- Whitfield, Robert E., Miller, and Wasley. 3,079,217.
- Whitfield, Robert E., Miller, and Wasley. 3,084,018.
- Whitfield, Robert E., Miller, and Wasley. 3,084,019.
- Whitfield, Robert E., Miller, and Wasley. 3,093,441.
- Miller, Lowell A., R. E. Whitfield, and W. L. Wasley, to United States of America, Agriculture. Shrinkproofing wool with polyamides. 3,078,138, 2-19-63, Cl. 8-128.
- Miller Lubricator Co.: *See*—  
Harkenrider, Robert J. 3,076,685.
- Miller, Marcell J., to The Liberty Steel Chest Corp. Rod holder for fishing tackle boxes. 3,095,663, 7-2-63, Cl. 43-21.2.
- Miller, Marlow W., to Millico Corp. Can and jug washing machine. 3,078,861, 2-26-63, Cl. 134-96.
- Miller, Marshall A. Weigher controlled bagging machine. 3,115,943, 12-31-63, Cl. 177-109.
- Miller, Martin P., and J. S. Pratt, to Brillo Mfg. Co., Inc. Metal wool pad. 3,078,489, 2-26-63, Cl. 15-209.
- Miller, Marvin O., to United States of America, Navy. Apparatus and method for launching and recovering lifeboats in rough seas. 3,109,185, 11-5-63, Cl. 9-34.
- Miller, Mary L., to American Cyanamid Co. Method of making a crystallizable polymer with lithium as catalyst. 3,088,939, 5-7-63, Cl. 260-88.7.
- Miller, Mary L., to American Cyanamid Co. Preparation of high molecular weight polyacrylonitrile with N-butyl lithium as catalyst. 3,098,060, 7-16-63, Cl. 260-88.7.
- Miller, Meritt L., to General Electric Co. Converter for converting alternating current signals to proportional constant polarity signals including compensating diode feedback. 3,112,449, 11-26-63, Cl. 328-26.
- Miller, Monroe A., to Electronic Associates, Inc. Suppression of grid current effects in D.C. amplifiers. 3,081,485, 3-12-63, Cl. 330-9.
- Miller, Montgomery K., and W. L. Kumler. Well screening device. 3,099,318, 7-30-63, Cl. 166-227.
- Miller, Norman. Boat bumpers. 3,079,884, 3-5-63, Cl. 114-219.
- Miller, Norman B., M. T. Pigott, D. C. Whitmarsh, and R. O. Rowlands, to United States of America, Navy. Acoustical wave direction determining device. 3,113,286, 12-3-63, Cl. 340-6.
- Miller, Norman J., to Solidaire, Inc. Radial drill press. 3,102,440, 9-3-63, Cl. 77-28.
- Miller, Orville C.: *See*—  
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- Miller, Paul C. Materials proportioning device. 3,101,801, 8-27-63, Cl. 177-70.
- Miller, Paul J., to The Weatherhead Co. Control valve for vehicle suspension. 3,071,394, 1-1-63, Cl. 280-124.
- Miller, Paul J., to The Weatherhead Co. Rotary selector valve. 3,082,791, 3-26-63, Cl. 187-625.21.
- Miller, Paul M., to The National Cash Register Co. Method of making ferrite cores. 3,109,817, 11-5-63, Cl. 252-62.5.
- Miller, Paul O. Shock absorbing attachment for fork lift trucks. 3,080,080, 3-5-63, Cl. 214-750.
- Miller, Peter H. Stock material for use as edging strip. 3,090,087, 5-21-63, Cl. 20-92.
- Miller and Poston Mfg. Co.: *See*—  
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- Miller Printing Machinery Co.: *See*—  
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- Saul, August A. 3,106,154.
- Young, William G. 3,096,088.
- Miller, Ralph D., and W. E. Stanford, to Spencer Chemical Co. Nitrogen solutions with corrosion inhibitor. 3,104,969, 9-24-63, Cl. 71-50.
- Miller, Ray A.: *See*—  
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- Miller, Ray R. Audio visual exhibitor. 3,078,593, 2-26-63, Cl. 35-8.
- Miller, Raymond J.: *See*—  
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- Miller, Raymond J., R. L. Erwin, and D. R. King, to Ford Motor Co. Multiple speed power transmission mechanism. 3,080,764, 3-12-63, Cl. 74-15.84.
- Miller, Richard: *See*—  
Tazuma, James J., and Miller. 3,075,979.
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- Miller, Richard H.: *See*—  
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- Miller, Richard H., to Astravac Corp. Method of melting materials. 3,084,032, 4-2-63, Cl. 23-308.
- Miller, Richard M., and H. I. Patzelt, to Nalco Chemical Co. Preventing fouling of metal conductors in a refinery process. 3,105,810, 10-1-63, Cl. 208-48.
- Miller, Robert E., to The National Cash Register Co. Photochemical printing process and sheet material. 3,116,148, 12-31-63, Cl. 96-48.
- Miller, Robert E., T. E. Kolany, and W. E. Soong, to United States of America, Army. Mechanical wiper assembly. 3,102,294, 9-3-63, Cl. 15-97.
- Miller, Robert H.: *See*—  
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- Miller, Robert K.: *See*—  
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- Hinkle, James O., Miller, and Monahan. 3,076,049.
- Miller, Robert L., and R. J. Wolf, Jr., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,101,433, 8-20-63, Cl. 317-149.
- Miller, Roger B.: *See*—  
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- Miller, Roland M. Method for releasably mounting dental modes in plaster of Paris on dental articulators. 3,092,909, 6-11-63, Cl. 32-32.
- Miller, Roman R.: *See*—  
Grand, Joseph A., and Miller. 3,093,107.
- Miller, Ross J., to E. I. du Pont de Nemours and Co. Initiator. 3,106,892, 10-15-63, Cl. 102-27.
- Miller, Ross J., and G. A. Noddin, to E. I. du Pont de Nemours and Co. Sonic pulse generating device. 3,102,474, 9-3-63, Cl. 102-1.
- Miller, Roy G.,  $\frac{1}{2}$  to Dayton T. Brown, Inc. Stabilizing mine roofs. 3,108,442, 10-29-63, Cl. 61-45.



- Miller, Russell C., to Cowles Chemical Co. Metal treating. 3,106,484, 10-8-63, Cl. 117-71.
- Miller, Ruth S. Closure cap for waxed paper cup. 3,090,542, 5-21-63, Cl. 229-51.
- Miller, Samuel A., G. C. Mash, and J. A. Tebbeth, to The British Oxygen Co. Ltd. Granular porous mass for storage of acetylene and method of manufacturing same. 3,094,492, 6-18-63, Cl. 252-430.
- Miller, Solomon L., to Raytheon Co. Solar cells. 3,081,370, 3-12-63, Cl. 136-89.
- Miller, Solomon L., to International Business Machines Corp. Binary full adder utilizing asymmetric P-N-P-N transistors operated at different saturation current levels. 3,094,613, 6-18-63, Cl. 235-176.
- Miller, Stanley J.: *See—*  
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Cline, Robert F., and Miller. 3,103,441.
- Miller, Stewart C.: *See—*  
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- Miller, Stewart E., to Bell Telephone Laboratories, Inc. Spurious mode suppressing wave guide. 3,073,428, 2-19-63, Cl. 333-95.
- Miller, Stewart E., to Bell Telephone Laboratories, Inc. Electromagnetic wave devices. 3,112,460, 11-26-63, Cl. 333-9.
- Miller, Stewart F., and F. W. Zimmerman, to National Broach & Machine Co. Lead control structure. 3,106,805, 10-15-63, Cl. 51-95.
- Miller, Theodore, to North American Aviation, Inc. Error measuring system for scanners. 3,085,158, 4-9-63, Cl. 250-203.
- Miller, Theodore A. Apparatus for casting hollow articles. 3,072,965, 1-15-63, Cl. 18-26.
- Miller, Thomas P., S. L. Fudaley, and R. N. Reinertson, to International Telephone and Telegraph Corp. Circuit for canceling oscillating in public address systems. 3,105,877, 10-1-63, Cl. 179-1.
- Miller, Tom B., and H. W. Nimmo, to General Motors Corp. Radiator cap with release valve. 3,112,840, 12-3-63, Cl. 220-44.
- Miller, Walter A.: *See—*  
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- Miller, Walter A., and C. N. Merriam, Jr., to Union Carbide Corp. Synthetic fibrous products. 3,097,991, 7-16-63, Cl. 162-157.
- Miller, Walter P.: *See—*  
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- Miller, Ward B., and W. H. Ewing, to Owens-Corning Fiberglass Corp. Apparatus for forming tubular insulating bodies of fibrous structure. 3,093,532, 6-11-63, Cl. 156-430.
- Miller, Warren P.: *See—*  
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- Miller, Warren S., and E. B. Strong. Patient transfer mechanism for weighing scale. 3,109,179, 11-5-63, Cl. 5-81.
- Miller, Wayne G., to Divco-Wayne Industries, Inc. Bay window assembly for house trailers and the like. 3,074,125, 1-22-63, Cl. 20-40.
- Miller, Wayne K. Farrowing crate. 3,105,462, 10-1-63, Cl. 119-20.
- Miller, Wendell S. Mechanical power amplifier. 3,071,021, 1-1-63, Cl. 74-377.
- Miller, Wendell S. Intermittent operation mechanical power amplifier. 3,084,564, 4-9-63, Cl. 74-388.
- Miller, Wendell S. Gear type fluid handling device. 3,110,265, 11-12-63, Cl. 103-120.
- Miller, Wendell S. Variable delay pin-setting apparatus. 3,116,063, 12-31-63, Cl. 273-43.
- Miller, Wilbur A., and E. B. Glenger, Jr., to International Latex Corp. Manufacture of deposited latex articles. 3,079,643, 3-5-63, Cl. 18-58.7.
- Miller, William B. Y., to Colvilles Ltd. Method of producing slag in fragmented form. 3,109,727, 11-5-63, Cl. 65-19.
- Miller, William C., to International Telephone and Telegraph Corp. Delayed call telephone system. 3,110,773, 11-12-63, Cl. 179-41.
- Miller, William E., to Miller-Holzwarth, Inc. Film supply magazine. 3,104,847, 9-24-63, Cl. 242-71.7.
- Miller, William J., to Jackson Buff Corp. Buffing wheel of woven fabric with warp yarns arranged radially, and method of making same. 3,110,138, 11-12-63, Cl. 51-193.
- Miller, William J., to Jackson Buff Corp. Segment buff with inclined segments. 3,110,139, 11-12-63, Cl. 51-193.
- Miller, William L.: *See—*  
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- Miller, William L., to Continental Can Co., Inc. Rotary molding machine. 3,071,812, 1-8-63, Cl. 18-21.
- Miller, William L., to Continental Can Co., Inc. Composite cup and bottom therefor. 3,083,888, 4-2-63, Cl. 229-1.5.
- Miller, William R., to General Electric Co. Magnetic amplifier. 3,092,769, 6-4-63, Cl. 323-89.
- Miller, William R. Disposable protective cap on contact tube of welding gun. 3,103,576, 9-10-63, Cl. 219-130.
- Miller, William R., R. E. Vaughan, and G. B. Anderson, to Farrel-Birmingham Co., Inc. Process for assembling railroad wheels and axles. 3,073,013, 1-15-63, Cl. 29-168.
- Miller, William R., F. W. Young, and P. Hold, to Consolidated Machine Tool Division of Farrel-Birmingham Co., Inc. Axle lathe. 3,079,822, 3-5-63, Cl. 82-14.
- Miller, William R., and G. M. Lance. Pressure operated valve means for controlling flow in a flow line. 3,099,232, 7-30-63, Cl. 137-87.
- Miller, William R., Jr., P. Hold, F. E. Compton, and G. B. Anderson, to Farrel-Birmingham Co., Inc. Automated railroad wheel shop. 3,085,311, 4-16-63, Cl. 29-33.
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- Miller Wrapping & Sealing Machine Co.: *See—*  
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Arvidson, Bengt A. 3,093,945.
- Milleron, Norman, to United States of America, Atomic Energy Commission. Cold trap. 3,081,068, 3-12-63, Cl. 62-332.
- Milleron, Norman, and L. L. Levenson, to United States of America, Atomic Energy Commission. Vacuum trap and valve combination. 3,077,712, 2-19-63, Cl. 55-208.
- Millership, Ronald, to Elliott Brothers (London) Ltd. Magnetometers. 3,103,622, 9-10-63, Cl. 324-5.
- Millervise, Carl H., to American Radiator & Standard Sanitary Corp. Switch. 3,076,070, 1-29-63, Cl. 200-67.
- Milles, Karl, to Wacker-Chemie G.m.b.H. Herbicidal compositions. 3,080,226, 3-5-63, Cl. 71-2.4.
- Millville, Bertram J., to Edward Valves, Inc. Valve for high pressure abrasive carrying fluids. 3,071,343, 1-1-63, Cl. 251-175.
- Millhiser Bag Co., Inc.: *See—*  
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- Millhiser, Robert G., and P. Kosar, to Ajem Laboratories, Inc. Power washer and the like. 3,094,207, 6-18-63, Cl. 198-209.
- Millhouse, Murray S.: *See—*  
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- Millhouse, Murray S., and W. Ziffer, to General Motors Corp. Trim and seal means. 3,082,491, 3-26-63, Cl. 20-69.
- Milligan, Frederick H., to Crown Zellerbach Canada Ltd. Wood defect removing apparatus. 3,103,961, 9-17-63, Cl. 144-2.
- Milligan, Harry R. Clothes hanger. 3,102,668, 9-3-63, Cl. 223-95.
- Milligan, James W., to Duncan Electric Co., Inc. Magnetic suspension. 3,114,582, 12-17-63, Cl. 308-10.
- Milligan, John G., to Jefferson Chemical Co., Inc. Method for preparing N,N'-dimethyl-triethylene-diammonium dinitrate. 3,083,203, 3-26-63, Cl. 260-268.
- Milligan, Rex V., and A. P. Weiner, to Cluett, Peabody & Co., Inc. Edge guide automatic sewing. 3,072,081, 1-8-63, Cl. 112-2.
- Milligan, Terry W., to Polaroid Corp. Novel chemical synthesis for alkylsulfonium perchlorates. 3,081,351, 3-12-63, Cl. 260-607.
- Millikan, Wilbur E., to The New York Air Brake Co. Automatic control device. 3,078,012, 2-19-63, Cl. 222-57.
- Milligan, William C. Method and apparatus for electrical power generation. 3,089,079, 5-7-63, Cl. 322-2.
- Millikan, Allen F., to The Pure Oil Co. Preparation of cyclic alkylene thiocarbonates. 3,073,846, 1-15-63, Cl. 260-327.
- Millikan, Allen F., to The Pure Oil Co. Separation of m-xylene and p-xylene by distillation in the presence of benzyl alcohol. 3,089,829, 5-14-63, Cl. 202-39.5.
- Millikan, Allen F., and G. W. Crosby, to The Pure Oil Co. Method of preparing phosphorotetrathioate esters. 3,073,857, 1-15-63, Cl. 260-461.
- Millikan, Allen F., and G. W. Crosby, to The Pure Oil Co. Lubricating composition. 3,098,824, 7-23-63, Cl. 252-46.7.
- Millikan, Allen F., and G. W. Crosby, to The Pure Oil Co. Preparation of phosphorothioate esters from benzyl alcohol and phosphorus pentasulfide. 3,102,130, 8-27-63, Cl. 260-461.
- Millikan, Allen F., and W. E. Kramer, to The Pure Oil Co. Method of retarding evaporation from an open body of water. 3,112,167, 11-26-63, Cl. 21-60.5.
- Milliken, Spencer R., and E. J. Schafer, to Aluminum Co. of America. Method for continuous casting. 3,087,213, 4-30-63, Cl. 22-192.
- Milliken, Thomas H., to The M. W. Kellogg Co. Halogen production. 3,114,607, 12-17-63, Cl. 23-215.
- Milliken, Thomas H., Jr., J. H. Krause, and J. J. Donovan, to Air Products and Chemicals, Inc. Method of treating radioactive wastes. 3,101,998, 8-27-63, Cl. 23-25.
- Millikin, Lee D. Low air speed indicator. 3,089,457, 5-14-63, Cl. 116-112.
- Millionis, Jerry P.: *See—*  
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- Millious, Wyatt A.: *See—*  
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- Millis, Edwin G.: *See—*  
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- Millis, Walter T., to General Electric Co. Electron discharge device. 3,092,749, 6-4-63, Cl. 313-350.
- Millitest Corp.: *See—*  
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- Millman, Nathan, and J. B. Whitley, to J. M. Huber Corp. Method of reducing clay viscosity. 3,106,476, 10-8-63, Cl. 106-72.



- Millman, Nathan, and R. E. Homm, to Ortho Pharmaceutical Corp. Spermicidal sheet-like material for internal solution. 3,108,043, 10-22-63, Cl. 167-58.
- Millman, William V.: *See*—  
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- Millman, William V., and E. J. Greene, to American Air Filter Co., Inc. Condensate drip pan construction and mounting arrangement therefor. 3,102,654, 9-3-63, Cl. 220-1.
- Millner, Beverly R., and C. D. Hodges. Slide changer. 3,110,217, 11-12-63, Cl. 88-28.
- Millrich Engineering Co., a Division of Int'l. Electronic Research Corp.: *See*—  
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- Mills, Allan K., to Tamar Electronics Industries Inc. Gyroscope caging mechanism. 3,114,269, 12-17-63, Cl. 74-5.1.
- Mills, Ann M.: *See*—  
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- Mills, Archie W. Food holding and turning apparatus. 3,096,707, 7-9-63, Cl. 99-423.
- Mills, Carroll B., to United States of America, Atomic Energy Commission. Ion source (R.F. induction type). 3,084,281, 4-2-63, Cl. 315-111.
- Mills, Christopher S. Supporting devices. 3,114,529, 12-17-63, Cl. 248-168.
- Mills, Clarence A., to Reflectotherm, Inc. Therapeutic radiant cooling system. 3,097,650, 7-16-63, Cl. 128-402.
- Mills Co., The: *See*—  
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- Mills, Eugene V.: *See*—  
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- Mills, Fred Corp., The: *See*—  
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- Mills, Gerald J., to Chalco Engineering Corp. Tape program apparatus. 3,071,317, 1-1-63, Cl. 234-79.
- Mills, Ivor W., and J. J. Melchiorre, to Sun Oil Co. Manufacture of dibasic acids and esters thereof from petroleum fractions. 3,097,231, 7-9-63, Cl. 260-475.
- Mills, James, Ltd.: *See*—  
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- Mills, John A. Gear finishing machines. 3,097,566, 7-16-63, Cl. 90-1.6.
- Mills, John J.: *See*—  
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- Mills, John K., to Bell Telephone Laboratories, Inc. Transistor oscillator employing current and voltage feedback. 3,078,422, 2-19-63, Cl. 331-113.
- Mills, John K., to Bell Telephone Laboratories, Inc. Output voltage control for power conversion apparatus. 3,106,672, 10-8-63, Cl. 320-1.
- Mills, John K., to Bell Telephone Laboratories, Inc. Compensating apparatus for frequency sensitive regulators. 3,109,133, 10-29-63, Cl. 321-2.
- Mills, Joseph A. W., and D. H. Cannon, to Dowty Mining Equipment Ltd. Expandable bolt with auxiliary stressing means. 3,093,026, 6-11-63, Cl. 85-2.4.
- Mills, Kenneth K., B. Franzus, and P. J. Canterino, to Phillips Petroleum Co. Hexa-substituted benzenes as resin stabilizers. 3,102,870, 9-3-63, Cl. 260-45.7.
- Mills, Leonard: *See*—  
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- Mills, Mark M., deceased, by P. R. Mills, executrix, now by change of name P. R. Plessett, 25% to Lippincott, Ralls & Hendricson. Educational nuclear reactor. 3,110,656, 11-12-63, Cl. 264-193.2.
- Mills, Norman T. Jouncing foot toy. 3,078,092, 2-19-63, Cl. 272-55.
- Mills, Norman T. Self-sealing shaker top. 3,111,244, 11-19-63, Cl. 222-196.4.
- Mills, Pauline R.: *See*—  
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- Mills, Robert H., to Monsanto Chemical Co. Preparation of diphenyl phthalates. 3,076,837, 2-5-63, Cl. 260-475.
- Mills, Russell K. Milking machine inflation cleaner. 3,076,988, 2-12-63, Cl. 15-56.
- Mills, Tonk, and W. J. Lynn. Air operated vibrator for dentistry. 3,082,529, 3-26-63, Cl. 32-56.
- Mills, Victor A.: *See*—  
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- Mills, Walter P., to Imperial Chemical Industries Ltd. New dyeing process. 3,097,043, 7-9-63, Cl. 8-55.
- Mills, William C., to Celanese Corp of America. Preparation and recovery of olefin polymers. 3,084,150, 4-2-63, Cl. 260-94.9.
- Millsbaugh, Louise N.: *See*—  
Nordell, Carl H. 3,091,337.  
Nordell, Carl H. 3,091,338.
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- Millward, Arthur W., to The National Acme Co. Gas fired face plate. 3,114,181, 12-17-63, Cl. 22-10.
- Millward, Arthur W., to The National Acme Co. Electrical heater plate. 3,114,823, 12-17-63, Cl. 219-37.
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- Milne, Charles B.: *See*—  
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- Miner, Clifford E., Jr., to E. I. du Pont de Nemours and Co. Photographic film element with antihalation layer. 3,091,535, 5-28-63, Cl. 96-84.
- Miner, Cobb, to The Elmore Corp. Apparatus for irregularly dyeing yarn and the like. 3,083,640, 4-2-63, Cl. 101-172.
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- Milnes, Frank J., and C. M. White, to Olin Mathieson Chemical Corp. Foam inhibited glycol based antifreeze composition. 3,088,913, 5-7-63, Cl. 252-73.
- Milnes, James A.: *See*—  
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- Milosevic, Ljubimko, to Thomson-Houston Compagnie Française. Signal receiver. 3,082,418, 3-19-63, Cl. 343-11.
- Milosevich, Rudolph G. M.: *See*—  
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Griem, Milton E. 3,079,912.  
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- Milstead, Clyde E., Jr.: *See*—  
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- Miltimore, Kenneth L.: *See*—  
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- Milton, Clare L., Jr.: *See*—  
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- Milton, Robert M., to Union Carbide Corp. Sweetening and drying of natural gas. 3,078,634, 2-26-63, Cl. 55-33.
- Milton, Robert M., to Union Carbide Corp. Water separation from a vapor mixture. 3,078,635, 2-26-63, Cl. 55-35.
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- Milton, Robert M., to Union Carbide Corp. Method for adsorbing and separating unsaturated aliphatic hydrocarbons. 3,078,644, 2-26-63, Cl. 55-75.
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- Milwaukee Faucets, Inc.: *See*—  
Hartmann, Gilbert L. 3,081,040.
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- Mims, Bruce L., and J. E. Fitzgerald, to The Barden Corp. Thermoelectric cooling assembly. 3,097,027, 7-9-63, Cl. 308-189.
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- Minard, William F., to Burroughs Corp. Selective control apparatus for electrical read-in. 3,109,922, 11-5-63, Cl. 235-61.6.
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- Minden, Henry T., and L. Berenbaum, to Sylvania Electric Products Inc. Method of making a permanent magnet. 3,090,107, 5-21-63, Cl. 29-155.6.
- Minder, Peter M., to McGraw-Edison Co. Capacitor bank protective arrangement. 3,080,506, 3-5-63, Cl. 317-12.
- Mindheim, Daniel J., and H. C. Lindemann, to Lindley & Co., Inc. Yarn tensioning device. 3,100,091, 8-6-63, Cl. 242-15.0.
- Mindler, Albert B.: *See*—  
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- Mindlin, Raymond D.: *See*—  
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- Mine Safety Appliances Co.: *See*—  
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Austin, Harry W. 3,092,837.  
Bixby, Guy T. 3,091,771.  
Black, Ronald C., and Hohos. 3,089,552.  
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Bub, Robert A. 3,112,264.  
Dueker, Gordon W., and Sebens. 3,070,989.  
Henke, Robert L. 3,099,374.  
Leflier, Charles L., Jr., and Curran. 3,111,947.  
Lohr, Paul L. R. 3,093,136.  
Michael, Paul L., Strange, and Stewart. 3,089,561.  
Miller, John C. 3,081,460.  
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Kautz, Harry P. 3,075,712.  
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- Mineau, Paul J., and B. A. Winton. Aerator pump. 3,086,715, 4-23-63, Cl. 239-281.
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- Mineck, Fred., to Bee Line Co. Wheel alignment machine. 3,079,695, 3-5-63, Cl. 33-203.12.
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- Miner, Donald B.: *See*—  
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- Miner, Raymond, Jr. Dial indicator extension attachment. 3,079,693, 3-5-63, Cl. 33-172.
- Miner, Richard Y., and C. D. Bock, to American Bosch Arms Corp. Ordnance calculator. 3,113,203, 12-3-63, Cl. 235-61.5.
- Miner, Robert G.: *See*—  
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- Miner, Robert G., to The Trane Co. Refrigeration system control. 3,110,160, 11-12-63, Cl. 62-164.
- Minera, Salvador A. Fruit stemmer. 3,103,240, 9-10-63, Cl. 146-55.
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Allegrini, Aldo P., and Cecil. 3,098,045.  
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- Minerals & Chemicals Philipp Corp.: *See*—Continued  
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Ferrigno, Thomas H. 3,083,080.  
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Kaspaul, Erika E. 3,098,126.  
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- Minetti, Ralf. Time-setting device. 3,104,646, 9-24-63, Cl. 116-133.
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- Minick, Dean K., to Capitol Products Corp. Weather seal for sliding window. 3,070,856, 1-1-63, Cl. 20-69.
- Minick, Dean K., to Capitol Products Corp. Latch for sliding window. 3,078,524, 2-26-63, Cl. 20-52.
- Minick, Lee E., to Penton Electronics Corp. Apparatus for thermoplastic sealing. 3,102,286, 9-3-63, Cl. 12-33.2.
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- Mining Research Corp.: *See*—  
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Bickerdike, Robert L., Hughes, and Watt. 3,107,973.  
Prescott, Thomas W., and Scrimshaw. 3,092,357.
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- Ministerul Industriel Petrolului Si Chimiei: *See*—  
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- Minkema, William H.: *See*—  
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Alderson, Ross C. 3,072,369.  
Anderson, John E. 3,111,850.  
Armstrong, Robert W., and Pullen. 3,085,595.  
Avery, Harold T. 3,081,966.  
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Berggren, Lloyd E. 3,090,328.  
Bolmgren, Lester N. 3,075,130.  
Bouchard, John R. 3,104,552.  
Brekke, Byron O. 3,083,930.  
Briney, Gerald S., and Kliever. 3,079,084.  
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Burgwin, Stephen L. 3,076,111.  
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Byrne, John F., and Kurz. 3,105,762.  
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Duke, John A. 3,105,150.  
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Faulds, Malcolm H. 3,075,123.  
Feniti, Robert D., and Janssen. Re. 25,499.  
Fillmore, Robert L., and Hawkins. 3,079,540.  
Flagg, Raymond P. 3,109,449.  
Freeborn, John C. 3,104,333.  
Ganley, Gregory J., and Sanford. 3,108,183.  
Gran, Burton E., Holmen, and Prosen. 3,102,048.  
Gray, William T. 3,111,841.  
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 Jenkins, John W. 3,082,792.  
 Jensen, James L., and White. 3,085,211.  
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 Joesting, Frederick D. 3,098,504.  
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 Jokela, Veikko J. 3,095,487.  
 Jokela, Veikko J. 3,107,499.  
 Jones, Keith C. 3,077,077.  
 Jordan, Arthur H. 3,079,074.  
 Kennedy, Buford K. 3,099,376.  
 King, William R. 3,093,432.  
 Kompellen, Arlon D. 3,081,765.  
 Kotas, Donald E. 3,071,759.  
 Kunz, Walden H. 3,071,976.  
 Kutzler, Robert J. Re. 25,311.  
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 Lawrance, Richard B. 3,082,509.  
 Lee, Robert C. K. 3,113,749.  
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 Leger, Alton, Jr. 3,099,792.  
 Le Massena, Robert A. 3,107,138.  
 Levine, Abraham. 3,091,705.  
 Liebrecht, Waldemar W. 3,093,977.  
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 Lorenz, Jerome L. 3,087,114.  
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 Lourie, Norman M. 3,075,175.  
 Loveland, Roger S. 3,078,916.  
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 McCammon, Robert F. 3,072,016.  
 McCammon, Robert F. 3,078,763.  
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 Otis, William C. 3,094,899.  
 Pearson, Robert P. 3,083,572.  
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 Pesola, Raymond H. 3,081,968.  
 Peterson, Jack A., and Wagner. 3,082,630.  
 Pinckaers, Balthasar H. 3,082,814.  
 Prindle, James H. 3,102,423.  
 Reach, Roy W., Jr. 3,092,807.  
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 Reese, David N. 3,090,234.  
 Reichow, William A. 3,086,583.  
 Renier, James J. 3,082,624.  
 Ricke, Donald W. 3,088,060.  
 Rohmann, Charles P., and Watrous. 3,072,326.  
 Sapino, Theodore. 3,081,940.  
 Schmidt, Ronald G., and Tomkinson. 3,071,681.  
 Schrimpf, Henry W. 3,088,101.  
 Schuck, Oscar H. 3,082,324.  
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 Scott, Troy A. 3,109,737.  
 Sear, Arthur W., and Stert. 3,083,276.  
 Severson, Asbjorn M. 3,080,886.  
 Sidaris, Nicholas J. 3,096,971.  
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 Wilkins, Robert E., and Fowle. 3,090,297.  
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- Minneapolis-Moline, Inc.: See—  
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- Minnerly, Robert D., Jr. Fastener. 3,083,425, 4-2-63, Cl. 24—66.
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 Doncaster, Daniel P., Bauer, and Goldberg. 3,090,574.  
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 Grant, Edwin A., Jr. 3,080,254.  
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 Heasley, Charles K. 3,101,845.  
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 Lang, Arthur H. 3,102,010.  
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 Lo, Elizabeth S. 3,085,996.  
 McMaster, Clarence O. 3,076,752.  
 Miller, Carl S., and Neher. 3,082,085.  
 Monnikendam, Philip, and Dawson. 3,078,314.  
 Mullin, John T. 3,093,284.  
 Mullin, John T. 3,097,332.  
 Nachtsheim, Henry G., Meyer, and Grande. 3,089,786.  
 Nellesen, Alfred H. 3,099,637.  
 Neumayer, John J. 3,083,319.  
 Ostlie, Dean A. 3,111,428.  
 Owen, Richard. 3,074,809.  
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 Park, Joseph D., and Stefani. 3,072,705.  
 Pendleton, Robert A. 3,097,778.  
 Petryk, William W. 3,073,437.  
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 Raymond, Albert E. 3,090,106.  
 Reitter, John L. 3,094,620.  
 Riedesel, Richard G. 3,072,615.  
 Sandberg, Carl L., and Mullins. 3,080,347.  
 Scott, Warren H. 3,098,138.  
 Shely, Benjamin L., and Clark. 3,072,541.  
 Smith, George H. 3,110,687.  
 Smith, George H. 3,115,474.  
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 Smith, George H. 3,115,490.  
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- Minnesota Mining and Mfg. Co.: *See*—Continued  
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 Spies, Harry A. 3,080,781.  
 Stivers, David A., and Peterson. 3,096,314.  
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 Stoothoff, Stanley T. 3,104,573.  
 Tierney, Hubert J., and Thurnauer. 3,089,801.  
 Toensing, James W. 3,081,815.  
 Wartman, Thomas G. 3,107,174.  
 Wartman, Thomas G., and O'Mara. 3,089,952.  
 Wasserman, David. 3,074,900.  
 Wear, Robert L. 3,087,910.  
 Wear, Robert L. 3,110,701.  
 West, Fred W., Seffl, and Reilly. 3,076,765.  
 Wicklund, Leslie G. 3,115,246.  
 Winthrop, Arthur S., and Skotnicki. 3,102,043.  
 Workman, Wesley R. 3,074,869.  
 Workman, Wesley R. 3,094,417.  
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- Minnesota and Ontario Paper Co.: *See*—  
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- Minnesota Rubber Co.: *See*—  
 Stocking, Hobart L. 3,100,904.
- Minnesota Scale Mfg. Co.: *See*—  
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- Minnich, Gilbert A.: *See*—  
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- Minnich, John B.: *See*—  
 Castle, William S., and Minnich. 3,081,021.
- Minnich, Walter D.: *See*—  
 Marsh, Elliott R., and Minnich. 3,111,648.
- Minnick, Gerald D., to Conforming Matrix Corp. Paint spraying machine. 3,104,181, 9-17-63, Cl. 118-70.
- Minnick, Leonard J., to G. & W. H. Corson, Inc. Compositions for building load supporting surfaces. 3,076,717, 2-5-63, Cl. 106-118.
- Minnick, Robert C., to Minneapolis-Honeywell Regulator Co. Memory circuitry for digital data. 3,110,015, 11-5-63, Cl. 340-174.
- Minnotte, Albert J.: *See*—  
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- Minogue, Robert B.: *See*—  
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- Min-O-Matic, Inc.: *See*—  
 Gay, Newsome W. 3,081,174.
- Minor, William F.: *See*—  
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- Minshall, George T.: *See*—  
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- Minsk, Louis M., to Eastman Kodak Co. Photographic element having a stripping or antihalation layer comprising a resinous carboxy ester-lactone. 3,102,028, 8-27-63, Cl. 96-83.
- Minter, Jerry B. Precision regulated high voltage source. 3,113,275, 12-3-63, Cl. 331-109.
- Minto, Wallace L., to Modern Aids, Inc. Air purifier. 3,072,978, 1-15-63, Cl. 21-74.
- Minton, Clarence W., to Morpul, Inc. Lubricating system for knitting machines and the like. 3,078,960, 2-26-63, Cl. 184-81.
- Minton, Clarence W., to Morpul, Inc. Apparatus for handling hosiery. 3,103,302, 9-10-63, Cl. 223-39.
- Minty, John E., to Manning, Maxwell & Moore Inc. Steerable gantry crane. 3,081,883, 3-19-63, Cl. 212-13.
- Minty, John E., to Manning, Maxwell & Moore Inc. Crane with anti-sway mechanism. 3,081,884, 3-19-63, Cl. 212-14.
- Mintz, Albert E., 50% to R. O. Richardson, and Dock & Dock. Safety lock. 3,081,616, 3-19-63, Cl. 70-93.
- Mintz, Charles. Dental process and products. 3,102,337, 9-3-63, Cl. 32-12.
- Mintz, Henry A. Stamping machine. 3,094,926, 6-25-63, Cl. 101-318.
- Mintz, Julius. Ring binder. 3,104,667, 9-24-63, Cl. 129-11.
- Mintz, Leon J., and R. Yli, to Burroughs Corp. Magnetic shift register. 3,089,127, 5-7-63, Cl. 340-174.
- Mintzer, Alfred I., to United States of America, Navy. Simplified aided tracking and coasting system. 3,093,784, 6-11-63, Cl. 318-327.
- Mintzer, Lester, to Minneapolis-Honeywell Regulator Co. Magnetic core digital storage and transfer circuits. 3,097,306, 7-9-63, Cl. 307-88.
- Miracki, Zdzislav S., to Simms Motor Units Ltd. Speed governors. 3,103,822, 9-17-63, Cl. 73-551.
- Miranda, Angel A. Sizing compositions. 3,108,889, 10-29-63, Cl. 106-142.
- Miranda Corp.: *See*—  
 Harmer, Harold M. 3,102,059.  
 Harmer, Harold M. 3,102,220.  
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 Harmer, Harold M. 3,102,222.
- Miranda, William. Adjustable pipe wrench. 3,109,334, 11-5-63, Cl. 81-100.
- Mirando, Frank. Method of shipping watermelons. 3,115,977, 12-31-63, Cl. 214-152.
- Mirkovich, Zhivan J. Can destroyer. 3,095,806, 7-2-63, Cl. 100-173.
- Miron Ltee, Compagnie: *See*—  
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- Miron, Vladimir C., deceased, by The First National Bank in Sioux City, Iowa, executor, to Wincharger Corp. Variable load voltage regulation for alternators. 3,105,185, 9-24-63, Cl. 322-25.
- Mirrow, Nathan. Cartridge seal and needle holder with air-lock device. 3,089,491, 5-14-63, Cl. 128-218.
- Mische, Friedrich: *See*—  
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- Misceo, Anthony J., and H. R. Pratt, Jr., to United States Steel Corp. Method and apparatus for determining conditions at spaced points within a chamber. 3,085,435, 4-16-63, Cl. 73-344.
- Miseroch, Henry F., and P. J. McConnell, to Barnes Engineering Co. Rod mill loop control by imaging loop on differential detector system. 3,105,625, 10-1-63, Cl. 226-42.
- Mish, William A., Jr. Tobacco harvester. 3,107,018, 10-15-63, Cl. 214-83.1.
- Mish, William A., Jr. Loading and stripper table. 3,107,792, 10-22-63, Cl. 214-5.5.
- Mishcon, Lester, to Singer-Supreme Co., Inc. Fabric yield computing device. 3,099,142, 7-30-63, Cl. 66-1.
- Misicka, Arthur D. Saliva ejector control system. 3,091,858, 6-4-63, Cl. 32-33.
- Miskel, John J., to White Laboratories, Inc. Anti-nausea compositions. 3,073,745, 1-15-63, Cl. 167-65.
- Misko, John C.: *See*—  
 Martino, Carlo F., and Misko. 3,095,400.
- Misner, Charles P., to The Bendix Corp. Quick disconnect device for waveguide flanges. 3,076,948, 2-5-63, Cl. 333-98.
- Misner, David M., to C. R. Swaney Co., Inc. Boiler feed system. 3,082,750, 3-26-63, Cl. 122-451.
- Misove, Paul. Adjustable guide plate for fur machines. 3,099,235, 7-30-63, Cl. 112-20.
- Misra, Raj P., to Texas Instruments Inc. Mesa type transistor and method of fabrication thereof. 3,098,954, 7-23-63, Cl. 317-234.
- Missile Corp.: *See*—  
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- Mission, Gilbert, and H. Meulien, to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Assembly of solid moderator elements for high temperature nuclear reactors subjected to accelerations. 3,102,089, 8-27-63, Cl. 204-193.2.
- Mission Mfg. Co.: *See*—  
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- Mission Valve and Pump Co.: *See*—  
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 Wheeler, Joseph S., Jr. 3,074,427.
- Misson, George W.: *See*—  
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- Missouri Wood Heel Co.: *See*—  
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- Missioux, Jean: *See*—  
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- Mississippi Chemical Corp.: *See*—  
 Brown, Marion L., Jr., and Green. 3,088,919.
- Missriegler, Gerhard, and F. Laa, to North American Philips Co. Inc. Device on or in a recording and/or reproducing apparatus, preferably a magnetic reproducer, with magazines. 3,104,843, 9-24-63, Cl. 242-55.13.
- Mistarz, Marion. Contoured sole for footwear. 3,086,532, 4-23-63, Cl. 128-586.
- Mitacek, Bill, and G. E. Holman, to Phillips Petroleum Co. Internal combustion engine lubricant. 3,085,978, 4-16-63, Cl. 252-33.4.
- Mitacek, Bill, and J. P. Graham, to Phillips Petroleum Co. Lubricants. 3,112,270, 11-26-63, Cl. 252-41.
- Mitchel, Carl E. and G. F. Swimming instructing machine and exerciser. 3,074,716, 1-22-63, Cl. 272-71.
- Mitchel, George F.: *See*—  
 Mitchel, Carl E. and G. F. 3,074,716.
- Mitchell, Arthur G., and J. R. Bagnall, to English Electric Valve Co. Ltd. Manufacture of delay lines. 3,083,444, 4-2-63, Cl. 29-155.5.
- Mitchell Camera Corp.: *See*—  
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- Mitchell, Charles F.: *See*—  
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- Mitchell, Charles F. Porous bowling ball patch. 3,078,097, 2-19-63, Cl. 273-63.
- Mitchell, Charles L.: *See*—  
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- Mitchell, Charles L., to The Cincinnati Milling Machine Co. Mounting construction for diaphragm in forming press. 3,075,485, 1-29-63, Cl. 113-44.
- Mitchell, Charles L., to The Cincinnati Milling Machine Co. Hydraulic press. 3,115,858, 12-31-63, Cl. 113-45.
- Mitchell, Charles V.: *See*—  
 Ford, Curry E., and Mitchell. 3,107,152.
- Mitchell, Clifford E., R. E. Prescott, L. Schenker, and D. G. Tweed, to Bell Telephone Laboratories, Inc. Telephone call transmitter. 3,109,071, 10-29-63, Cl. 179-90.
- Mitchell, Dennis M., and A. Safanoff, to The Gillette Co. Hair curler. 3,105,502, 10-1-63, Cl. 132-40.
- Mitchell, Donita L. Infant medicine self-feeder. 3,077,279, 2-12-63, Cl. 215-11.



- Mitchell, Earland R., and F. D. Friedrich, to Her Majesty The Queen in right of Canada, as represented by the Minister of Mines and Technical Surveys. Dump grate. 3,078,839, 2-26-63, Cl. 123-179.
- Mitchell, Edward: *See*—  
Fareri, Elizabeth L., and Mitchell. 3,116,128.
- Mitchell, Edward F.: *See*—  
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- Mitchell Engineering Ltd.: *See*—  
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Jones, Thomas M., and Robinson. 3,072,239.
- Mitchell, George A., to Lombard Corp. Apparatus for coiling lengths of stock. 3,097,811, 7-16-63, Cl. 242-80.
- Mitchell, George F., to Everyday Mfg. Co. Conveyor. 3,077,972, 2-19-63, Cl. 198-64.
- Mitchell, Harold H., to I-T-E Circuit Breaker Co. Bushing support. 3,071,672, 1-1-63, Cl. 200-150.
- Mitchell, Henry D., Jr., to Western Electric Co., Inc. Apparatus for transferring articles. 3,081,860, 3-19-63, Cl. 198-27.
- Mitchell, James A., to E. I. du Pont de Nemours and Co. Film and method of casting film. 3,073,733, 1-15-63, Cl. 154-46.
- Mitchell, James A., to Union Carbide Corp. Collapsible containers. 3,097,677, 7-16-63, Cl. 150-1.
- Mitchell, James I., and E. Weiss, to The Bendix Corp. Navigational device and reversible counter driving mechanism therefor. 3,097,793, 7-16-63, Cl. 235-132.
- Mitchell, James P. Trouser length gauge. 3,088,208, 5-7-63, Cl. 33-2.
- Mitchell, James S.: *See*—  
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- Mitchell, James W., Jr., and R. H. Vetter, to Ford Motor Co. Core assembly by welding. 3,112,390, 11-26-63, Cl. 219-107.
- Mitchell, John D.: *See*—  
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- Mitchell, John E., Co.: *See*—  
Leuts, Charles M. 3,108,449.  
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Mitchell, Orville, and Walton. 3,086,254.
- Mitchell, John F., to Motorola, Inc. Portable transmitter apparatus with selective diverse antenna means. 3,087,117, 4-23-63, Cl. 325-118.
- Mitchell, Lawrence R., to Wallace & Tiernan Inc. Fluid metering device. 3,073,349, 1-15-63, Cl. 138-45.
- Mitchell, Leonard G. H., to General Steel Wares Ltd. Gas driers. 3,096,972, 7-9-63, Cl. 263-33.
- Mitchell, Leonard G. H., to General Steel Wares Ltd. Tub fill control. 3,106,081, 10-8-63, Cl. 68-12.
- Mitchell, Lois D. Hand grips. 3,072,955, 1-15-63, Cl. 116-114.
- Mitchell, Maurice E., to Lift-A-Loft Corp. Overhead service unit. 3,095,945, 7-2-63, Cl. 182-14.
- Mitchell, Melville J., to Massey-Ferguson Inc. Corn snapping rolls. 3,098,491, 7-23-63, Cl. 130-5.
- Mitchell, Orville, to John E. Mitchell Co. Lubricating system for compressor. 3,093,301, 6-11-63, Cl. 230-206.
- Mitchell, Orville, and E. G. Walton, Jr., to John E. Mitchell Co. Cotton picker and cleaner. 3,070,942, 1-1-63, Cl. 56-35.
- Mitchell, Orville, and E. G. Walton, Jr., to John E. Mitchell Co. Cotton cleaning machinery. 3,086,254, 4-23-63, Cl. 19-203.
- Mitchell, Ottilie C.: *See*—  
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- Mitchell, Owen R.: *See*—  
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- Mitchell, Peter W. D., to American Home Products Corp. Preparation of 2,3-dicyano-5,6-dichlorobenzoquinone. 3,102,124, 8-27-63, Cl. 260-396.
- Mitchell, Robert, Co. Ltd. The: *See*—  
Hardie, James H. 3,072,445.
- Mitchell, Robert E. Soil sampler. 3,075,588, 1-29-63, Cl. 175-20.
- Mitchell, Randolph N., Jr., and J. N. Edwards, to Reynolds Metals Co. Apparatus for trimming marginal edges of metal strip and for chopping marginal trimmings. 3,110,208, 11-12-63, Cl. 83-302.
- Mitchell, Roscoe A. Drill bit dressing and conditioning apparatus. 3,104,561, 9-24-63, Cl. 76-5.
- Mitchell, Samuel E.: *See*—  
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- Mitchell, Samuel E., to Union Carbide Corp. Capacity displacement transducer. 3,098,183, 7-16-63, Cl. 317-246.
- Mitchell, Samuel S. Sliding vane type rotary steam engine. 3,084,677, 4-9-63, Cl. 121-85.
- Mitchell, Vincent L.: *See*—  
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- Mitchell, William A.: *See*—  
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- Mitchell, William A., and V. V. Studer, to General Foods Corp. Method of dehydrating eggs. 3,077,411, 2-12-63, Cl. 99-210.
- Mitchell, William P.: *See*—  
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- Mitchum, Leonard L.: *See*—  
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- Mitchum, Leonard L., Jr., and H. R. Wagner, to United States of America, National Aeronautics and Space Administration. Collapsible loop antenna for space vehicle. 3,077,599, 2-12-63, Cl. 343-705.
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- Mithras, Inc.: *See*—  
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- Mitoray, Jane P., and W. G. Bauer, to Monsanto Chemical Co. Color stabilizers for detergents containing bacteriostats. 3,085,066, 4-9-63, Cl. 252-107.
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- Mitsubishi Plastics Industries, Ltd.: *See*—  
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- Mitsubishi Rayon Co., Ltd.: *See*—  
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- Mitsubishi, Hiroshi, to Shionogi & Co., Ltd. 12-aminosteroids and production thereof. 3,113,130, 12-3-63, Cl. 260-239,55.
- Mitsuyasu, Robert U. Note and notebook holder. 3,099,102, 7-30-63, Cl. 45-82.
- Mittag, Fritz, to International Standard Electric Corp. File record selection arrangement. 3,073,313, 1-15-63, Cl. 129-16.1.
- Mittag, Walter, to J. M. Voith, Gesellschaft mit beschränkter Haftung. Belt-aligning structure. 3,101,005, 8-20-63, Cl. 74-241.
- Mitteldutsche Emailierwerke M. Fratscher & Co., Firma: *See*—  
Lewerth, Josef. 3,078,005.
- Mittelmann, Eugene. Flowmeter. 3,094,870, 6-25-63, Cl. 73-194.
- Mittelstadt, Clarence F., to Mosebach Mfg. Co. Resistor. 3,102,247, 8-27-63, Cl. 338-97.
- Mittelsteadt, Glenn L., to Herter's, Inc. Reloading tool. 3,087,372, 4-30-63, Cl. 86-25.
- Mitten, Robert W., to Sheller Mfg. Corp. Continuous weather strip machine. 3,078,505, 2-26-63, Cl. 18-4.
- Mitter, Laurence J.: *See*—  
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- Mittermaier, Armin F., to General Electric Co. Unitary clamping and support arrangement for coil and core assembly. 3,110,873, 11-12-63, Cl. 336-210.
- Mitthauer, John R., and R. Vetere. Weight-responsive switch. 3,082,832, 3-26-63, Cl. 177-117.
- Mitthauer, John R., and R. Vetere. Means for and method of connecting stranded electric wires and/or stranded wire cables. 3,083,350, 3-26-63, Cl. 339-100.
- Mitty, Jerald: *See*—  
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- Mitty, Jerald I.: *See*—  
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- Mitty, Neil: *See*—  
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- Mitty, Neil H.: *See*—  
Mitty, Sol N., H. and J. I. 3,092,395.
- Mitty, Sol N., and J. Corrugated shopping cart and parts. 3,087,740, 4-30-63, Cl. 280-47.26.
- Mitty, Sol N., H. and J. I. Corrugated shopping cart and parts. 3,092,395, 6-4-63, Cl. 280-36.
- Mity-Diddy Corp.: *See*—  
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- Mitz, Milton A., to Armour Pharmaceutical Co. Omega conversion of fatty acid derivatives. 3,116,215, 12-31-63, Cl. 195-30.
- Miura, Shigeru: *See*—  
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- Miura, Yuzo, T. Tsukada, and S. Hayashi, to Toyko Shibaura Electric Co., Ltd. Method of manufacturing antistatic mouldings. 3,071,818, 1-8-63, Cl. 18-59.
- Miwag Mikrowellen A.G.: *See*—  
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- Miyachi, Noboru, to Sanraku Shuzo Kabushiki Kaisha. Process for preparing alcoholic beverage. 3,082,089, 3-19-63, Cl. 99-48.
- Miyahara, Hisao: *See*—  
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- Miyake, Akira: *See*—  
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- Miyamura, Nagaoki: *See*—  
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- Miyauchi, Hideo, to Yashica Co., Ltd. Camera with coupled light meter. 3,082,671, 3-26-63, Cl. 95-10.
- Miyauchi, Hideo, to Yashica Co., Ltd. Motion picture film rewinding device. 3,082,971, 3-26-63, Cl. 242-71.3.



- Miyazaki, Sadamaru: *See*—  
Suda, Teruo, and Miyazaki. 3,091,509.
- Mizell, Louis R., to Appleton Mills. Method of making and finishing papermaker's felts. 3,075,274, 1-29-63, Cl. 28—74.
- Mizell, Louis R., to The Williamson-Dickie Mfg. Co. Garment component and method of making same. 3,089,806, 5-14-63, Cl. 156—264.
- Mizell, Louis R., to Williamson-Dickie Mfg. Co. Process for improving crease-retention properties of cotton garments. 3,096,524, 7-9-63, Cl. 2—243.
- Mizell, Louis R., and J. Berch, to Western Felt Works. Stabilization of the dimensions of felt materials. 3,092,888, 6-11-63, Cl. 26—18.5.
- Mizell, Louis R., and C. G. Tewksbury, to Appleton Mills. Method of finishing papermakers' felt and the finished felt. 3,094,763, 6-25-63, Cl. 28—76.
- Mizelle, Ned W.: *See*—  
Rogers, Walter C., and Mizelle. 3,100,668.
- Mizelle, Ned W., to General Steel Products, Inc. Reclining chair fixture. 3,094,353, 6-18-63, Cl. 297—85.
- Mizelle, Ned W., to General Steel Products, Inc. Reclining chair fixture. 3,107,117, 10-15-63, Cl. 297—89.
- Mizelle, Ned W., to General Steel Products, Inc. Reclining chair fixture. 3,114,573, 12-17-63, Cl. 297—75.
- Mizuno, Keichi, to Economics Laboratory, Inc. Liquid dispenser. 3,094,245, 6-18-63, Cl. 222—43.
- Mládek, Bedřich, to Zavody potravinářských a chladicích stroju národní podnik. Meat grinder having floating cutter member. 3,099,306, 7-30-63, Cl. 146—182.
- Mládek, Bedřich, J. Vodrážka, L. Budíček, and J. Stránský, to Zavody potravinářských a chladicích stroju. Device for transferring bakery products or other articles by gravity between two superposed conveyor belts. 3,084,779, 4-9-63, Cl. 198—27.
- Mládek, Bedřich, V. Konopík, J. Vodrážka, J. Jindřich, and M. Lamač, to Zavody Potravinářských a chladicích stroju národní podnik. Device for automatic production of baker's ware. 3,111,913, 11-26-63, Cl. 107—4.
- Mnemontron Corp.: *See*—  
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- Mo, Shih C., and D. A. Kassner. Shoe lace fastener. 3,108,343, 10-29-63, Cl. 24—121.
- Moan, Richard D., to Ford Motor Co. Transmission control system. 3,115,049, 12-24-63, Cl. 74—472.
- Moar, John. Floating conveyor belt. 3,089,581, 5-14-63, Cl. 198—201.
- Mobarry, John W., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,100,972, 8-20-63, Cl. 62—161.
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- Hardy, Edgar E. 3,085,983.
- Heiss, Herbert L. 3,092,594.
- Heiss, Herbert L. 3,102,875.
- Heiss, Herbert L. 3,109,824.
- Holtschmidt, Hans, and Müller. 3,099,642.
- Holtschmidt, Hans, von Spulak, Müller, and Bayer. 3,098,840.
- Hudson, George A. 3,095,386.
- Loew, Gunther, Thoma, and Bernhard. 3,074,894.
- McElroy Wilbur R. 3,084,182.
- Merten, Rudolf. 3,081,343.
- Müller, Erwin, Bayer, Wilms, von Spulak, and Theis. 3,095,399.
- Nischk, Gunther, Holtschmidt, Bongard, and Bayer. 3,096,296.
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- Peter, Julius, Schmidt, and Müller. 3,085,993.
- Pigott, Kenneth A. 3,114,735.
- Pigott, Kenneth A., and Archer. 3,115,481.
- Reuter, Franz G. 3,099,044.
- Reuter, Franz G., and Ulderup. 3,102,744.
- Rinke, Heinrich, and Bayer. 3,078,257.
- Saunders, James H., Szabat, and Morecroft. 3,076,770.
- Schulte-Huermann, Werner, and Schnell. 3,076,784.
- Von Brachel, Hanswili, Nischk, and Wegler. 3,114,732.
- Wagner, Kuno. 3,095,385.
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- Windemuth, Erwin, Bunge, and Mielke. 3,115,479.
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- Mobberley, Thomas W. Hair curlers. 3,108,603, 10-29-63, Cl. 132—34.
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- Roeser, Gerald P. 3,109,828.
- Mobilaid, Inc.: *See*—  
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- Mobile, Arthur, to Schering Corp. 11-oxygenated 9 $\alpha$ -halogeno-1,4-pregnadienes. 3,084,103, 4-2-63, Cl. 167—74.
- Mobius, Walter, to Werkzeugmaschinenfabrik Gildemeister & Co. A.G. Apparatus for controlling a machine tool or the like. 3,075,418, 1-29-63, Cl. 82—2.
- Mobley, Edward L., Jr.: *See*—  
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- Mobley, Ray A., Jr., to Whirlpool Corp. Rotisserie rack having means for disengaging the drive motor. 3,100,435, 8-13-63, Cl. 99—421.
- Mobley, William R. Below atmospheric pressure method and means for separating lighter liquids from heavier liquids. 3,080,057, 3-5-63, Cl. 210—83.
- Mocanu, Timothy, to Clevite Corp. Selective gold plating of semiconductor contacts. 3,099,576, 7-30-63, Cl. 117—212.
- Mocarski, Zenon R. Surgical instrument positioning device. 3,073,310, 1-15-63, Cl. 128—303.
- Mocas, Verlin A.: *See*—  
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- Mochel, Walter E., W. H. Sharkey, and F. T. Wall, to E. I. du Pont de Nemours and Co. Polyamides from diamines having two deuterium atoms on both chain carbons alpha to the two amino nitrogens. 3,076,789, 2-5-63, Cl. 260—78.
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- Mock, Richard A., and W. N. Vanderkooi, to The Dow Chemical Co. Thorium recovery from barren uranium leach liquors. 3,091,512, 5-28-63, Cl. 23—14.5.
- Mockrin, Isadore, and A. Kowalski, to Pennsalt Chemicals Corp. Fluoroaluminate composition as dielectric material. 3,098,752, 7-23-63, Cl. 106—39.
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- Mocs, Bernard W.: *See*—  
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- Mocsny, Steven. Binder composition for use in sand molds. 3,112,206, 11-26-63, Cl. 106—38.5.
- Mödder, Otto, to Siemens Siegener Maschinenbau G.m.b.H. Arrangement for turning and clamping of workpieces in rolling mills and the like. 3,112,829, 12-3-63, Cl. 214—1.
- Moddermo, John P., to Modern-Lab, Inc. Compartmented pressurized container valve assembly and a cutter therefor. 3,080,094, 3-5-63, Cl. 222—82.
- Modcraft Co., Inc.: *See*—  
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- Model Engineering and Mfg. Co.: *See*—  
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- Simpson, Arthur I. F., and Cawthra. 3,101,453.
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- Golding, John E. 3,081,740.
- Golding, John E., and Kremler. 3,081,741.
- Golding, John E., and Kremler. 3,081,742.
- Modersohn, Otto, to Olympia Werke A.G. Number transmitting arrangement. 3,079,075, 2-26-63, Cl. 235—61.
- Modes, Edward E., and G. E. Franck, to Imperial-Eastman Corp. Stripping tool. 3,082,523, 3-26-63, Cl. 30—102.
- Modica, Charles P. Game apparatus. 3,074,718, 1-22-63, Cl. 273—1.
- Modin, John. Multi-purpose instrument. 3,114,977, 12-24-63, Cl. 33—149.
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- Simpelaar, Clyde S. 3,106,958.
- Modlinski, Witold M., to Ampex Corp. Storage-state-indicating device. 3,110,887, 11-12-63, Cl. 340—174.
- Modrak, Frank, and A. Berardinelli. Carrier and manipulator for pneumatic tools. 3,090,983, 5-28-63, Cl. 15—104.1.
- Modrak, Michael. Handle attachment for mops. 3,081,474, 3-19-63, Cl. 15—229.
- Modrey, Henry J. Elastic fastener. 3,093,220, 6-11-63, Cl. 189—36.
- Modrey, Henry J. Electric wiring terminal. 3,097,258, 7-9-63, Cl. 174—94.
- Modutronics, Inc.: *See*—  
Pederson, Helmer T. 3,112,431.
- Moe, Lowell A., to F. H. Peavey & Co. Ingredient content determination. 3,081,429, 3-12-63, Cl. 324—61.
- Moe, William W., to Time, Inc. Magnetic data recording system. 3,108,265, 10-22-63, Cl. 340—345.



- Moe, William W., to Time, Inc. Scanning mechanism for facsimile reproduction system. 3,109,888, 11-5-63, Cl. 178-6.7.
- Moebes, Erich, to Sugar Chemical Co. Etablissement. Process for the purification and decolorization of pre-treated technical sugar solution. 3,090,707, 5-21-63, Cl. 127-46.
- Moehlmann, Richard H.: *See—*
- Herman, Robert F., and Moehlmann. 3,094,661.
- Moehlmann, Richard H., to General Dynamics Corp. Radio frequency coupling device for detecting energy in a coaxial transmission line. 3,105,936, 10-1-63, Cl. 324-58.
- Moeller, Charles R. Electronic frequency multiplying device. 3,089,977, 5-14-63, Cl. 315-21.
- Moeller, Delmer H., to The Dow Chemical Co. Tower packing. 3,109,876, 11-5-63, Cl. 261-112.
- Moeller, Hans: *See—*
- Wisseroth, Karl, Herbeck, Lautenschlager, Moeller, Schmidthomee, Staiger, Trieschmann, and Weber. 3,110,708.
- Moeller Mfg. Co., Inc.: *See—*
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- Moeller, Warren H.: *See—*
- Ehrhardt, Charles H., Moeller, and Grubb. 3,103,277.
- Moeller, Wilhelm. Apparatus for intravascular injection of gaseous and liquid media. 3,091,239, 5-28-63, Cl. 128-214.
- Moellmann, Heinz F., to Avco Corp., Lycoming Division. Fuel control deceleration scheduling mechanism. 3,083,531, 4-2-63, Cl. 60-39.28.
- Moellmann, Heinz F., to Avco Corp., Lycoming Division. Fuel control temperature unit. 3,093,969, 6-18-63, Cl. 60-39.28.
- Moen, Alfred M. Fluid controlling valve structure. 3,083,725, 4-2-63, Cl. 137-454.2.
- Moen, Alfred M. Balanced mixing valve cartridge. 3,103,231, 9-10-63, Cl. 137-454.2.
- Moen, Alfred M. Shower head. 3,109,591, 11-5-63, Cl. 239-107.
- Moen, Carl J.: *See—*
- Zabel, Lowell W., Eastwood, and Moen. 3,114,791.
- Moen, Walter B.: *See—*
- Craig, David J., and Moen. 3,086,356.
- Moen, Walter B., to Air Reduction Co., Inc. Purification and high-pressure charging of gas into containers. 3,097,918, 7-16-63, Cl. 23-4.
- Moergeli, Eduard, to Ciba Ltd. Process for the manufacture of new triazine derivatives and of dyestuffs obtained therefrom. 3,111,518, 11-19-63, Cl. 260-248.
- Moerkens, Jozef C., to North American Philips Co., Inc. Circuit arrangement for igniting gas discharge device. 3,096,463, 7-2-63, Cl. 315-278.
- Moerlein, Herbert. Constant voltage transformer. 3,076,136, 1-29-63, Cl. 323-60.
- Moes, Geert, to W. A. Scholten's Chemische Fabrieken N.V. Cold water dispersible starch and method of preparation. 3,097,102, 7-9-63, Cl. 106-210.
- Moessen, Gustave W.: *See—*
- Lehman, Roland J., and Moessen. 3,075,841.
- Moesta, Hasso, and P. Herrwerth, to National Research Corp. Pressure gauges. 3,071,968, 1-8-63, Cl. 73-399.
- Moffatt, Maurice A., to Unipak Cartons Ltd. Cartons. 3,074,614, 1-22-63, Cl. 229-52.
- Moffatt, Elbert M. Projection apparatus for use in article inspection. 3,087,381, 4-30-63, Cl. 88-24.
- Moffatt, Robert S. M., and K. Storer, to Whessoe Ltd. Ultrasonic test apparatus. 3,111,027, 11-19-63, Cl. 73-67.8.
- Moffatt, Vivian A.: *See—*
- Garner, Philip J., and Moffatt. 3,085,105.
- Moffett, Fred P. Mouth protector. 3,096,761, 7-9-63, Cl. 128-136.
- Moffett, Robert B.: *See—*
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- Moffett, Robert B., to The Upjohn Co. Nitro 2-oxo-2H-1,4 benzoxazines. 3,105,071, 9-24-63, Cl. 260-244.
- Moffett, Robert B., and B. D. Aspergren, to The Upjohn Co. N,N-disubstituted-alpha-(tertiaryaminoalkyl) alpha-diphenylacetamides. 3,078,275, 2-19-63, Cl. 260-326.3.
- Moffett, Sam M.: *See—*
- Weakley, Martin L., Moffett, and Craig. 3,098,872.
- Moffett, Walter K., and A. N. Walus, to E. I. du Pont de Nemours and Co. Heat-curable coating compositions. 3,102,866, 9-3-63, Cl. 260-21.
- Moffitt, Merritt L., Jr.: *See—*
- Struble, Albert, and Moffitt. 3,113,803.
- Mogensen, Allan O., and R. J. Stevens, to American Cyanamid Co. Method of producing polyacrylonitrile filamentary material. 3,089,748, 5-14-63, Cl. 8-115.5.
- Mogulescu, Jack H., to Consolidated Cigar Corp. Adjustable display rack. 3,110,402, 11-12-63, Cl. 211-49.
- Mohan, Arthur G., and W. R. Christian, to Nopec Chemical Co. Preparation of light colored fatty acid esters. 3,071,604, 1-1-63, Cl. 260-410.6.
- Mohan, John M.: *See—*
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- Mohan, William L.: *See—*
- Willits, Samuel P., and Mohan. 3,107,070.
- Mohan, William L., Jr. Scanning apparatus. 3,084,301, 4-2-63, Cl. 338-18.
- Mohasco Industries, Inc.: *See—*
- De Sorbo, Louis. 3,077,209.
- Hamilton, Kenneth. 3,091,075.
- Matthews, Russell R. 3,092,985.
- Peebles, Benjamin W., and Shuttleworth. 3,077,947.
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- Rice, Walter A. 3,103,188.
- Mohi, Gary: *See—*
- Davis, Calvin D. 3,101,913.
- Möhl, Karl: *See—*
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- Mohn, Henry L., to York-Shipley, Inc. Fuel feeding system. 3,077,343, 2-12-63, Cl. 263-19.
- Mohn, Howard S. Heavy-duty internal combustion fan assembly. 3,077,228, 2-12-63, Cl. 170-160.6.
- Mohr, Albert, Jr., to John Mohr & Sons. Tilting body railway car. 3,082,702, 3-26-63, Cl. 105-271.
- Mohr, Johannes: *See—*
- Möhring, Gustav, and Mohr. 3,106,761.
- Mohr, John, & Sons: *See—*
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- Mohr, Albert, Jr. 3,082,702.
- Philbrick, Herbert S., Jr. 3,077,010.
- Mohr, Karl, to Ultra-Prazisionswerk G.m.b.H. Rotary electric cable coupling. 3,089,113, 5-7-63, Cl. 339-8.
- Mohr, Milton E., to Bell Telephone Laboratories, Inc. Cathode beam tube circuit having means for converting current variations to stepped waveform. 3,076,146, 1-29-63, Cl. 328-186.
- Mohr, Reinhard: *See—*
- Gross, Richard, Hertel, Kirst, and Mohr. 3,099,651.
- Gross, Richard, Hertel, Kirst, Mohr, and Staab. 3,084,151.
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- Mohr, Reinhard, and H. Hertel, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Agents absorbing ultraviolet rays. 3,076,782, 2-5-63, Cl. 260-45.8.
- Mohr, Rolf: *See—*
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- Mohr, Rudolf, and H. H. Quandt. Gas lighter. 3,085,412, 4-16-63, Cl. 67-7.1.
- Möhring, Donald H., to U.S. Industries, Inc. Heated pitot tube. 3,097,528, 7-16-63, Cl. 73-212.
- Möhring, Gerhard, to August oHG Stemann. Current collector. 3,106,272, 10-8-63, Cl. 191-55.
- Möhring, Gustav, to Famatex G.m.b.H. Arrangement for heating machines for the drying and heat treatment of textiles and the like. 3,100,632, 8-13-63, Cl. 263-19.
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- Möhring, Rolf, to VEB Vakutronik. Pulse density measuring device. 3,078,371, 2-19-63, Cl. 250-83.6.
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- Moirs, Ltd.: *See—*
- Booth, John M. 3,104,018.
- Moist O Matie, Inc.: *See—*
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- Mojonnier Bros. Co.: *See—*
- Mojonnier, Julius J. 3,083,148.
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- Moklebus, Olav, to R-N Corp. Methods for ore reduction and processing of other chemically reactive aggregates. 3,113,859, 12-10-63, Cl. 75-6.
- Moku, Walter H., and H. D. Epstein, to Texas Instruments Inc. Thermostatic switches. 3,104,296, 9-17-63, Cl. 200-113.
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- Moldovan, Andrew, to Toronto Brick Co. Ltd. Pallet for brick cubes and means for handling same. 3,085,693, 4-16-63, Cl. 214-10.5.
- Molenaar, Jan: *See—*
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- Moles, Warren H., to Radio Corp. of America. Color television receiver with penetration color tube. 3,114,795, 12-17-63, Cl. 178-5.4.
- Molina, Claude, to Sarazin & Cie, Societe Anonyme. Method and device for cooling welding apparatus. 3,076,088, 1-29-63, Cl. 219-130.



- Moline, Douglas F., to Acme Juicer Mfg. Co. Vegetable juicing machine having a friction cutter drive. 3,085,606, 4-16-63, Cl. 146-76.
- Mollins, Desmond W., T. Rowlands, and N. W. Jackson, to Mollins Machine Co. Ltd. Cigarette-making machinery. 3,077,264, 2-12-63, Cl. 209-82.
- Mollins, Desmond W., C. Best, and T. Rowlands, to Mollins Machine Co. Ltd. Manufacture of composite cigarettes. 3,080,871, 3-12-63, Cl. 131-94.
- Mollins, Desmond W., and J. A. Mason, to Mollins Machine Co. Ltd. Knife-feeding arrangements for sickle-shaped knives in cut-offs. 3,088,510, 5-7-63, Cl. 146-95.
- Mollins, Desmond W., G. F. W. Powell, and F. Pocock, to Mollins Machine Co. Ltd. Tobacco manipulating machines. 3,089,497, 5-14-63, Cl. 131-21.
- Mollins, Desmond W., and F. A. M. Labbe, to Moline Machine Co. Ltd. Tobacco-manipulating apparatus. 3,091,244, 5-28-63, Cl. 131-84.
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- Best, Cyril. 3,104,754.
  - Best, Cyril. 3,105,498.
  - Chalmers, John W. 3,082,924.
  - Gagg, James. 3,111,564.
  - Harris, Richard W., and Youngman. 3,113,903.
  - Hillman, James G. E. 3,091,064.
  - Labbe, Francis A. M. 3,088,468.
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  - Mollins, Desmond W., Best, and Rowlands. 3,080,871.
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  - Morris, James E. 3,095,883.
  - Pembroke, George F. 3,106,810.
  - Perrin, Bernard. 3,081,779.
  - Powell, Gordon F. W. 3,111,026.
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- Mollitor, Robert P., E. L. Mobley, Jr., and M. J. Zoker, to The Sun Rubber Co. Method of making decorated plastic articles. 3,079,644, 3-5-63, Cl. 18-59.
- Moll, Charles J., Jr.: *See*—
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- Moll, Jan J. A., to Fabriek van Chemische Producten Vondelingenplaat N.V. Process of reserving wool with bis-triazine diphenylsulfide compounds. 3,097,911, 7-16-63, Cl. 8-65.
- Moll, Robert. Machine-tool for reducing to a predetermined length and centering a workpiece. 3,110,082, 11-12-63, Cl. 29-27.
- Mollard, Jean: *See*—
- Cousteau, Jacques Y., Gagnan, Laban, and Mollard. 3,082,731.
  - Cousteau, Jacques Y., Gagnan, Laban, and Mollard. 3,103,195.
- Mollard, Paul, and G. Turpin, to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Process of recovering fluorine from solid residues by pyrohydrolysis. 3,073,676, 1-15-63, Cl. 23-153.
- Moller, Bynum W., to Skytop Rig Co. Folding derrick. 3,109,523, 11-5-63, Cl. 189-11.
- Möller, Heinz, to Robert Bosch, G.m.b.H. Distributor for internal combustion engines. 3,104,291, 9-17-63, Cl. 200-30.
- Moller, Hermann, to Klockner-Humboldt-Deutz A.G. Extensible multi-section supporting structures. 3,088,543, 5-7-63, Cl. 182-211.
- Moller, Rolf, to Fernseh G.m.b.H. Optical multiplexer. 3,104,283, 9-17-63, Cl. 178-792.
- Moller, Rolf, and W. Tretnar, to Fernseh-G.m.b.H. Method and apparatus for recording and reproducing electrical signals. 3,099,710, 7-30-63, Cl. 178-66.
- Möller, Waldemar, to Bodenseewerk Perkin-Elmer & Co., G.m.b.H. Fettered gyroscope for flight control of airborne objects. 3,079,803, 3-5-63, Cl. 74-55.
- Moller, Waldemar, to Bodenseewerk Perkin-Elmer u. Co., G.m.b.H. Stabilization gyroscope for flying craft. 3,082,628, 3-26-63, Cl. 74-54.
- Moller, Waldemar. Device for the electric measurement of rotary moments. 3,092,994, 6-11-63, Cl. 73-134.
- Möllerling, Wilhelm: *See*—
- Müller, Werner, Möllerling, and Schommer. 3,071,620.
- Mollick, Milton, to Ametek, Inc. Instrument. 3,105,514, 10-1-63, Cl. 137-488.
- Molloy, Everett W., to Beckman Instruments, Inc. Pen drive for recorders and the like. 3,084,014, 4-2-63, Cl. 346-139.
- Molnar, Martin A.: *See*—
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- Molnar, Nicholas M., to Fine Organics, Inc. Germicidal compositions. 3,108,036, 10-22-63, Cl. 167-22.
- Molnar, Robert J.: *See*—
- Putzer, Murray, Sylvander, and Molnar. 3,109,129.
  - Sylvander, Frederick B., and Molnar. 3,108,263.
- Molnar, Steven I. Steam engine with rotary piston and direct reheating. 3,080,722, 3-12-63, Cl. 60-108.
- Molnlycke Vafveri Aktiebolag: *See*—
- Johansson, Erik R. 3,092,952.
- Moloney Electric Co.: *See*—
- Duenke, Clarence G. 3,078,053.
  - Duenke, Clarence G. 3,093,889.
- Mols, Adolphe, to Les Glaceries de la Sambre, Societe Anonyme. Process for the continuous manufacture of reinforced cast glass. 3,088,298, 5-7-63, Cl. 65-44.
- Molt, Kenneth R.: *See*—
- Hechenbleikner, Ingenuin, and Molt. 3,096,345.
  - Richards, Donald L., and Molt. 3,080,324.
- Moltgen, Gottfried: *See*—
- Kessler, Claus, and Moltgen. 3,099,785.
- Molybdenum Corp. of America: *See*—
- Tisdale, Norman F. 3,102,831.
  - Tisdale, Norman F., and R. A. 3,109,733.
- Molyneux, Robert J., and D. E. Goldich, to The Permalux Co. Liquid-dispensing apparatus. 3,094,250, 6-18-63, Cl. 292-207.
- Molzahn, Hans W., to Zenith Radio Corp. High voltage regulation by voltage control of video amplifier. 3,109,891, 11-5-63, Cl. 178-75.
- Molzen, Charles F.: *See*—
- Gerow, Clarence C., Bottcher, Molzen, and Landell. 3,095,579.
- Mommens, Gordon V., to Great West Super Markets, Inc. Eradicator attachment for marking stamps. 3,115,825, 12-31-63, Cl. 101-1.
- Momoi, Mareyoshi: *See*—
- Ishizuka, Toshizo, Momoi, and Fujita. 3,096,304.
- Momose, Haruo: *See*—
- Motosaki, Shinichi, Tsunoda, Aoki, Okumura, Kondo, Muramatsu, Momose, and Tamagawa. 3,111,459.
- Mona, George E.: *See*—
- Parsons, Warren N., and Mona. 3,090,665.
- Monaci, Antio: *See*—
- Bonvicini, Alberto, Monaci, and Cappuccio. 3,073,667.
- Monaghan, Patrick H.: *See*—
- Gidley, John L., Monaghan, and Dumbauld. 3,076,758.
  - Graham, John W., Osoba, and Monaghan. 3,083,766.
  - Graham, John W., Osoba, and Monaghan. 3,102,589.
- Monaghan, Ralph, to Well Surveys, Inc. Method for gamma ray spectral analysis. 3,078,370, 2-19-63, Cl. 250-83.3.
- Monaghan, Ralph, and R. A. Bergan, to Well Surveys, Inc. Variable thermal-conductance vacuum-walled container for scintillation detectors. 3,105,148, 9-24-63, Cl. 250-71.5.
- Monagle, John J., to Sinclair Research, Inc. Polymerization of  $\alpha$ -methylstyrene in the presence of an aluminum tri-alkyl catalyst. 3,081,285, 3-12-63, Cl. 260-93.5.
- Monahan, Brian J. Rotatable plug lock. 3,084,533, 4-9-63, Cl. 70-363.
- Monahan, Jack J.: *See*—
- Campbell, Hobart T., Monahan, and Roeder. 3,104,765.
  - Hinkle, James O., Miller, and Monahan. 3,076,049.
- Monahan, Jack J., to Western Electric Co., Inc. Apparatus for testing and sorting polarized articles. 3,104,760, 9-24-63, Cl. 209-74.
- Monahan, John H. Light for clothes drier. 3,088,021, 4-30-63, Cl. 240-2.
- Monahan, Victor C.: *See*—
- Ellerman, Charles E., and Monahan. 3,092,158.
- Monarch Tool & Machinery Co.: *See*—
- Bey, Ahmet K. 3,108,346.
  - Bey, Ahmet K. 3,112,638.
  - Budreck, Frances. 3,111,736.
  - Kortick, Morris. 3,099,068.
  - Logan, Ned R. 3,103,827.
- Moncrieff-Yeates, Alexander J., to Giannini Controls Corp. Radiation-controlled variable resistance. 3,087,069, 4-23-63, Cl. 250-211.
- Moncrieff-Yeates, Alexander J., to Giannini Controls Corp. Solid state solar generator. 3,104,188, 9-17-63, Cl. 136-89.
- Moncrieff-Yeates, Alexander J., to Giannini Controls Corp. Production of neutral molecular beams. 3,116,433, 12-31-63, Cl. 313-63.
- Monday, Zephyr, to U-Stretch Corp. Knitted stocking top. 3,094,856, 6-25-63, Cl. 66-172.
- Monelli, Riccardo, and B. Bortoletto, to Pirelli Societa per Azioni. Multi-conductor telecommunication cables for audio and carrier frequencies. 3,082,387, 3-19-63, Cl. 333-96.
- Monet, Edwin T.: *See*—
- Remke, Theodore K., and Monet. 3,072,079.
- Monette, Gerald K., 50% to W. J. Monette. Curtain rod bracket. 3,090,588, 5-21-63, Cl. 248-216.
- Monette, Wallace J.: *See*—
- Monette, Gerald K. 3,090,588.
- Monfils, Emile J.: *See*—
- Gortvai, Alexander F., and Monfils. 3,102,042.
- Mong, Bernard A., to The Babcock & Wilcox Co. Nuclear reactor. 3,103,477, 9-10-63, Cl. 204-193.2.
- Mongan, Charles E. Method and apparatus for evaluating impedance characteristics of porous materials. 3,073,149, 1-15-63, Cl. 73-38.
- Mongitore, Pietro. Reciprocating piston driving or operating machines. 3,106,404, 10-8-63, Cl. 277-148.
- Monigle, Charles W.: *See*—
- Packard, George B., and Monigle. 3,113,725.
- Monin, Claude: *See*—
- Burstow, Pierre, and Monin. 3,079,588.
  - Burstow, Pierre, and Monin. 3,093,746.
- Monin, Claude, to Compagnie Industrielle des Telephones. Magnetostatic relay. 3,085,234, 4-9-63, Cl. 340-174.
- Monitor Corp.: *See*—
- Wells, William W., and Bunnell. 3,110,976.
- Monitor, Dean S., to Martin-Marietta Corp. Paired cable drive system. 3,091,434, 5-28-63, Cl. 254-175.5.
- Monk, John C., to Foremost Dairies, Inc. Filling device. 3,072,303, 1-8-63, Cl. 222-485.
- Monk, John C., to Foremost Dairies, Inc. Container sterilizing apparatus. 3,087,209, 4-30-63, Cl. 21-80.



- Monkcom, Frank E., to Chiswick Products Ltd. Foil cutting machines. 3,114,993, 12-24-63, Cl. 53-129.
- Monks, Frank E., to Standard Packaging Corp. Apparatus for removing the curl from sheets. 3,076,492, 2-5-63, Cl. 153-85.
- Monley, Inc.: *See—*
- Waas, Samuel M. 3,075,295.
- Monlux, Claude R., to General Refractories Co. Furnace roof suspended by interconnected brick hanger extensions. 3,073,264, 1-15-63, Cl. 110-99.
- Monnier, Eugene, to Fabrique de Machines Mikron S.A. Hydraulic feeder device for workpieces of machine tools. 3,114,464, 12-17-63, Cl. 214-1.
- Monnig, George O. Method and apparatus for preheating spark plugs. 3,087,980, 4-30-63, Cl. 123-146.5.
- Monnikendam, Philip, and C. R. Dawson, to Minnesota Mining and Mfg. Co. Polyunsaturated phenyl ethers and their preparation. 3,078,314, 2-19-63, Cl. 260-612.
- Monnikendam, Philip, J. V. Clarke, Jr., and J. P. Black to Esso Research and Engineering Co. Stabilized distillate fuels. 3,080,223, 3-5-63, Cl. 44-73.
- Mono-Cam Ltd.: *See—*
- Friedlander, William. 3,075,509.
- Monogram Precision Industries, Inc.: *See—*
- Corliss, Robert F. 3,079,612.
- Jones, Sterling B. 3,096,679.
- Tuttle, Orvil S. 3,102,615.
- Monohan, Franklin L.,  $\frac{1}{2}$  to Republic Electric & Development Co., and  $\frac{1}{2}$  to Puget Sound Fabricators, Inc. Automatic random width and random thickness lumber feeder. 3,081,863, 3-19-63, Cl. 198-34.
- Monola, Wilbert. Multi-band antenna with end mounted loading section. 3,089,140, 5-7-63, Cl. 343-722.
- Monolith Portland Cement Co.: *See—*
- Schoonover, Paul L. 3,093,364.
- Monotype Corp. Ltd., The: *See—*
- Hoad, Herbert J. G. 3,107,701.
- Williams, Joseph H. 3,092,000.
- Williams, Joseph H. 3,094,067.
- Monroe, Benjamin F. Retractable belt. 3,100,669, 8-13-63, Cl. 297-388.
- Monroe Calculating Machine Co.: *See—*
- Day, Leslie R. 3,098,617.
- Dodsworth, James W. 3,072,329.
- Dodsworth, James W. 3,092,312.
- Gang, Herman. 3,102,688.
- La Manna, Richard J., Wilson, Pogorzelski, and Pivovonsky. 3,116,410.
- Lohr, Joseph B., and Zink. 3,116,409.
- Meister, Jack B. 3,106,340.
- Raddin, Franklin. 3,076,166.
- Raddin, Franklin M. 3,090,026.
- Riker, William M. 3,116,456.
- Sikora, Donald S. 3,095,502.
- Singer, Robert E. 3,106,338.
- Wagemann, Heinrich. 3,101,895.
- Wales, Nathaniel B., Jr. Re. 25,373.
- Wales, Nathaniel B., Jr. 3,116,000.
- Warden, Donald A. 3,108,508.
- Monroe Electronics, Inc.: *See—*
- Vosteen, Robert E. 3,077,566.
- Monroe, George E., and R. W. Bloch, to Magline, Inc. Hand trucks. 3,079,168, 2-26-63, Cl. 280-47.28.
- Monroe, Joseph W., and C. M. Neal, to Thiokol Chemical Corp. Hydro-dynamic loader. 3,085,422, 4-16-63, Cl. 73-12.
- Monroe, Levi G. Outboard motor tilting mechanism. 3,107,073, 10-15-63, Cl. 248-4.
- Monroe, Roger F., C. H. Kucera, B. D. Oakes, and N. G. Johnston, to The Dow Chemical Co. Compositions for inhibiting corrosion. 3,077,454, 2-12-63, Cl. 252-148.
- Monroe, Roger F., F. J. Lowes, G. L. Foster, and B. D. Oakes, to The Dow Chemical Co. Propargyl compounds as corrosion inhibitors. 3,079,345, 2-26-63, Cl. 252-148.
- Monroe, Roger F., C. H. Kucera, and K. J. Goodwin, to The Dow Chemical Co. Ethynyl compounds for use in the inhibition of silicate swelling. 3,108,069, 10-22-63, Cl. 252-8.5.
- Monroe, Rolio G., and E. F. Tobler, to The Johnson Corp. Flow indicator with sight glass cleaning rotor. 3,107,645, 10-22-63, Cl. 116-117.
- Monsanto Canada Ltd.: *See—*
- McKay, Arthur F., and Garmaise. 3,109,859.
- McKay, Arthur F., and Garmaise. 3,113,151.
- McKay, Arthur F., Garmaise, and Kay. 3,105,853.
- McKay, Arthur F., Podessa, and Tarlton. 3,101,373.
- Tarlton, Edward J., and McKay. 3,111,536.
- Monsanto Chemical Co.: *See—*
- Abramo, John G. 3,100,804.
- Abramo, John G. 3,079,369.
- Abramo, John G., and Chapin. 3,073,862.
- Abramo, John G., and Chapin. 3,074,995.
- Abramo, John G., and Chapin. 3,093,622.
- Abramo, John G., and Chapin. 3,093,676.
- Alt, Gerhard H., and Wilder. 3,083,180.
- Arganbright, Robert P. 3,079,445.
- Aykanian, Ardasha A. 3,079,636.
- Baer, Massimo. 3,073,798.
- Baer, Massimo, and Hankey. 3,085,082.
- Baer, Massimo, and Vignale. 3,079,428.
- Baer, Russel F. 3,076,250.
- Baer, Russel F. 3,076,614.
- Baker, Joseph W., and Chupp. 3,077,498.
- Baker, Joseph W., Chupp, and Newallis. 3,080,273.
- Monsanto Chemical Co.: *See—Continued*
- Baker, Joseph W., Chupp, and Newallis. 3,096,238.
- Baker, Joseph W., Newallis, and Chupp. 3,077,431.
- Baker, Joseph W., Newallis, and Chupp. 3,082,148.
- Baker, Joseph W., and Saul. 3,102,067.
- Barber, Herbert. 3,076,251.
- Barkhoff, Mary S. 3,073,791.
- Barnes, Marion D. 3,094,489.
- Barrett, Homer D., Estes, and Stow. 3,113,869.
- Beaver, David J., Jaworski, and Suhovecky. 3,085,043.
- Beaver, David J., and Stoffel. 3,072,719.
- Beaver, David J., and Stoffel. 3,074,907.
- Beaver, David J., and Stoffel. 3,097,229.
- Beaver, David J., and Stoffel. 3,100,222.
- Beaver, David J., and Stoffel. 3,103,467.
- Benzing, Erhard P. 3,074,940.
- Biles, James R., and Holmes. 3,098,786.
- Birum, Gail H. 3,089,891.
- Birum, Gail H. 3,094,457.
- Birum, Gail H. 3,116,335.
- Birum, Gail H., and Richardson. 3,081,327.
- Birum, Gail H., and Richardson. 3,113,139.
- Black, William B., and Clark. 3,076,774.
- Blackburn, Hogard. 3,072,957.
- Blake, Edward S., Edwards, and Hammann. 3,080,321.
- Blardinelli, Albert J., and Yanko. 3,085,953.
- Blardinelli, Albert J., and Yanko. 3,113,084.
- Bray, John R. 3,098,920.
- Brignac, Edmond P., Sikorski, and Wright. 3,083,412.
- Bromley, James E., and Hillis. 3,092,890.
- Brown, Gordon E. 3,074,448.
- Callahan, Thomas P., and Kusiak. 3,112,715.
- Campbell, John R., and Campaigne. 3,096,375.
- Campbell, John R., and Hatton. 3,071,609.
- Campbell, John R., and Hatton. 3,102,148.
- Carlson, Frank A., Jr., and Platzer. 3,084,126.
- Carter, Don E. 3,074,921.
- Carter, Ernest P. 3,083,564.
- Chapin, Earl C., Wilson, and Yates. 3,084,136.
- Chupp, John P. 3,080,276.
- Chupp, John P., Baker, and Newallis. 3,077,432.
- Chupp, John P., and Newallis. 3,085,044.
- Chupp, John P., and Newallis. 3,089,890.
- Chupp, John P., and Newallis. 3,099,597.
- Chupp, John P., and Speziale. 3,102,018.
- Chupp, John P., and Speziale. 3,102,022.
- Clarke, Michael K., and Bawn. 3,080,349.
- Cleveland, Thomas H., Chadwick, and Hardy. 3,089,889.
- Coggeshall, Alva C. 3,114,999.
- Comp, Joseph L. 3,079,423.
- Coran, Aubert Y. 3,111,502.
- Cox, Paul R., Jr., and Ucci. 3,093,612.
- D'Amico, John J. 3,075,990.
- D'Amico, John J. 3,082,237.
- D'Amico, John J. 3,096,236.
- D'Amico, John J. 3,098,091.
- Darlington, Walter A. 3,085,931.
- Davis, Walter H., Jr. 3,083,437.
- Delacretaz, Richard E. 3,110,702.
- Dever, James L., and Birum. 3,089,893.
- Dinsmore, David W., and Smith. 3,103,492.
- Dodgson, Douglas P. 3,073,856.
- Eaker, Charles M., and Saul. 3,094,567.
- Ehrlich, Paul, and Wade. 3,090,778.
- Emerson, Paul D. 3,113,736.
- Emerson, Paul D. 3,113,737.
- Epstein, Arnold, and Kulifay. 3,095,330.
- Estes, Lynn H. 3,076,046.
- Evans, Robert J. 3,105,101.
- Farrar, Martin W. 3,079,417.
- Fincke, John K., Higashi, and Jarvi. 3,074,903.
- Fisher, Don E. 3,071,917.
- Fisher, Don E. 3,076,304.
- Fisher, Don E., and Lamb. 3,080,132.
- Franz, John E. 3,080,414.
- Franz, John E., and Farrar. 3,078,302.
- Freedman, Bernard. 3,106,540.
- Freedman, Bernard, and Huck. 3,091,596.
- Gaertner, Van R. 3,082,249.
- Gaertner, Van R. 3,084,187.
- Gaertner, Van R. 3,086,043.
- Gaertner, Van R. 3,102,893.
- Gaertner, Van R., and Van Eenam. 3,081,354.
- Gamrath, Harry R., and Raether. 3,096,364.
- Garner, Albert Y., Chapin, and Abramo. 3,075,011.
- Gebura, Stanley E. 3,074,974.
- Godfrey, Kenneth L., and Morrill. 3,095,351.
- Gottily, Arthur L. 3,093,278.
- Grisley, Daniel W., Jr. 3,076,017.
- Groeneweghe, Leo C.D. 3,071,616.
- Grove, Herbert D., Jr., and Satterley. 3,073,685.
- Gruber, Bernard A. 3,096,149.
- Gruber, Bernard A., Ruehrwein, and Williams. 3,090,703.
- Guerry, Davenport. 3,109,034.
- Guior, Thomas H. 3,098,690.
- Haigler, Henry E., Jr., and Dowell. 3,108,352.
- Ham, George E. 3,080,343.
- Hamilton, Paul M. 3,115,469.
- Hamilton, Paul M., and Kistiakowsky. 3,094,428.
- Harman, Marion W. 3,078,258.
- Harman, Marion W., and D'Amico. 3,074,970.
- Harman, Marion W., and D'Amico. 3,078,153.
- Harman, Marion W., and D'Amico. 3,078,273.



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 Harris, James O. 3,083,181.  
 Harwood, Harold J. 3,089,892.  
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 Harwood, Harold J., and Pollart. 3,104,259.  
 Hatfield, Carrol G., and Lovett. 3,100,807.  
 Hathaway, Charles T. 3,090,991.  
 Hayes, Louie W., Sr. 3,092,889.  
 Hayes, Louie W., Sr. 3,108,354.  
 Hedrick, Ross M., and Mottus. 3,094,444.  
 Hedrick, Ross M., and Mottus. 3,107,185.  
 Heimsch, Robert A., and Weesner. 3,085,114.  
 Heimsch, Robert A., Weesner, and Andersen. 3,113,974.  
 Heiss, Herbert L. 3,102,875.  
 Henderson, Courtland M., and Harris. 3,081,361-5.  
 Henderson, Courtland M., and Harris. 3,087,002.  
 Herber, John P. 3,106,575.  
 Herbig, James A., and Salyer. 3,092,607.  
 Herbig, James A., and Salyer. 3,114,728.  
 Hieserman, Clarence E., Veazey, and Lea. 3,084,143.  
 Higashi, Louis M. 3,074,904.  
 Hill, Dale E. 3,071,715.  
 Hill, Dale E. 3,113,210.  
 Hill, Dale E., and Epstein. 3,077,506.  
 Hills, William H. 3,113,368.  
 Hindle, Walter H. 3,096,139.  
 Hughes, Lawrence J. 3,114,780.  
 Hughes, Lawrence J., McMinn, and Burleson. 3,114,775.  
 Jackson, Robert C. 3,093,332.  
 Jenkins, Lloyd T. 3,088,940.  
 Kaplan, Yale, and Jaquiere. 3,115,072.  
 Katon, John E., and Miller. 3,097,086.  
 Knowles, William S., and Lippmann. 3,085,113.  
 Knudsen, John P. 3,088,188.  
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 Kosmin, Milton, and Wasson. 3,072,728.  
 Krebaum, Lawrence J. 3,079,424.  
 Lamb, Douglas J. 3,093,344.  
 Le Blanc, John R., and Murray. 3,113,148.  
 Lee, Emerson H. 3,100,234.  
 Leeper, Harold M. 3,073,371.  
 Leib, Robert I. 3,076,037.  
 Leib, Robert I. 3,077,502.  
 Lense, Frederick T. 3,104,443.  
 Leonard, Stephen V. 3,083,556.  
 Lincoln, Robert J. 3,108,356.  
 Lobdell, Alban J. Re. 25,455.  
 MacFarlane, Alistair C. 3,079,446.  
 Maier, Ludwig. 3,075,017.  
 Makin, Earle C., Jr. 3,072,565.  
 Makin, Earle C., Jr. 3,072,566.  
 Makin, Earle C., Jr. 3,077,711.  
 Makin, Earle C., Jr. 3,108,946.  
 Marco, Gino J., and Speziale. 3,095,454.  
 Marco, Gino J., and Speziale. 3,095,455.  
 Mark, Victor. 3,099,693.  
 Mark, Victor. 3,106,586.  
 Martinson, Carl R. Re. 25,394.  
 May, Paul D., and Kohn. 3,100,218.  
 McCullough, Campbell R. 3,098,701.  
 McEwan, Gilbert J., and Beimler. 3,084,131.  
 McGill, Charles H. 3,113,367.  
 McLane, Martin M. 3,079,239.  
 McTaggart, Robert B., Jackson, and Huck. 3,106,547.  
 Miller, Lee A. 3,075,210.  
 Miller, Lee A. 3,082,244.  
 Miller, Lee A. 3,082,245.  
 Miller, Lee A. 3,093,646.  
 Miller, Lee A. 3,093,672.  
 Miller, Lee A. 3,093,679.  
 Miller, Lee A. 3,093,680.  
 Miller, Lee A. 3,097,280.  
 Miller, Lee A. 3,097,998.  
 Miller, Lee A. 3,100,794.  
 Miller, Lee A., and Butler. 3,082,242.  
 Mills, Robert H. 3,076,837.  
 Mitoray, Jane P., and Bauer. 3,085,066.  
 Mortimer, George A. 3,079,425.  
 Moss, Henry V. 3,095,356.  
 Mottus, Edward H., and Hedrick. 3,086,962.  
 Moziek, John. 3,112,525.  
 Moziek, John, and Bullock. 3,076,637.  
 Newallis, Peter E. 3,106,565.  
 Newallis, Peter E., and Chupp. 3,078,212.  
 Newallis, Peter E., and Chupp. 3,095,440.  
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 Oakes, David T. 3,112,266.  
 Oakes, David T. 3,113,617.  
 Oakes, David T. 3,113,618.  
 Ort, Morris R., and Yanko. 3,113,090.  
 Platzer, Norbert. 3,072,581.  
 Prill, Erhard J. 3,096,381.  
 Ratts, Kenneth W. 3,099,661.  
 Rausch, Marvin D. 3,098,864.  
 Rawlings, Herbert L., and D'Amico. 3,107,994.  
 Raynes, Mitchell. 3,102,908.  
 Reetz, Theodor. 3,100,774.  
 Reetz, Theodor. 3,104,253.  
 Reetz, Theodor. 3,104,254.  
 Reinhard, Raymond H. 3,073,805.  
 Reinhard, Raymond H. 3,073,806.  
 Reinhard, Raymond H. 3,083,189.

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Richeson, James P. 3,098,260.  
 Ringwald, Eugene L. 3,080,420.  
 Ringwald, Eugene L. 3,080,421.  
 Rhodes, Chester D. 3,087,670.  
 Robinson, Warn D. 3,106,569.  
 Roman, Daniel P. 3,088,916.  
 Salyer, Ival O. 3,112,290.  
 Schauer, Paul J., and Weston. 3,096,291.  
 Schultz, Robert G., and Gaertner. 3,089,987.  
 Sharp, Dexter B. 3,076,813.  
 Sharp, Dexter B. 3,109,800.  
 Shaver, Kenneth J. 3,108,999.  
 Sheehan, Charles J. 3,085,548.  
 Sikorski, Paul E. 3,108,323.  
 Spencer, Framroze J. 3,100,753.  
 Speziale, Angelo J. 3,079,433.  
 Speziale, Angelo J., and Chupp. 3,102,019.  
 Speziale, Angelo J., and Chupp. 3,102,020.  
 Speziale, Angelo J., and Chupp. 3,102,021.  
 Speziale, Angelo J., and Chupp. 3,102,023.  
 Stark, Louis R. 3,071,549.  
 Stephens, John A., and Prill. 3,095,437.  
 Stone, Bobbie D. 3,114,605.  
 Stone, Bobbie D., and Ruehrwein. 3,073,679.  
 Summers, Charles G. 3,083,202.  
 Surgant, John M. 3,095,353.  
 Symes, William F. 3,108,969.  
 Tallman, Ralph C. 3,108,143.  
 Tallman, Ralph C. 3,108,144.  
 Tarkington, Terry W., and Whitt. 3,088,932.  
 Tate, John E. 3,108,322.  
 Taylor, Ernest A., Jr. 3,083,923.  
 Taylor, Ernest A., Jr. 3,093,787.  
 Taylor, Ernest A., Jr. 3,113,366.  
 Taylor, Keith M. 3,100,227.  
 Taylor, Keith M. 3,114,765.  
 Tung, Ching C. 3,085,990.  
 Tung, Ching C., and D'Amico. 3,094,407.  
 Ucci, Pompelio A. 3,080,210.  
 Vazopolos, Steve. 3,072,654.  
 Vignale, Michael J. 3,114,739.  
 Walker, Harry M. 3,090,820.  
 Walker, Lloyd A. 3,094,496.  
 Weesner, William E. 3,113,166.  
 Weesner, William E., and Webster. 3,075,874.  
 Weiss, Anton G., and D'Amico. 3,078,152.  
 White, Clyde C., Jr., and Amsler. 3,088,309.  
 Wilder, Gene R. 3,102,803.  
 Wildi, Bernard S. 3,086,001.  
 Wildi, Bernard S., and Tuemmler. 3,099,630.  
 Williams, Forrest V. 3,088,807.  
 Williams, Forrest V. 3,094,387.  
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 Monson, Arnold A. Sewage disposal structure. 3,097,166, 7-9-63, Cl. 210-170.  
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 Montague, Charles A., Jr. Boat construction. 3,099,240, 7-30-63, Cl. 114-66.5.  
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 Montalto, Ignatius M. Display sign construction. 3,077,686, 2-19-63, Cl. 40-125.



- Montana, Alfred L., to United States of America, Army. Positive cartridge indexing device. 3,080,793, 3-12-63, Cl. 89-33.
- Montanaro, Carmine G., Jr.: *See*—Christoffersen, Glen R., and Montanaro. 3,093,222.
- Montarnal, Roger, and J. Preve, to Institut Français du Pétrole, des Carburants et Lubrifiants, and Commissariat à l'Énergie Atomique. Irradiative hydroxylation of benzenic hydrocarbons in the aqueous phase. 3,110,653, 11-12-63, Cl. 204-154.
- Montavon, Marc: *See*—Guex, Waldemar, Marbet, and Montavon. 3,109,861.
- Isler, Otto, Lindlar, Montavon, Ruegg, Schwieter, and Saucy. 3,091,631.
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- Montchause, Andre J., and R. P. Lecomte, to International Standard Electric Corp. Relay-contact cutting tool. 3,099,085, 7-30-63, Cl. 30-124.
- Monteath, Robert G., Jr. Apparatus for cleaning cooling systems. 3,115,145, 12-24-63, Cl. 134-95.
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- Bosoni, Achille. 3,073,790.
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- Montesano, Lewis, to Bell Telephone Laboratories, Inc. Polysulfide polymer containing styrene oxide as an odor masker, and mixture thereof with an epoxy resin. 3,101,326, 8-20-63, Cl. 260-43.
- Montesano, Lewis. Leak-proof packaging infusion unit. 3,102,465, 9-3-63, Cl. 99-323.
- Montgomerle, George A., to Serck Radiators Ltd. Hydraulic couplings. 3,093,983, 6-18-63, Cl. 64-26.
- Montgomery, Arvid N., to Montgomery Mfg. Co., Inc. Secondary clock setting means. 3,090,191, 5-21-63, Cl. 58-34.
- Montgomery, Clarence G. L. Boxing ring seat. 3,073,560, 1-15-63, Cl. 248-240.4.
- Montgomery, Dean P.: *See*—Axe, William N., and Montgomery. 3,077,733.
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- Montgomery, Eldwin C.: *See*—Sharp, Donald E., Dean, Babcock, and Montgomery. 3,078,692.
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- Montgomery, James B.: *See*—Sparrow, William T., and Montgomery. 3,110,403.
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- Montgomery Mfg. Co., Inc.: *See*—Montgomery, Arvid N. 3,090,191.
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- Montgomery, Norman E., to Shell Oil Co. Gas lifting system. 3,090,316, 5-21-63, Cl. 103-52.
- Montgomery, Rayner A.: *See*—Kilmer, Earl E., and Montgomery. 3,109,305.
- Montgomery, Robert S.: *See*—Bozer, Keith B., Montgomery, and Archer. 3,075,942.
- Montgomery, Van H., to Bernardin Bottle Cap Co., Inc. Self-venting bottle cap. 3,114,467, 12-17-63, Cl. 215-56.
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- Montgomery, William T., and J. H. Cook, to Imperial Chemical Industries Ltd. Formation of hollow bodies from powdered materials. 3,112,166, 11-26-63, Cl. 18-59.3.
- Monti, Galliano: *See*—Bettoni, Ezio, and Monti. 3,071,820.
- Monticello Mfg. Corp.: *See*—Hoose, Francis D., and Melvin. 3,091,345.
- Montone, Liber J.: *See*—Embree, Milton L., and Montone. 3,080,522.
- Montres Longines Franchillon SA, Compagnie des: *See*—Cachin, Andre, and Nardin. 3,111,806.
- Montross, Robert C.: *See*—Pettit, Dorn L., Montross, and Hutchinson. 3,108,215.
- Montz, Roy J. Step-climbing endless track type hand truck. 3,104,113, 9-17-63, Cl. 280-522.
- Mo och Domsjö Aktiebolag: *See*—Ahlstedt, Gunnar L. 3,074,180.
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- Moo, Gothard T., to Weskenson Corp. Overrunning clutches. 3,072,233, 1-8-63, Cl. 192-45.
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- Moody, Dale M.: *See*—Green, William G. 3,115,776.
- Moody, Floyd O., and C. W. Eyman, Jr., to General Motors Corp. Snap fastener. 3,101,922, 8-27-63, Cl. 248-27.
- Moody, Jack C., and L. Panther, to American Viscose Corp. Staple fiber cutter. 3,104,580, 9-24-63, Cl. 83-403.
- Moody, Lamar, and R. R. McClure. Boat trailer. 3,083,986, 4-2-63, Cl. 280-414.
- Moody, Lawrence C., to H. D. Washington and R. Nolley. Outboard motor mount. 3,073,279, 1-15-63, Cl. 115-41.
- Moog Industries, Inc.: *See*—Scheublein, William A., Jr., and Dumpis. 3,103,377.
- Moog Servocontrols, Inc.: *See*—Kolm, Harvard B., Jr. 3,095,906.
- Moog, William C. 3,103,739.
- Moog, William C., to Moog Servocontrols, Inc. Method of making bushing for a precision hydraulic servo mechanism. 3,103,739, 9-17-63, Cl. 29-157.1.
- Mool, John, O. H. Thomas, and E. H. Burk, Jr., to Sinclair Research, Inc. Hydrogenation process employing hydrogen halide contaminated hydrogen. 3,085,971, 4-16-63, Cl. 208-89.
- Mook, Donald E.: *See*—Blanken, Robert M., Carey, and Mook. 3,114,645.
- Moon, John J., to Phillips Petroleum Co. Handling of polymer slurries. 3,080,354, 3-5-63, Cl. 260-94.9.
- Moon, Katharyne M.: *See*—Moon, Sterling C. 3,100,629.
- Moon, Marguerite Barr, Eye Research Foundation, Inc.: *See*—Moon, Thomas E., Mallick, and Marshall. 3,074,407.
- Moon, Paul H., to Kelsey Hayes Co. Tool for forming helices or eyes in wires. 3,093,184, 6-11-63, Cl. 153-67.
- Moon, Robert J.: *See*—Isenberg, Sampson, Moon, and Shaw. 3,099,447.
- Shaw, Albert E. Isenberg, and Moon. 3,093,375.
- Moon, Sterling C., to Jeffrey Galion Mfg. Co. Continuous mining machine. 3,074,701, 1-22-63, Cl. 262-9.
- Moon, Sterling C., deceased, by K. M. Moon, administratrix, to The Jeffrey Galion Mfg. Co. Continuous mining machine having lateral levelling means. 3,100,629, 8-13-63, Cl. 262-9.
- Moon, Thomas E., J. Mallick, and R. N. Marshall, to Marguerite Barr Moon Eye Research Foundation, Inc. Surgical devices for keratoplasty and methods thereof. 3,074,407, 1-22-63, Cl. 128-303.
- Moonan, William, to Sprayon Products, Inc. Agitating means for aerosol spray cans. 3,087,707, 4-30-63, Cl. 259-29.
- Mooney, David H., Jr.: *See*—Heyser, Lewis S., Skillman, and Mooney. 3,103,010.
- Mooney, James J., Jr.: *See*—Tuck, Robert M., Mooney, and Fisher. 3,101,011.
- Mooney, Laurence R., to Sten-C-Lab, Inc. Stacked stencil assembly package. 3,113,671, 12-10-63, Cl. 206-60.
- Mooney, Richard W., and A. J. Comstock, to Sylvania Electric Products Inc. Calcium phosphate for phosphors. 3,099,627, 7-30-63, Cl. 252-301.4.
- Mooney, Robert A., Jr., to Ford Motor Co. Push rod. 3,086,507, 4-23-63, Cl. 123-90.
- Mooney, Vincent J., to Maxson Electronics Corp. Automatic map matching system and apparatus. 3,103,008, 9-3-63, Cl. 343-5.
- Mooradian, Aram, to Sterling Drug Inc. 3-halo-2,2-disubstituted-1-propanol carbamates and their preparation. 3,081,341, 3-12-63, Cl. 260-482.
- Moore, Albert N., 10% to W. Bernstein and 10% to B. H. Goldstein. Currency detector. 3,090,485, 5-21-63, Cl. 209-75.
- Moore, Alfred A. Crack filing dispenser. 3,087,654, 4-30-63, Cl. 222-105.
- Moore, Arthur H., to The Bridgeport Metal Goods Mfg. Co. New plastic flashlight head. 3,076,891, 2-5-63, Cl. 240-10.66.



- Moore Associates, Inc.: *See*—  
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Moore, Carl E., H. L. Larson, and S. Meinstein, to Witco Chemical Co. Inc. Anti-ozonants and use thereof in rubber compositions. 3,074,908, 1-22-63, Cl. 260-45.9.  
Moore, Charles A., to Eprad, Inc. Simplified communication system. 3,097,265, 7-9-63, Cl. 179-1.  
Moore, Charles B., to W. R. Grace & Co. Paper making with synthetic fibers. 3,094,454, 6-18-63, Cl. 162-157.  
Moore, Charles E., to Radio Corp. of America. True-motion radar display system. 3,085,241, 4-9-63, Cl. 343-5.  
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Moore, Charles G., to Rubbermaid Inc. Toilet brush holder. 3,085,678, 4-16-63, Cl. 206-15.1.  
Moore, Chester C., and R. O. Schaeffer, to Stephens-Adamson Mfg. Co. Floating comb plate. 3,071,234, 1-1-63, Cl. 198-16.  
Moore, Clifford, W. S. Wuest, and E. R. Zuehlke, to General Precision, Inc. Automatic component tester. 3,094,212, 6-18-63, Cl. 209-75.  
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Moore, David G. Free corer. 3,078,931, 2-26-63, Cl. 175-5.  
Moore, David L., and J. R. Clark, to Lipe-Rollway Corp. Heavy duty clutch brake. 3,105,579, 10-1-63, Cl. 192-13.  
Moore, David P. Fiber transfer devices. 3,095,614, 7-2-63, Cl. 19-99.  
Moore, David W. Dental process and apparatus. 3,074,168, 1-22-63, Cl. 32-32.  
Moore, Donald C., and E. A. Taylor, to Imperial Chemical Industries Ltd. Articles with erosion-resistant surfaces. 3,083,448, 4-2-63, Cl. 29-198.  
Moore, Donald D., to FMC Corp. Tire bead breaking mechanism. 3,094,161, 6-18-63, Cl. 157-1.17.  
Moore, Donovan J., and W. W. Skifstrom, to Space Technology Laboratories, Inc. Standoff tool. 3,111,750, 11-26-63, Cl. 29-235.  
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Moore, Edward J., to E. I. du Pont de Nemours and Co. Lever arm actuated extrusion die adjuster. 3,102,302, 9-3-63, Cl. 18-12.  
Moore, Edwin R. Tilting devices for chair seats and chair backs. 3,072,436, 1-8-63, Cl. 297-316.  
Moore, Ernest R. Mouthpiece formed to the arch of the user's mouth. 3,107,667, 10-22-63, Cl. 128-136.  
Moore, Ernest S., to National Research Council. Continuous retaining ring adapted for radial expansion. 3,077,811, 2-19-63, Cl. 85-8.6.  
Moore, Ezra L., to Arvin Industries, Inc. Web separator. 3,084,979, 4-9-63, Cl. 297-445.  
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Moore, Francis C., and M. W. Nicely, 1/2 to American Hospital Supply Corp. Nebulizer. 3,077,307, 2-12-63, Cl. 239-338.  
Moore, Francis J. Door latch with key lock. 3,115,026, 12-24-63, Cl. 70-135.  
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Moore, Harrington. Method of making setscrew with mutilated threads. 3,076,208, 2-5-63, Cl. 10-10.  
Moore, Harrington. Tool for cutting grooves in the flanks of screws. 3,099,071, 7-30-63, Cl. 29-95.1.  
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Vail, Sidney L., Moran, and Moore. 3,112,155.  
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Moore, Harry N. Orthodontic keeper bracket. 3,076,265, 2-5-63, Cl. 32-14.  
Moore, Harry O., 50% to F. E. Godley. Valve mechanism for flush tanks. 3,108,286, 10-29-63, Cl. 4-55.  
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Moore, Herbert A. Apparatus for converting sleds to wheeled vehicles. 3,104,115, 9-17-63, Cl. 280-8.  
Moore, Herman E., Jr. One-handed boat paddle. 3,109,184, 11-5-63, Cl. 9-24.  
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Moore, James A. Coupling for plastic pipe having segmented interlocked clamping rings. 3,082,022, 3-19-63, Cl. 285-112.  
Moore, James G., and E. B. Pinkel, to Blaw-Knox Co. Apparatus for making paste flakes. 3,082,541, 3-26-63, Cl. 84-62.  
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Moore, James M., and G. C. Ladman. Portable melting kettle. 3,092,098, 6-4-63, Cl. 126-343.5.  
Moore, James R. Extensible measuring rule. 3,094,787, 6-23-63, Cl. 33-161.  
Moore, James R. Infant's shoe tree. 3,100,901, 8-20-63, Cl. 12-114.2.  
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Moore, Jesse C. Apparatus for vacuum die casting. 3,106,755, 10-15-63, Cl. 22-68.  
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Moore, John F. Method of forming flexible sheets of cured formed rubber. 3,081,496, 3-19-63, Cl. 18-53.  
Moore, John F. Tobacco curing system. 3,100,145, 8-6-63, Cl. 34-48.  
Moore, John H., to Leeds and Northrup Co. Transducer with improved signal winding. 3,076,137, 1-29-63, Cl. 323-89.  
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Moore, Joseph E., J. N. Ospenson, and G. K. Kohn. M-(1-cyclopropylethyl) phenyl N-methylcarbamate. 3,110,726, 11-12-63, Cl. 260-479.  
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Moore, Lawrence A., to Beloit Iron Works. Roll deflection. 3,082,685, 3-26-63, Cl. 100-155.  
Moore, Lawrence A., to The Black-Clawson Co. Paper machinery. 3,085,503, 4-16-63, Cl. 100-90.  
Moore, Lawrence A., to Beloit Iron Works. Roll deflection. 3,103,875, 9-17-63, Cl. 100-155.  
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Moore, Lewis F. Deep fat fryer. 3,097,589, 7-16-63, Cl. 99-408.  
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- Moore, Ralph G. D., and R. J. Cox, to General Aniline & Film Corp. Aminopyridinediazonium salts. 3,082,200, 3-19-63, Cl. 260-141.
- Moore, Ralph W., to Pangborn Corp. Abrasive blasting apparatus. 3,089,285, 5-14-63, Cl. 51-8.
- Moore, Ralph W., to The Pangborn Corp. Method and apparatus for deflashing molded resilient pieces. 3,110,983, 11-19-63, Cl. 51-9.
- Moore, Raymond W.: *See—*  
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- Moore, Richard K., to General Electronic Laboratories, Inc. Frequency modulation interfering signal selecting system. 3,091,735, 5-28-63, Cl. 325-47.
- Moore, Richard L., to Sperry Rand Corp. Magnetic memory element. 3,095,555, 6-25-63, Cl. 340-174.
- Moore, Richard P. Diaphragm valves. 3,078,066, 2-19-63, Cl. 251-61.
- Moore, Richard P. Separating apparatus. 3,113,100, 12-3-63, Cl. 210-91.
- Moore, Richard V., to United Kingdom Atomic Energy Authority. Fuel elements for nuclear reactors. 3,089,837, 5-14-63, Cl. 204-193.2.
- Moore, Robert C., to Philco Corp. Stereophonic detector and matrixing circuit. 3,089,096, 5-7-63, Cl. 329-135.
- Moore, Robert C., to Philco Corp. Color television receiver and method of adjusting same. 3,116,364, 12-31-63, Cl. 178-5.4.
- Moore, Robert D., to The Moore Co. Motor for contra rotating fans. 3,083,312, 3-26-63, Cl. 310-157.
- Moore, Robert E., to Bell & Gossett Co. Mechanical sealing structure for rotating shafts. 3,108,816, 10-29-63, Cl. 277-93.
- Moore, Robert L., to Aerol Co., Inc. Wheel suspension with polygonal spring support. 3,082,017, 3-19-63, Cl. 280-96.2.
- Moore, Robert L.: *See—*  
Briskin, Theodore S., Moore, and Rom. 3,076,397.  
Briskin, Theodore S., Moore, and Rom. 3,081,669.  
Briskin, Theodore S., Moore, and Rom. 3,084,607.  
Briskin, Theodore S., Moore, and Rom. 3,094,038.  
Sunday, Richard K., Van Dolsen, Moore, and Jennings. 3,078,528.
- Moore, Robert L., and R. A. Rom, to Revere Camera Co. Automatic flash gun. 3,107,862, 10-22-63, Cl. 240-1.3.
- Moore, Robert S.: *See—*  
Shepard, William W., Baude, and Moore. 3,103,468.
- Moore, Ronald D., to Saginaw Products Corp. Steerable trailer vehicle. 3,097,863, 7-16-63, Cl. 280-445.
- Moore, Roy E., to Mansfield Industries, Inc. Reversible shutter drive and accessibly mounted mechanisms in a motion picture projector. 3,096,682, 7-9-63, Cl. 88-17.
- Moore, Sewell T.: *See—*  
Segro, Nicholas R., Moore, and Daniel. 3,081,143.
- Moore, Sewell T., to American Cyanamid Co. Paper containing acrylamide copolymer. 3,077,430, 2-12-63, Cl. 162-168.
- Moore, Walter L., to Boving and Co. Ltd. Butterfly valve having a sealing surface mounted for axial movement. 3,100,104, 8-6-63, Cl. 251-175.
- Moore, White & Burd: *See—*  
Smith, Hilton D. 3,103,678.
- Moore, William A. Apparatus for propulsion of submersible objects. 3,071,375, 1-1-63, Cl. 272-8.
- Moore, William C., by Welch Allyn, Inc., assignee. Rechargeable battery handle. Re. 25,388, 5-14-63, Cl. 240-10.6.
- Moore, William C., to Welch Allyn, Inc. Battery handle construction. 3,071,747, 1-1-63, Cl. 338-179.
- Moore, William G., to The Dow Chemical Co. Rapid curing resin-filler systems. 3,107,403, 10-22-63, Cl. 22-194.
- Moore, William H., and W. E. Gruver, Jr., to Meehanite Metal Corp. Air hardening cast iron. 3,095,300, 6-25-63, Cl. 75-123.
- Moore, William J.: *See—*  
Mosher, Hugh M., and Moore. 3,081,184.
- Moore, William P. Automotive suspension seat. 3,090,647, 5-21-63, Cl. 297-307.
- Moore, William P., and R. R. MacGregor, to Allied Chemical Corp. Synthesis of propargyl alcohol from formaldehyde and acetylene. 3,087,970, 4-30-63, Cl. 260-638.
- Moore, William P., Jr., and G. A. Elliott, to Allied Chemical Corp. Recovery and purification of hydroxylamine. 3,105,741, 10-1-63, Cl. 23-190.
- Moore, William S. Method of and apparatus for embalming. 3,090,095, 5-21-63, Cl. 27-22.
- Moorehead, Herbert H.: *See—*  
Kilsheimer, John R., and Moorehead. 3,081,340.  
Kilsheimer, John R., and Moorehead. 3,099,681.
- Moors, Urban A. Dairy barn traveling stanchion. 3,077,860, 2-19-63, Cl. 119-14.03.
- Moorhead, John O., to Texas Instruments Inc. Thermostatic controls. 3,091,121, 5-28-63, Cl. 73-378.3.
- Moorhead, John P., and J. A. Lowing, to Evans Products Co. Freight-loading apparatus. 3,081,715, 3-19-63, Cl. 105-368.
- Moorman, Cletus L.: *See—*  
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- Moorman Mfg. Co.: *See—*  
Brody, Gerald. 3,098,007.
- Moormann, Helmuth, to Ideal Toy Corp. Method and apparatus for molding a doll's head. 3,109,203, 11-5-63, Cl. 18-39.
- Moormann, Helmuth, to Ideal Toy Corp. Mechanical heart-beat mechanism. 3,110,980, 11-19-63, Cl. 46-192.
- Moors, Donald E., and H. L. Sandberg, to Hycon Mfg. Co. Camera stabilized mount. 3,094,054, 6-18-63, Cl. 95-12.5.
- Moors, Hubert J.: *See—*  
Pries, Rinehard, and Moors. 3,071,266.
- Moos, Anthony M., to Leeson Corp. Fuel cell electrolytes. 3,083,251, 3-26-63, Cl. 136-86.
- Moos, Anthony M., to Leeson Corp. Catalysts and electrodes for fuel cells. 3,097,115, 7-9-63, Cl. 136-120.
- Moos, Anthony M., to Leeson Corp. Fuel cell electrodes. 3,097,116, 7-9-63, Cl. 136-120.
- Moos, Walter S. Radioactivity smear sampler. 3,074,276, 1-22-63, Cl. 73-425.
- Moosbrunner Glasfabrik A.G.: *See—*  
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- Moosmann, Alois. Pneumatic control mechanism for machine tools. 3,082,781, 3-26-63, Cl. 137-83.
- Moote, Truman P.: *See—*  
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- Mora, Antonio. Goggles for protection against glare in driving at night. 3,111,675, 11-26-63, Cl. 2-14.
- Morabito, Bruno P.: *See—*  
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- Morabito, John J.: *See—*  
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- Morales, Juan A. Container for transportation of liquids. 3,109,563, 11-5-63, Cl. 222-192.
- Moran, Charles P. Auxiliary safety step for rung ladders and locking means therefor. 3,112,811, 12-3-63, Cl. 182-120.
- Moran, Clifford M.: *See—*  
Vail, Sidney L., Moran, and Moore. 3,111,522.  
Vail, Sidney L., Moran, and Moore. 3,112,155.
- Moran, Edward F.: *See—*  
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- Moran, Glennon T.: *See—*  
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- Moran, H. David, to Shampaine Industries, Inc. Game boards. 3,106,401, 10-8-63, Cl. 273-108.
- Moran, Harold J., to Switlik Parachute Co., Inc. Inflatable life preserver. Re. 25,398, 6-18-63, Cl. 9-340.
- Moran, James H., to Schlumberger Well Surveying Corp. System for measuring by induction the conductivity of a medium. 3,090,910, 5-21-63, Cl. 324-6.
- Moran, James M.: *See—*  
Devonshire, William H., Moran, Lundberg, and Hoag. 3,074,353.
- Moran, Jesse N., to North American Aviation, Inc. Flush mounted plug valve. 3,103,341, 9-10-63, Cl. 251-115.
- Moran, John J., and H. Wood. Laboratory distillation apparatus. 3,098,800, 7-23-63, Cl. 202-170.
- Moran, John J., and H. Wood. Laboratory distillation apparatus. 3,107,205, 10-15-63, Cl. 202-170.
- Moran, Lawrence F. Life-preserver pillow. 3,090,054, 5-21-63, Cl. 9-313.
- Moran, Lawrence F., and W. F. Bennett. Door closer. 3,083,399, 4-2-63, Cl. 16-66.
- Moran Shoe Co.: *See—*  
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- Moran, Stephen F.: *See—*  
Rosenberg, Edgar N., and Moran. 3,084,654.
- Morana, Simon J., G. F. Simons, and C. J. Wummer, to The Beryllium Corp. Production of beryllium hydroxide. 3,116,110, 12-31-63, Cl. 23-183.
- Morana, Simon J., G. F. Simons, and C. J. Wummer, to The Beryllium Corp. Production of beryllium hydroxide. 3,116,111, 12-31-63, Cl. 23-183.
- Morand, Mildred W.: *See—*  
Morand, Richard A., R. J. Morand, Jr., and M. W. Morand. 3,082,566.
- Morand, Richard A., R. J. Morand, Jr., and M. W. Morand. Utensil screen. 3,082,566, 3-26-63, Cl. 45-68.
- Morand, Robert J., Jr.: *See—*  
Morand, Richard A., R. J. Morand, Jr., and M. W. Morand. 3,082,566.
- Morando, Emilio D. Needleless prefilled disposable hypodermic injector. 3,115,133, 12-24-63, Cl. 128-173.
- Moran's, Thomas J., Sons, Inc.: *See—*  
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- Moras, Nello A., and R. E. Groff; said Groff assor. to said Moras. Blade for earth-working tractor. 3,112,573, 12-3-63, Cl. 37-145.
- Morat Franz, G.m.b.H.: *See—*  
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- Morath, Günther, W. Waldura, and K. Neumann, to Moeller & Neumann G.m.b.H. Universal rolling mill. 3,098,404, 7-23-63, Cl. 80-55.
- Morawetz, Frederick, to Sunbeam Corp. Convertible shaver or massage device. 3,104,662, 9-24-63, Cl. 128-52.
- Morawetz, Herbert: *See—*  
Hainer, Raymond M., Berdick, and Morawetz. 3,104,205.
- Morchand, Charles A. Animal training device. 3,072,097, 1-8-63, Cl. 119-29.
- Morcheles, Bernard, to Stacor Corp. Drawing boards with counter-balancing mechanism. 3,078,613, 2-26-63, Cl. 45-131.
- Morcher, Bernhard, G. Kolb, and I. Dennstedt, to Agfa Aktiengesellschaft. Photographic materials containing acrylonitrile copolymers as matting agents. 3,079,257, 2-26-63, Cl. 96-67.



- Mordach, Walter: *See*—  
Innes, William B., and Mordach. 3,094,394.
- More, Arthur R.,  $\frac{1}{2}$  to H. W. Wallace & Co., Ltd. Temperature control system. 3,097,500, 7-16-63, Cl. 62-55.
- Moreau, André, to Inventions Finance Corp. Wire rope sockets or sleeves. 3,082,500, 3-26-63, Cl. 24-123.
- Moreau, Jean R., and R. S. Alfandari, to Thomson-Houston, Compagnie Francaise. New aerial system radiating several beams. 3,102,265, 8-27-63, Cl. 343-100.
- Moreau, Rene. Internal combustion engine silencers. 3,092,206, 6-4-63, Cl. 181-68.
- Morehead, Angus: *See*—  
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- Morehead, Owen G. Health belt. 3,075,517, 1-29-63, Cl. 128-24.1.
- Morehouse, Edward L., to Union Carbide Corp. Process for producing cyclopentadienyl-type metallic compounds. 3,071,605, 1-1-63, Cl. 260-429.
- Morehouse, Edward L., and A. N. Pines, to Union Carbide Corp. Aminosilicon treated metals and methods of treatment and production. 3,085,908, 4-16-63, Cl. 117-127.
- Morehouse, Edward L., and R. J. Lisanke, to Union Carbide Corp. Aminosilicon-alkylsilicate copolymers. 3,087,909, 4-30-63, Cl. 260-46.5.
- Moreira, Renan. Multi-stage radial sliding vane pump. 3,090,547, 5-21-63, Cl. 230-158.
- Morel, Jacques: *See*—  
Moser, Robert, and Morel. 3,113,251.
- Morel, Roger C.: *See*—  
Point, Marcel A., R., and Morel. 3,072,341.
- Moreland, Ethelbert H. Compressor for valve springs of engine with overhead valves. 3,080,645, 3-12-63, Cl. 29-218.
- Moreland, Stephen T., to Continental Can Co. Filler assembly for pulverulent materials. 3,095,018, 6-25-63, Cl. 141-67.
- Moreland, Stephen T., and R. E. Tyner, to Continental Can Co., Inc. Glass jar unloader. 3,072,252, 1-8-63, Cl. 209-80.
- Moreland, Stephen T., and R. E. Tyner, to Continental Can Co., Inc. Photoelectric inspection of glassware. 3,074,550, 1-22-63, Cl. 209-75.
- Moreland, Walter T.: *See*—  
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- Morelle, Jules L. E., to Optique et Precision de Levallois. Control devices for photographic apparatus. 3,077,822, 2-19-63, Cl. 95-10.
- Morelle, Jules L. E., to Optique et Precision de Levallois. Reflex photographic apparatus with single object-lens, with improved synchronized control and coupling mechanism. 3,094,913, 6-25-63, Cl. 95-42.
- Morelle, Jules L. E., to Optique et Precision de Levallois. Photographic device. 3,100,430, 8-13-63, Cl. 95-42.
- Morelli, Joseph L., F. A. Brignole, Jr., and L. E. Hare, to Royal McBee Corp. Typewriter print control. 3,095,079, 6-25-63, Cl. 197-183.
- Moressee, Georges, and R. Déchet, to Normacem. Rotary machines for converting electrical energy. 3,072,814, 1-8-63, Cl. 310-268.
- Moressee, Georges, and R. Déchet, to Normacem S.A. Magnetic circuit structure for rotary electric machines. 3,077,548, 2-12-63, Cl. 310-154.
- Moressee, Georges, and R. Déchet, to Normacem S.A. Armature coil for axial air gap machines. 3,095,516, 6-25-63, Cl. 310-268.
- Moressee, Georges, and R. Déchet, to Normacem S.A. Winding for axial air gap machines. 3,101,425, 8-20-63, Cl. 310-268.
- Moret, Michel, to Etablissement AESUP. Toothbrush attachment. 3,088,148, 5-7-63, Cl. 15-22.
- Moret, Michel, to Etablissement AESUP. Hand motor with totally enclosed starting contacts. 3,112,416, 11-26-63, Cl. 310-68.
- Moret, Michel, to Etablissement AESUP. Oscillating drive hand motor. 3,113,226, 12-3-63, Cl. 310-38.
- Moretta, Marcella S.: *See*—  
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- Tenconi, Riccardo. 3,108,462.
- Moretti, Francesco, to Officine Meccaniche e Fonderie A. Bosco Società per Azioni. Emptying system for rotary containers. 3,092,579, 6-4-63, Cl. 210-370.
- Moretz, Bynum C., to The Bendix Corp. Apparatus for making silicone impregnated shielded lead. 3,102,299, 9-3-63, Cl. 18-5.
- Morey, Everett D., and L. Loeb, to General Electric Co. Automatic washing machine having means to measure the rate of change of turbidity. 3,114,253, 12-17-63, Cl. 68-12.
- Morey, Glen H., to Templeton Coal Co. Apparatus for distilling liquids. 3,116,392, 12-31-63, Cl. 219-10.49.
- Morey, Robert E.: *See*—  
Houghton, William D., and Morey. 3,091,660.
- Morey, Robert E., to Radio Corp. of America. Magnetic recording and reproducing. 3,079,468, 2-26-63, Cl. 179-100.2.
- Mor-Flo Industries, Inc.: *See*—  
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- Morgan Adhesives Co.: *See*—  
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- Morgan, Burton D. 3,109,218.
- Morgan, Arthur I., Jr.: *See*—  
Graham, Robert P., Ginnette, and Morgan. 3,093,488.
- Morgan, Benjamin E. Flat specimen wear tester. 3,113,449, 12-10-63, Cl. 73-10.
- Morgan, Burton D., to Morgan Adhesives Co. Laminated dual surfaced sign and sign making material. 3,106,032, 10-8-63, Cl. 40-135.
- Morgan, Burton D., to Morgan Adhesives Co. Expander roll combination for smoothing web materials. 3,109,218, 11-5-63, Cl. 26-63.
- Morgan, Claude A., to The Majestic Co., Inc. Incinerator. 3,089,440, 5-14-63, Cl. 110-18.
- Morgan, Clifford V. Inside indicator bar. 3,083,467, 4-2-63, Cl. 33-172.
- Morgan Construction Co.: *See*—  
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- Hill, William J., and Neely. 3,113,477.
- Kinnicutt, Roger, Jr., and Sieurin. 3,109,340.
- McMillen, George H. 3,109,811.
- Morgan, Myles. 3,073,425.
- Morgan, Myles. 3,080,044.
- Rich, Charles A., Jr. 3,093,425.
- Rickleby, Samuel S. 3,080,199.
- Smith, Sheridan. 3,100,070.
- Morgan, Dave J. Incinerator. 3,092,050, 6-4-63, Cl. 110-18.
- Morgan, David I.: *See*—  
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- Morgan, David L., to Robertshaw-Fulton Controls Co. Convertible air volume control. 3,097,604, 7-16-63, Cl. 103-6.
- Morgan, David W., to Kaiser Aluminum & Chemical Corp. Electrolytic cell structure. 3,081,254, 3-12-63, Cl. 204-244.
- Morgan Development Laboratories, Inc.: *See*—  
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- Linsley, Douglas F., and Miller. 3,101,627.
- Morgan, Donald P., and D. D. Dalrymple. Apparatus for remote reading of utility meters. 3,104,382, 9-17-63, Cl. 340-204.
- Morgan, Edgar A., and K. W. Bacon, to Arrow Development Co. Boat ride apparatus. 3,113,528, 12-10-63, Cl. 104-73.
- Morgan, Edgar O.: *See*—  
Bacon, Karl W., and Morgan. 3,114,332.
- Morgan, Edward H. Concrete curb final grade machine. 3,088,231, 5-7-63, Cl. 37-108.
- Morgan, Erving B., to American Seating Co. Furniture glide and method of making same. 3,078,498, 2-26-63, Cl. 16-42.
- Morgan, Erving B., and W. E. Nordmark, to American Seating Co. Box seat partition. 3,079,198, 2-26-63, Cl. 297-217.
- Morgan, Evelyn E.: *See*—  
Morgan, Harold W., and E. E. 3,094,792.
- Morgan, Gerard E., to John T. Riddell, Inc. Headgear. 3,103,014, 9-10-63, Cl. 2-3.
- Morgan, Gerard E., Jr.: *See*—  
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- Rappleyea, Frederick A., and Morgan. 3,082,515.
- Morgan, Harold W., and E. E. Educational toy. 3,094,792, 6-25-63, Cl. 351-31.
- Morgan, Harry C., to North American Aviation, Inc. Analog-to-digital converter. 3,071,762, 1-1-63, Cl. 340-347.
- Morgan, Hillen J. Meat scoring and trimming knife. 3,099,307, 7-30-63, Cl. 146-203.
- Morgan, Homer C.: *See*—  
Beach, Horace J., and Morgan. 3,071,481.
- Morgan, James A., to Solarota Ltd. Body support for personal wear. 3,097,640, 7-16-63, Cl. 128-78.
- Morgan, James I., to The Prime Mfg. Co. Pressure gage mounting apparatus. 3,077,761, 2-19-63, Cl. 73-4.
- Morgan, John D. Color balance and exposure indicator. 3,080,790, 3-12-63, Cl. 88-23.
- Morgan, John W.: *See*—  
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- Morgan, Leonard P., J. A. Weaver, and D. B. Jarvis, to North American Philips Co., Inc. Fast-operating adder circuits. 3,074,639, 1-22-63, Cl. 235-175.
- Morgan, Lyman W.: *See*—  
Dye, Robert F., and Morgan. 3,074,922.
- Thomas, John C., and Morgan. 3,083,569.
- Morgan, Lyman W., to Phillips Petroleum Co. Control system for separation processes. 3,085,153, 4-9-63, Cl. 250-43.5.
- Morgan, Lyman W., to Phillips Petroleum Co. Olefin polymerization. 3,108,094, 10-22-63, Cl. 260-94.9.
- Morgan Machine Co., Inc.: *See*—  
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- Morgan, Mark, to International Business Machines Corp. Control and gauging system for milling machines. 3,099,780, 7-30-63, Cl. 318-162.
- Morgan, Merle L., to Electro-Measurements, Inc. Voltage divider of the inductive type. 3,113,261, 12-3-63, Cl. 323-43.5.
- Morgan, Myles, to Morgan Construction Co. Rolling mill switch. 3,073,425, 1-15-63, Cl. 193-39.
- Morgan, Myles, to Morgan Construction Co. Retractable stop adjacent run-off rollers. 3,080,044, 3-5-63, Cl. 198-107.
- Morgan, Norman D., to Burroughs Corp. High speed brake. 3,075,716, 1-29-63, Cl. 242-55.12.
- Morgan Packing Co., Inc.: *See*—  
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- Morgan, Paul A., to King Bee Mfg. Co. Vehicle lighting system. 3,107,061, 10-15-63, Cl. 240-8.2.



- Morgan, Paul A., to King Bee Mfg. Co. Lamp for vehicle. 3,109,598, 11-5-63, Cl. 240-8.2.
- Morgan, Paul B., and W. L. Baker, to United Shoe Machinery Corp. Heel attaching machines. 3,072,913, 1-15-63, Cl. 1-102.
- Morgan, Paul W., to E. I. du Pont de Nemours and Co. Composition comprising a solution of an organic compound containing two reactive groups and a polymer in the form of particles below about 15 microns. 3,078,242, 2-19-63, Cl. 260-29.6.
- Morgan, R. M., Co.: See—  
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- Morgan, Raymond E., to General Electric Co. Saturable current transformer-transistor circuit. 3,102,206, 8-27-63, Cl. 307-88.
- Morgan, Robert E.: See—  
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- Morgan, Robert G.: See—  
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- Morgan, Robert M., to R. M. Morgan Co. Rasp type threshing cylinder and elastic concave elements. 3,092,115, 6-4-63, Cl. 130-27.
- Morgan, Tom S. Baseball training device. 3,110,494, 11-12-63, Cl. 273-26.
- Morgan, Walter A., to Esso Research and Engineering Co. Automatic computer for use with mass spectrometers. 3,103,582, 9-10-63, Cl. 235-194.
- Morgan, Walter L., II, to United States of America, Navy. Dual string magnetic shift register. 3,114,137, 12-10-63, Cl. 340-174.
- Morgan, Willard L.: See—  
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- Morgan, Willard L., to Owens-Corning Fiberglass Corp. Production of coated fibers. 3,076,324, 2-5-63, Cl. 65-3.
- Morgan, Willard L., J. K. Coen, and J. D. Fleming, to Owens-Corning Fiberglass Corp. Fibrous glass reinforcement. 3,084,089, 4-2-63, Cl. 156-181.
- Morgan, William B., Jr.: See—  
Keessen, Harold E., and Morgan. 3,072,095.
- Morgan, William F., to The National Acme Co. Chucking cylinder valve. 3,097,857, 7-16-63, Cl. 279-4.
- Morgan, William G. Aircraft. 3,114,526, 12-17-63, Cl. 244-120.
- Morgan, William G., A. J. Broadhurst, and J. D. McLean, to Bristol Aircraft Ltd. Aircraft. 3,114,525, 12-17-63, Cl. 244-120.
- Morgan, William H., to The Bendix Corp. Electromagnetic indicator. 3,086,306, 4-23-63, Cl. 40-52.
- Morgan, William H., to The Bendix Corp. Electromagnetic indicator. 3,089,131, 5-7-63, Cl. 340-319.
- Morgan, William W., W. G. Mathers, and R. G. Hart, to Atomic Energy of Canada Ltd. Separation of plutonium from uranium. 3,092,446, 6-4-63, Cl. 23-14.5.
- Morganstern, Kennard H., to Nuclear Corp. of America, Inc. Methods and apparatus for measuring and testing. 3,100,840, 8-13-63, Cl. 250-43.5.
- Morgardshammar Mekaniska Verkstads Aktiebolag: See—  
Forsberg, Karl S. O. 3,112,021.
- Morgenthaler, John H., and T. D. Parks, to The Procter & Gamble Co. Process for making a bleach composition. 3,112,274, 11-26-63, Cl. 252-99.
- Morgillo, Pellegrino J., to Lafayette Radio Electronics Corp. Loudspeaker baffle assembly. 3,089,562, 5-14-63, Cl. 181-31.
- Morgret, Gordon L.: See—  
Cummings, Harry B., Drenning, McKewen, and Morgret. 3,109,720.
- Mori, Ernest A., to Gulf Research & Development Co. Hammer drill. 3,095,046, 6-25-63, Cl. 173-136.
- Mori, Hajime: See—  
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- Mori, Hajime, Kanryo, Mori, and Koga. 3,086,199.
- Mori, Keikoku: See—  
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- Mori, Takeshi, R. I. Peters, and B. L. Austin, to Christensen Diamond Products Co. Rubber sleeve core barrel apparatus. 3,092,191, 6-4-63, Cl. 175-226.
- Moriarty, Joseph A.: See—  
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- Moriarty, Maurice J. Internal combustion rotary piston engine and the like. 3,073,288, 1-15-63, Cl. 123-13.
- Morici, Alfred A., to Hershel California Fruit Products Co., Inc. Machine for treating tomatoes with lye solution, washing and trimming same. 3,093,175, 6-11-63, Cl. 146-52.
- Morikawa, Takashi. Mechanism for twisting and winding roving. 3,114,224, 12-17-63, Cl. 57-71.
- Morimoto, Akira: See—  
Ishimoto, Kunio, and Morimoto. 3,116,423.
- Morimoto, Hiroshi. Method of filtration by floating filter media. 3,077,987, 2-19-63, Cl. 210-77.
- Morimoto, Saichi. Process for producing regenerated cellulose filaments. 3,084,021, 4-2-63, Cl. 18-54.
- Morimoto, Saichi, M. Ishihara, A. Yamamoto, K. Hamada, K. Inai, and M. Otsuka, to Toyo Spinning Co., Ltd. Graft copolymer containing spinnable-solution and method for preparing and spinning thereof. 3,104,154, 9-17-63, Cl. 18-54.
- Morin, Dolore B.: See—  
Hersberger, Olin C., and Morin. 3,115,365.
- Morin, Gilles. Drawing instrument for coding and decoding drawings. 3,101,548, 8-27-63, Cl. 33-23.
- Morin, Louis H., to Coats & Clark Inc. Apparatus for synchronizing stitchings with longitudinally spaced workpieces and with the formation of workpieces. 3,077,167, 2-12-63, Cl. 112-2.
- Morin, Louis H. Top stop for one-sided separable fasteners. 3,077,651, 2-19-63, Cl. 24-205.11.
- Morin, Louis H., to Coats & Clark Inc. Plastic traveler having a wear-resistant section. 3,077,727, 2-19-63, Cl. 57-125.
- Morin, Louis H. Method of machine stitching concealed-type separable fastener stringers to supports therefor. 3,077,847, 2-19-63, Cl. 112-265.
- Morin, Louis H. Invisible scoop stringers employing abrasive preventing means. 3,078,537, 2-26-63, Cl. 24-205.1.
- Morin, Louis H. Variable compound speed reducer. 3,085,451, 4-16-63, Cl. 74-800.
- Morin, Louis H. Method of producing invisible scoop separable fastener stringers. 3,087,200, 4-30-63, Cl. 18-59.
- Morin, Louis H. Bottom stop for one-sided fastener stringers. 3,087,217, 4-30-63, Cl. 24-205.11.
- Morin, Louis H. Lock slider for one-sided separable fastener stringers. 3,093,875, 6-18-63, Cl. 24-205.14.
- Morin, Louis H. Slider for one-sided separable fasteners. 3,093,876, 6-18-63, Cl. 24-205.14.
- Morin, Louis H. Speed reducer employing a timing chain control. 3,094,884, 6-25-63, Cl. 74-804.
- Morin, Louis H. One-sided separable fastener. 3,098,277, 7-23-63, Cl. 24-205.1.
- Morin, Louis H. One-sided separable fastener. 3,100,325, 8-13-63, Cl. 24-205.1.
- Morin, Louis H. One-sided separable fastener having means resisting forcible mismeshing. 3,104,437, 9-24-63, Cl. 24-205.1.
- Morin, Louis H. Thin walled lock slider for one-sided separable fasteners. 3,108,347, 10-29-63, Cl. 24-205.14.
- Morin, Louis H. Dual concealed separable fastener. 3,110,947, 11-19-63, Cl. 24-205.12.
- Morin, Louis H. One-sided thin wall separable fastener stringer. 3,114,952, 12-24-63, Cl. 24-205.1.
- Morin, Louis H. Dual concealed separable fastener. 3,114,954, 12-24-63, Cl. 24-205.12.
- Morin, Louis H. One-sided separable fastener stringer. 3,115,690, 12-31-63, Cl. 24-205.1.
- Morin, Louis H. V-belt speed reducer. 3,115,794, 12-31-63, Cl. 74-797.
- Morin, Louis H. Belt speed reducer employing multiple groove pulleys. 3,115,795, 12-31-63, Cl. 74-797.
- Morin, Lucille T.: See—  
Haldeman, Robert G., Morin, and Matsuda. 3,075,013.
- Moring, Walter G., Jr.: See—  
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Alfieri, Giuseppe, and Moriando. 3,104,742.
- Morisawa, Nobuo. Ratchet wheel stopping apparatus in photographic composing machines. 3,109,314, 11-5-63, Cl. 74-152.
- Morita, Junko: See—  
Sasaki, Kanzo, and Morita. 3,071,511.
- Morita, Katsura, to Takeda Chemical Industries, Ltd. Pyrazole derivatives in the pregnane series. 3,088,944, 5-7-63, Cl. 260-239.5.
- Moritz, Harold M. Scroll and case. 3,073,048, 1-15-63, Cl. 40-85.
- Moritz, Johannes H.: See—  
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- Moriya, Ikuro, to Victor Co. of Japan, Ltd. Severing device for recorded magnetic recording sheets in a magnetic recorder/reproducer. 3,085,728, 4-16-63, Cl. 225-89.
- Moriya, Ikuro, to Victor Co. of Japan, Ltd. Magnetic transducer with sequentially scanning heads. 3,105,880, 10-1-63, Cl. 179-100.2.
- Moriya, Ikuro, to Victor Co. of Japan, Ltd. Rewinding device for magnetic sheets. 3,110,451, 11-12-63, Cl. 242-55.
- Morkoski, James, to International Harvester Co. Cylindrical plow. 3,080,932, 3-12-63, Cl. 172-557.
- Morkoski, James, C. Boetto, J. L. Bauman, and L. D. Westerfield, to International Harvester Co. Front mounted cultivator. 3,080,930, 3-12-63, Cl. 172-298.
- Morkoski, James, and J. R. Timberlake, to International Harvester Co. Cotton picker drum structure with integral fan. 3,114,227, 12-17-63, Cl. 56-12.
- Morlen, Jon R., to Calco Mfg. Co. Rotary drive actuating mechanism. 3,113,473, 12-10-63, Cl. 74-785.
- Morley, Charles G.: See—  
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- Morley, Frederick W. W., W. H. Wilkinson, and C. S. Broad, to Rolls-Royce Ltd., and Delaney Galloway Ltd. Labyrinth seals. 3,082,010, 3-19-63, Cl. 277-16.
- Morley, Frederick W. W., and W. H. Wilkinson, to Rolls-Royce Ltd. Labyrinth seals. 3,092,393, 6-4-63, Cl. 277-16.
- Morley, Frederick W. W., D. M. Anley, and G. P. Torrance, to Rolls-Royce Ltd. Gas turbine engines. 3,108,434, 10-29-63, Cl. 60-39.07.
- Morley, James P., and R. W. Blair, to Chicago Rawhide Mfg. Co. Polytetrafluoroethylene bushing-type bearing and method of forming same. 3,072,449, 1-8-63, Cl. 308-238.
- Morley, Richard E., and C. J. Mazzola, to Laboratory for electronics, Inc. Magnetic disc storage device. 3,110,889, 11-12-63, Cl. 340-174.1.
- Morley, Thomas J. Steam quality indicator. 3,100,395, 8-13-63, Cl. 73-192.



- Morlik, Andrew L., to Saginaw Products Corp. Adjustable wheeled assembly. 3,085,285, 4-16-63, Cl. 16—35.
- Morlock, Harry A., to General Refractories Co. Comolded magnesite-chromite tuyere. 3,084,924, 4-9-63, Cl. 266—41.
- Mormac Mfg. Co., Inc.: *See*—
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- Burgess, Frank H., Mathus, and Morningstar. 3,074,546.
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- Burgess, Frank H., Mathus, and Morningstar. 3,074,546.
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- Moroney, John J., to The Torrington Co. Two-way thrust bearing. 3,103,394, 9-10-63, Cl. 308—219.
- Morosini, Achille. Revolving beating up tool and shuttle for ribbon looms. 3,115,903, 12-31-63, Cl. 139—191.
- Morpul, Inc.: *See*—
- Minton, Clarence W. 3,078,960.
- Minton, Clarence W. 3,103,302.
- Morr, Ralph V., V. C. Fuhrwerk, W. D. Fent, and R. E. Crown, to Avco Corp. Rake bar bearing mount. 3,103,778, 9-17-63, Cl. 56—377.
- Morrill, Clarence S., to Advance Mfg. Co., Inc. Spring hinge and method of assembling same. 3,106,010, 10-8-63, Cl. 29—11.
- Morrill, Clyde E., to The Standard Oil Co. Folding toothbrush. 3,105,259, 10-1-63, Cl. 15—144.
- Morrill, Gerald. Process for removing nicotine from tobacco. 3,115,883, 12-31-63, Cl. 131—140.
- Morrill, Charles D., and R. C. Weyrick, to Goodyear Aircraft Corp. Automatic gain control circuit. 3,082,381, 3-19-63, Cl. 330—59.
- Morrill, Frank B., to Crompton & Knowles Corp. Apparatus for breaking fibrous masses. 3,099,047, 7-30-63, Cl. 19—81.
- Morrill, Henry L.: *See*—
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- Morrill, Louis R. Automatic rotation balancer. Re. 25,383, 5-14-63, Cl. 301—5.
- Morrill, Richard W.: *See*—
- Eichorn, Roger H., Morrill, Northrup, and Osborne. 3,099,943.
- Morrill, Vaughan. Apparatus for shrinking tubular glass blank. 3,091,105, 5-28-63, Cl. 65—271.
- Morrill, Vaughan, Jr. Method for shaping a glass tube preform. 3,091,104, 5-28-63, Cl. 65—23.
- Morrill, Wayne J. Winding machine. 3,081,043, 3-12-63, Cl. 242—1.1.
- Morris, Alberto J., to R. A. Lister & Co. Ltd. Pistons for internal combustion engines. 3,112,738, 12-3-63, Cl. 123—32.
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- Agius, Peter J. V. J., Morris, and Winward. 3,083,160.
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- Glassco, Robert B., and Craig. 3,101,282.
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- Morris, Beulah B.: *See*—
- Morris, Evelyn C. and B. B. 3,107,092.
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- Morris, Charles H. F., to Radio Corp. of America. Storage electrode having on the order of  $10^6$  metal conductors per square inch. 3,109,954, 11-5-63, Cl. 313—329.
- Morris, Charles W. Device for modifying exhaust gases from internal combustion engines. 3,083,525, 4-2-63, Cl. 60—30.
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- Gamlen, George A., Morris, Scott, and Twitchett. 3,116,103.
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- Morris, Dorsey J.: *See*—
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- Morris, Drew, to General Electric Co. Rotor assembly air baffle. 3,112,915, 12-3-63, Cl. 253—77.
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- Abernathy, Quincy W., English, and Morris. 3,081,934.
- Morris, Edward H.: *See*—
- Goden, Thomas E., Daners, and Morris. 3,080,928.
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- Morris, Frances C. Beautician's accessory holder. 3,097,656, 7-16-63, Cl. 132—1.
- Morris, Frank A., to General Dynamics Corp. Data transmitting and recording system. 3,083,356, 3-26-63, Cl. 340—174.1.
- Morris, George A., to Universal Oil Seal Co. Fluid dispensing system. 3,104,826, 9-24-63, Cl. 239—424.
- Morris, George A., and C. W. Saunders. Pin-type fastener. 3,085,307, 4-16-63, Cl. 24—161.
- Morris, George E. Dentifrice. 3,081,235, 3-12-63, Cl. 167—93.
- Morris, George F., and C. H. Reynolds, to General Dynamics Corp. R.M.S. voltage regulator. 3,084,325, 4-2-63, Cl. 323—38.
- Morris, George H., Jr.: *See*—
- Leaycraft, Edgar C., and Morris. 3,083,164.
- Morris, George R., and J. W. Rackle, to Ford Motor Co. Transmission shift controlling mechanism. 3,106,996, 10-15-63, Cl. 192—3.5.
- Morris, George V., to Zenith Radio Corp. Remote control apparatus. 3,116,368, 12-31-63, Cl. 179—1.
- Morris, George V., to Zenith Radio Corp. Remote control system with audio and volume control from a single transducer. 3,116,454, 12-31-63, Cl. 325—391.
- Morris, Harold D., to Systron-Donner Corp. Position detecting transducer. 3,074,279, 1-22-63, Cl. 73—517.
- Morris, Harold D., and J. T. Buckingham, to Systron-Donner Corp. Stable zero electronic circuitry. 3,109,145, 10-29-63, Cl. 328—1.
- Morris, Herbert, Ltd., Express Works: *See*—
- Divers, Reginald A. F. 3,102,304.
- Morris, Jack P., and C. J. Meeske, to Reichhold Chemicals, Inc. Triametric synthetic resin compositions and method of making the same. 3,088,926, 5-7-63, Cl. 260—21.
- Morris, Jack P., and W. Morris. Metering mixing spray equipment. 3,093,311, 6-11-63, Cl. 239—142.
- Morris, James A.: *See*—
- Landes, Benjamin D., and Morris. 3,110,448.
- Morris, James E., to Molins Machine Co. Ltd. Continuous rod cigarette-making machines. 3,095,883, 7-2-63, Cl. 131—84.
- Morris, Joel C. Electronic fume and odor incinerator. 3,085,001, 4-9-63, Cl. 23—277.
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- Williams, David P., Sr. 3,073,684.
- Morris, John M.: *See*—
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- Morris, John M., to Chain Belt Co. Amplitude control of resonant vibration exciter. 3,095,747, 7-2-63, Cl. 74—26.
- Morris, John M., to Chain Belt Co. Fluidized coating machine. 3,097,958, 7-16-63, Cl. 117—20.
- Morris, John M., to Chain Belt Co. Amplitude control of constant speed vibratory equipment. 3,112,653, 12-3-63, Cl. 74—61.
- Morris, John M., and R. M. Carrier, Jr., to Chain Belt Co. Apparatus for continuously weighing aggregate. 3,112,000, 11-26-63, Cl. 177—54.
- Morris, Joseph: *See*—
- Johnson, Curtis R. A., Garvin, Ruppenthal, Morris, and Binder. 3,071,772.
- Morris, Leo R.: *See*—
- Calkins, Russel C., Mock, and Morris. 3,083,079.
- Howe, Joseph H., and Morris. 3,078,294.
- Howe, Joseph H., and Morris. 3,082,081.
- Morris, Lewis D., and R. S. Brookman, to Dustex Corp. Dust collector. 3,083,515, 4-2-63, Cl. 55—290.
- Morris, Neil E.: *See*—
- Szemplak, Jerome C., and Morris. 3,090,092.
- Morris, Philip, Inc.: *See*—
- Bavley, Abraham, and Resnlk. 3,082,125.
- Bavley, Abraham, Resnlk, and Robb. 3,111,951.
- Hind, John D., and Crayton. 3,095,882.
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- La Cas, George A. 3,080,998.
- O'Keefe, Andrew E., Smith, and Lichtenstein. 3,115,772.
- Raybin, Benjamin. 3,085,332.
- Seligman, Robert B., and Toepffer. 3,101,723.
- Stahl, Gerald. 3,095,645.
- Stahl, Gerald, and Johnson. 3,095,965.
- Tyrell, William M., and Holmes. 3,115,767.
- Morris, Raymond A. Anal irrigator. 3,075,526, 1-29-63, Cl. 128—227.
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- Hagmann, Foster M., Graham, and Morris. 3,079,651.
- Hagmann, Foster M., Graham, and Morris. 3,111,237.
- Morris, Roger E., and R. D. Taylor, to The B. F. Goodrich Co. Novel organo phosphorous antioxidant-stabilizers and stabilized compositions containing same. 3,112,286, 11-26-63, Cl. 260—29.7.
- Morris, Rupert C., to Shell Oil Co. Stabilized with 3,5-dialkyl-4-hydroxybenzyl alcohol compositions. 3,085,003, 4-9-63, Cl. 44—78.
- Morris, Rupert C., and W. J. Sullivan, to Shell Oil Co. Hydroxybenzyl carbamates and thiocarbamates. 3,081,333, 3-12-63, Cl. 260—471.
- Morris, Rupert C., and K. J. Sax, to Shell Oil Co. Polynuclear polyamines. 3,098,841, 7-23-63, Cl. 260—45.9.
- Morris, Rupert C., A. L. Rocklin, and K. J. Sax, to Shell Oil Co. Hydroxybenzyl esters. 3,116,305, 12-31-63, Cl. 260—410.5.
- Morris, Thomas J.: *See*—
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- Morris, Jack P., and W. 3,093,311.
- Morris, Walter C. Portable index travel file and vehicle arm rest. 3,083,998, 4-2-63, Cl. 297—194.
- Morris, William A., to Rockwell Mfg. Co. Method and apparatus for use in valve tests and assembly. 3,088,312, 5-7-63, Cl. 73—46.
- Morris, William C., to General Electric Co. Polyphase electromagnetic protective relay. 3,092,758, 6-4-63, Cl. 317—27.
- Morris, William E.: *See*—
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- Morrison, Albert R., and J. A. Apellaniz, to Owens-Corning Fiberglass Corp. Heat setting of binder of fibrous masses. 3,096,161, 7-2-63, Cl. 34-1.
- Morrison, Charles S., F. D. Jones, and J. D. Wilkins, to Deere & Co. Corn harvester having replaceable treating units. 3,112,752, 12-3-63, Cl. 130-5.
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- Morrison, Donald A. R., to General Electric Co. Drive mechanism for washing machine. 3,090,472, 5-21-63, Cl. 192-12.
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- Koda, Arthur J., and Morrison. 3,114,018.
- Morrison, Douglas I., and E. J. Le Brun, Jr., to Sperry Rand Corp. Card receivers. 3,083,013, 3-26-63, Cl. 271-86.
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- Lyall, Charles E., and Morrison. 3,105,512.
- Schulze, Robert E., and Morrison. 3,083,728.
- Morrison, George F., and H. C. Frentzel, to The Morrison Co. Well system. 3,095,928, 7-2-63, Cl. 166-75.
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- Brunton, Phillip E., and Morrison. 3,092,275.
- Morrison, Ian H., to United Kingdom Atomic Energy Authority. Fuel elements for nuclear reactors. 3,086,934, 4-23-63, Cl. 204-193.2.
- Morrison, James: *See*—
- Lander, James J., and Morrison. 3,093,507.
- Morrison, Jay W. Lowered multi-skirt train high voltage suspension insulator. 3,115,543, 12-24-63, Cl. 174-179.
- Morrison, Joseph J.: *See*—
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- Morrison, Joseph T., to Cogsdill Tool Products, Inc. Metal-working tool. 3,099,070, 7-30-63, Cl. 29-90.
- Morrison, Mary B.: *See*—
- Morrison, William A. 3,085,555.
- Morrison, Price W., to The Springs Cotton Mills. Means for controlling loom harnesses. 3,080,894, 3-12-63, Cl. 139-80.
- Morrison, Ralph A., to United Shoe Machinery Corp. Automatic rivet setting tools. 3,095,106, 6-25-63, Cl. 218-42.
- Morrison, Thomas G.: *See*—
- Kamp, Ewald A., Morrison, and Solarski. 3,081,703.
- Morrison, Wilbert H., and D. W. Williams, to Clevite Corp. Method for making a bimetallic strip for bearings. 3,093,885, 6-18-63, Cl. 29-149.5.
- Morrison, Wilbert H., and R. L. Slater, to Clevite Corp. Bimetallic bearing structure and method for producing same. 3,104,135, 9-17-63, Cl. 308-237.
- Morrison, Willard L., to Liquefreeze Co., Inc. Freight car. 3,071,084, 1-1-63, Cl. 105-366.
- Morrison, Willard L., to Liquefreeze Co., Inc. Shipper container. 3,074,586, 1-2-63, Cl. 220-9.
- Morrison, Willard L., to Liquefreeze Co., Inc. Method of cooling frozen food to sub-zero temperatures. 3,079,762, 3-5-63, Cl. 62-64.
- Morrison, Willard L., to Liquefreeze Co., Inc. Method of freezing and shipping foodstuffs. 3,085,884, 4-16-63, Cl. 99-192.
- Morrison, Willard L., to Liquefreeze Co., Inc. Gas locks. 3,090,134, 5-21-63, Cl. 34-242.
- Morrison, Willard L., to Liquefreeze Co., Inc. Insulated container. 3,090,517, 5-21-63, Cl. 220-9.
- Morrison, Willard L., to Liquefreeze Co., Inc. Insulating container. 3,093,259, 6-11-63, Cl. 220-9.
- Morrison, Willard L., to Liquefreeze Co., Inc. Means for moving shipper containers off of and onto a road vehicle. 3,095,989, 7-2-63, Cl. 214-85.
- Morrison, Willard L., to Liquefreeze Co., Inc. Method of chilling, storing and shipping perishable materials. 3,096,626, 7-9-63, Cl. 62-60.
- Morrison, Willard L., to Liquefreeze Co., Inc. Apparatus for quick freezing of bakery goods. 3,096,627, 7-9-63, Cl. 62-178.
- Morrison, Willard L., to Reliquefier Corp. Method and apparatus for storing and shipping perishable material. 3,100,971, 8-20-63, Cl. 62-64.
- Morrison, Willard L., to The Union Stock Yard and Transit Co. of Chicago. Method of tenderizing meat. 3,102,819, 9-3-63, Cl. 99-194.
- Morrison, Willard L., to Liquefreeze Co., Inc. Method for freezing food. 3,104,977, 9-24-63, Cl. 99-192.
- Morrison, Willard L., to Liquefreeze Co., Inc. Insulated container. 3,106,307, 10-8-63, Cl. 220-9.
- Morrison, Willard L. Method and apparatus for freezing hot cooked food. 3,114,248, 12-17-63, Cl. 62-64.
- Morrison, Willard L., to Liquefreeze Co., Inc. Insulated freight car. 3,115,982, 12-31-63, Cl. 220-1.5.
- Morrison, William A., deceased, by M. B. Morrison, executrix, to Ingersoll-Rand Co. Pneumatic hammer rock drill. 3,085,555, 4-16-63, Cl. 121-10.
- Morrison, William A., to Reeves Soundcraft Corp. Container and reel for tapes. 3,095,969, 7-2-63, Cl. 206-53.
- Morrison, William E.: *See*—
- Jenn, Louis J., and Morrison. 3,085,647.
- Jenn, Louis J., and Morrison. 3,110,357.
- Morrison, William L. Automobile car washer. 3,114,924, 12-24-63, Cl. 15-97.
- Morrone, Francis: *See*—
- Kilburn, John E., and Morrone. 3,109,916.
- Morrone, John J.: *See*—
- Blowney, David P., Brannin, Morrone, Wilcox, and Zupanick. 3,097,351.
- Lenefsky, Selig, Morrone, and Treffeisen. 3,105,660.
- Morrow, David, to United States of America, Navy. Inflight refueling system. 3,100,614, 8-13-63, Cl. 244-135.
- Morrow, Franklin C., and L. F. Bramble, to Gulf States Asphalt Co., Inc. Bituminous sealing composition. 3,073,710, 1-15-63, Cl. 106-281.
- Morrow, John B., to Brunswick Corp. Fishing reel with reciprocated spool. 3,074,665, 1-22-63, Cl. 242-84.21.
- Morrow, Joseph H., to Fuller Co. Apparatus for treating gaseous and nongaseous matter. 3,087,255, 4-30-63, Cl. 34-167.
- Morrow, Merritt M., and W. C. Knox, Jr.; said Knox assor. to said Morrow. Mortician's body cavity injector. 3,104,448, 9-24-63, Cl. 27-24.
- Morrow, Robert C. Positioning and maintaining device for roughed-in service pipes. 3,097,843, 7-16-63, Cl. 269-40.
- Morrow, Robert D., to Product Development Associates, Ltd. Furnace system. 3,097,686, 7-16-63, Cl. 158-1.
- Morschel, Franz. Time switch with mechanical clutch actuating arrangement. 3,114,013, 12-10-63, Cl. 200-38.
- Morse Chain Co.: *See*—
- Eastepe, Calvin W. 3,074,290.
- Morse, Edward A., to Johnson & Johnson. Absorbent product. 3,078,849, 2-26-63, Cl. 128-290.
- Morse, George C., to Eitel-McCullough, Inc. Electron gun. 3,090,884, 5-21-63, Cl. 313-256.
- Morse, Hugh B., to Avery Industries, Inc. Continuous packaging device. 3,071,905, 1-8-63, Cl. 53-22.
- Morse, Hugh B., to Avery Industries, Inc. Heater assembly. 3,109,081, 10-29-63, Cl. 219-19.
- Morse Instrument Co., The: *See*—
- Payerle, Frank S., and Gressard. 3,091,130.
- Morse, Joe V., and W. E. Haberer, to Jersey Production Research Co. Prevention of erosion of pipe strings in multiply tubingless completed oil and gas wells. 3,075,582, 1-29-63, Cl. 166-46.
- Morse, John E.: *See*—
- Eagle, John H., and Morse. 3,094,034.
- Morse, Leighton L., to United States of America, Navy. Rectilinear recording stylus. 3,115,382, 12-24-63, Cl. 346-114.
- Morse, Meroe M.: *See*—
- Green, Milton, Morse, and Simon. 3,091,530.
- Morse, Milton. Transparent switch boot. 3,090,855, 5-21-63, Cl. 200-168.
- Morse, Park L.: *See*—
- Dorius, Carl B., Jones, and Morse. 3,074,807.
- Morse, Philip, to Nutrilite Products, Inc. Non-deliquestent vitamin C concentrate. 3,086,915, 4-23-63, Cl. 195-2.
- Morse, Raymond L.: *See*—
- Carter, Paul H., Marion, and Morse. 3,070,933.
- Morse, Richard A.: *See*—
- Campion, Frank E., Glass, and Morse. 3,115,928.
- Morse, Richard A., to Gulf Research & Development Co. Method of heating underground formations around the borehole of a well. 3,072,188, 1-8-63, Cl. 166-25.
- Morse, Richard W.: *See*—
- Green, Julius, Morse, and Westfall. 3,095,326.
- Morse, Rollin D.: *See*—
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- Morse, Stanley H., to Prumore Sales, Inc. Refrigeration systems. 3,091,945, 6-4-63, Cl. 62-299.
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- Mortensen, Peter E., and R. V. Pomeroy, to Omak Industries, Inc. Welding stud holder and loading apparatus. 3,073,947, 1-15-63, Cl. 219-98.
- Mortensen, Rudolf W., to Dorr Woolen Co. Spindle brake releasing attachment. 3,108,428, 10-29-63, Cl. 57-78.
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- Papero, Patrick V., Jr., and Morter. 3,113,120.
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- Mortimer, Frank R., to Dunlop Rubber Co. Ltd. Vehicle arrester gear with braking device for aircraft. 3,114,522, 12-17-63, Cl. 244-110.
- Mortimer, Frank R., to Dunlop Rubber Co. Ltd. Fluid pressure surge dampers particularly for braking systems. 3,115,156, 12-24-63, Cl. 137-513.3.
- Mortimer, Frank R., and E. A. Cardoe, to Dunlop Rubber Co. Ltd. Pneumatic operating device. 3,073,679, 2-26-63, Cl. 60-62.6.
- Mortimer, George A., to Monsanto Chemical Co. Synthesis of nitrate esters. 3,079,425, 2-26-63, Cl. 260-467.
- Mortimer, Harry T. Nondestructive sensing of magnetic storage elements. 3,075,180, 1-22-63, Cl. 340-174.
- Mortimer, Noel R. F., to Vokes Ltd. Apparatus for feeding tobacco to cigarette-making machines. 3,099,492, 7-30-63, Cl. 302-28.
- Mortimer, Noel R. F., to Vokes Ltd. Apparatus for distributing tobacco. 3,106,427, 10-8-63, Cl. 302-28.
- Martin, Arthur K., and W. D. Boyd; said Martin assor. to Massey-Ferguson Inc., and said Boyd assor. to The Bendix Corp. Vaporizing device for LPG engines. 3,114,357, 12-17-63, Cl. 123-120.



- Mortley, Wilfrid S., and A. D. Slocombe, to Marconi's Wireless Telegraph Co. Ltd. Radar systems to reduce clutter. 3,091,763, 5-28-63, Cl. 343-17.1.
- Mortlock, Joseph R., K. J. R. Wilkinson, and P. Richardson, to Associated Electrical Industries (Ruby) Ltd. Impedance protective systems. 3,099,775, 7-30-63, Cl. 317-36.
- Morton, David C., and P. J. Packman, to Baker Perkins Ltd. Handling of flat articles. 3,084,783, 4-9-63, Cl. 198-35.
- Morton Foods, Inc.: *See—*
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- Morton, Geoffrey W., to Canada. Her Majesty the Queen in right of, as represented by the Minister of National Defense. Memory jig. 3,073,588, 1-15-63, Cl. 269-40.
- Morton, Glen R. Die casting machine plunger tip. 3,092,880, 6-11-63, Cl. 22-63.
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- Morton, Lester C., to National Distillers and Chemical Corp. Adapter washer for tire valves. 3,087,529, 4-30-63, Cl. 152-427.
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- Patton, Richard A., and Baugh. 3,111,376.
- Patton, Richard A., Baugh, and Suriano. 3,111,385.
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- Morton, Thomas R., to Denver Equipment Co. Centrifugal separation method and means. 3,091,334, 5-28-63, Cl. 209-211.
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- Morway, Arnold J., to Esso Research and Engineering Co. Oil compositions containing soap-salt mixtures. 3,077,450, 2-12-63, Cl. 252-39.
- Morway, Arnold J., to Esso Research and Engineering Co. Oil compositions containing sodium nitrite. 3,089,848, 5-14-63, Cl. 252-18.
- Morway, Arnold J., to Esso Research and Engineering Co. Lubricants prepared from iso-oleic acid. 3,098,822, 7-23-63, Cl. 252-39.
- Morway, Arnold J., to Esso Research and Engineering Co. Lubricants containing thickeners prepared from tall oil. 3,098,823, 7-23-63, Cl. 252-39.
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- Moser, Henry W., to Samuel M. Langston Co. Machines for performing operations on sheet materials. 3,096,708, 7-9-63, Cl. 100-50.
- Moser, Henry W., and H. Weber, to Samuel M. Langston Co. Edge piercing means and blank conveying means. 3,102,632, 9-3-63, Cl. 198-178.
- Moser, Joseph R., and O. J. Struger, to Allen-Bradley Co. Backlash take-up system. 3,114,870, 12-17-63, Cl. 318-28.
- Moser, Robert, and J. Morel. Highly sensitive relay with permanent magnet and shunt. 3,113,251, 12-3-63, Cl. 317-171.
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- Mosier, Jeanette E. J. Self-supporting sanitary napkin. 3,073,309, 1-15-63, Cl. 128-290.
- Mosier, Jeanette E. J. Catamenial appliance. 3,092,109, 6-4-63, Cl. 128-289.
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- Mosig, Willy, O. Meiszahl, H. Schilling, and W. Kohler, to VEB Werkmaschinenbau Apolda. Process for the production of warp knitted plush fabrics. 3,115,023, 12-24-63, Cl. 66-84.
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- Mosse, Richard W. E., H. Cookson, and P. C. Virgo, to The Metal Box Co. Ltd. Packing machines. 3,083,511, 4-2-63, Cl. 53—64.
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- Mossin, Kaj B., to Novo Therapeutisk Laboratorium A/S. Rotary pump or expansion engine. 3,072,316, 1-8-63, Cl. 230—150.
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- Motozaki, Shinichi, T. Tsunoda, R. Aoki, S. Okumura, Y. Kondo, N. Muramatsu, H. Momose, and Y. Tamagawa, to Ajinomoto Kabushiki Kaisha. Method for preparation of inosine. 3,111,459, 11-19-63, Cl. 195—28.
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- Mottin, Ralph E., to Parke, Davis & Co. Mechanical loader and conveyor mechanism for handling relatively small and breakable articles. 3,087,595, 4-30-63, Cl. 198—20.
- Mottin, Ralph E., to Parke, Davis & Co. Automatic feeder mechanism for orienting relatively small articles. 3,106,281, 10-8-63, Cl. 198—33.
- Mottu, Andre, and R. Viret, to Societe Genevoise d'Instruments de Physique. Automatic programming system. 3,072,834, 1-8-63, Cl. 318—162.
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- Mottus, Edward H., and R. M. Hedrick, to Monsanto Chemical Co. Process for polymerizing higher lactams. 3,086,962, 4-23-63, Cl. 260—78.
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- Motz, Carl H., to National Broach & Machine Co. Automatic gear checker for internal gears. 3,086,294, 4-23-63, Cl. 33—179.5.
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- Mouk, George W., to Bancroft Paper Co., Inc. Method for packaging perishable comestibles and product. 3,111,412, 11-19-63, Cl. 99—192.
- Moul, George E., Jr., to United States of America, Navy. Retractable launching shoes. 3,115,059, 12-24-63, Cl. 89—17.
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- Moulic, William E., Jr. Magnetic tape drive mechanism and control therefor. 3,113,708, 12-10-63, Cl. 226—181.
- Moulin, Jean, G. Hego, and M. Mauteups, to Materiel Industriel, S.A. Devices for the measurement of transitory values. 3,113,631, 12-10-63, Cl. 177—3.
- Moulin, Maurice P. A., to Commissariat a l'Energie Atomique. Nuclear reactors. 3,073,771, 1-15-63, Cl. 204—193.2.
- Moulin, Pierre, to Compagnie des Freins et Signaux Westinghouse. Hydraulic differential force transmission means. 3,071,930, 1-8-63, Cl. 60—54.5.
- Moulinage et Retorderie de Chavanoz: *See*—  
Servage, Henri. 3,074,223.
- Moulthrop, Le Roy E., 25% to R. J. Patch. Cleaning method. 3,110,544, 11-12-63, Cl. 8—137.
- Moulton, Alexander E., to Moulton Consultants Ltd. Telescopic spring suspension systems for the front wheels of bicycles, mopeds, motor scooters and motorcycles. 3,083,038, 3-26-63, Cl. 280—276.
- Moulton, Alexander E., to Moulton Consultants Ltd. Pedal cycles. 3,083,039, 3-26-63, Cl. 280—277.
- Moulton, Arthur K. Vibrating crushers. 3,087,683, 4-30-63, Cl. 241—210.
- Moulton, Clifford H.: *See*—  
McCutcheon, Samuel R., Winningstad, and Moulton. 3,105,945.
- Moulton Consultants Ltd.: *See*—  
Moulton, Alexander E. 3,083,038.  
Moulton, Alexander E. 3,083,039.
- Moulton, Eric W., to General Dynamics Corp. Wave band UHF output network. 3,098,206, 7-16-63, Cl. 333—73.
- Moulton, Karl J., T. W. Findley, and V. I. Komarevsky, deceased, by J. B. Komarevsky, executrix, to Swift & Co. Method of producing short chain methyl esters. 3,079,413, 2-26-63, Cl. 260—410.9.
- Mouly, Raymond J., to Corning Glass Works. Electrical measuring and control apparatus and a glass press embodying the same. 3,071,967, 1-8-63, Cl. 73—362.
- Mouly, Raymond J., and J. A. Pabalan, Jr., to Corning Glass Works. Method and apparatus for measuring viscosity. 3,107,520, 10-22-63, Cl. 73—60.
- Mounce, George R.: *See*—  
Hutter, James F., Kelly, Mounce, and Leaver. 3,075,641.  
Hutter, James F., Kelly, Mounce, and Leaver. 3,097,744.
- Mounce, Whitman D.: *See*—  
Ball, John D., Charske, and Mounce. 3,100,444.  
Barry, Adelbert, and Mounce. 3,107,729.
- Mount, Thomas L., to United States of America, Army. Cathodes for liquid ammonia batteries. 3,082,284, 3-19-63, Cl. 136—120.
- Mount, Wadsworth W., 98% each to J. L. Buckley, A. B. Heath, J. W. Buckley, P. L. Buckley, J. B. Smith, W. F. Buckley, Jr., P. B. Bozwell, F. R. Buckley, M. Buckley, and Connecticut Bank & Trust Co., guardian of the estate of C. Buckley, and a 2% interest to D. C. Reasoner. Solar stills. 3,104,210, 9-17-63, Cl. 202—234.
- Mountcastle, Albert E. Boat fender device. 3,113,546, 12-10-63, Cl. 114—219.
- Munteer, Carlyle A., to Giannini Controls Corp. Pressure responsive element. 3,079,953, 3-5-63, Cl. 137—793.
- Mount Hope Machinery Co.: *See*—  
Robertson, John D. 3,094,769.  
Robertson, John D. 3,094,771.  
Robertson, John D., and Foster. 3,071,157.  
Robertson, John D., and Foster. 3,095,131.  
Robertson, John D., and Knapp. 3,099,072.
- Mountjoy, Garrard, and J. D. Reid, to A R & T Electronics, Inc. Remote control system for television program distribution. 3,071,642, 1-1-63, Cl. 178—5.1.
- Mountjoy, Garrard, and J. D. Reid, to United States of America, Navy. Angle sensitive switch. 3,086,468, 4-23-63, Cl. 102—70.2.
- Mounts, Frank W., to Bell Telephone Laboratories, Inc. Predictive quantization and coding of vision signals. 3,090,008, 5-14-63, Cl. 325—44.
- Mounts, Lewis S., to The Dow Chemical Co. Dispensing container for sheet material. 3,114,488, 12-17-63, Cl. 225—39.
- Mountz, Paul A., to Latham Mfg. Co. Article washer. 3,099,848, 8-6-63, Cl. 15—314.
- Mousset, Andre, to Union Siderurgique et Industrielle. Centrifuging machine for the manufacture of cement pipes and other applications. 3,087,222, 4-30-63, Cl. 25—30.
- Moussong, Monika. Clamping plates for small containers, particularly ampoules. 3,113,689, 12-10-63, Cl. 217—27.
- Moussou, Jean, to Compagnie Generale d'Electro-Ceramique. Suspension insulators provided with a core and an envelope. 3,076,053, 1-29-63, Cl. 174—179.
- Moussou, Jean, to Compagnie Generale d'Electro-Ceramique. Insulators with envelopes. 3,081,375, 3-12-63, Cl. 174—179.
- Moussou, Jean, to Compagnie Generale d'Electro-Ceramique. Long rod type suspension insulators with spiral flange and at least one pin-type terminal. 3,110,759, 11-12-63, Cl. 174—182.
- Moussou, Jean M., to Compagnie Generale d'Electro Ceramique. Insulators with helical fin and tapered body. 3,110,760, 11-12-63, Cl. 174—211.
- Moussoulos, Lucas S. Method of FeNi alloy production from nickel bearing iron ores. 3,077,396, 2-12-63, Cl. 75—31.
- Moustakidis, Theofani, and A. G. Mantzouranis. Removable shoe heel. 3,077,680, 2-19-63, Cl. 36—36.
- Moutaud, Gilberte, nee Renault, to Commissariat a l'Energie Atomique. Porous metallic membranes and methods of manufacturing them. 3,086,860, 4-23-63, Cl. 75—222.
- Moutaud, Gilberte (nee Renault), and J. Parisot, to Commissariat a l'Energie Atomique. Porous membranes and methods of manufacturing these membranes. 3,102,826, 9-3-63, Cl. 117—132.
- Movilla, Elpidio M., and G. T. Bocobo. Sugar cane planting machines. 3,073,265, 1-15-63, Cl. 111—3.
- Mowell, Roger W., and J. R. Peet, to Esso Research and Engineering Co. Cargo loading apparatus. 3,073,343, 1-15-63, Cl. 137—615.
- Mower, Robert L. Eye patch. 3,092,103, 6-4-63, Cl. 128—132.
- Mowry, Lorenz J., and H. H. Jenkins, to Gregory Industries, Inc. Welding apparatus and process. 3,096,429, 7-2-63, Cl. 219—98.
- Moxey Ltd.: *See*—  
Swindells, Harry, and Forrester. 3,108,700.
- Moy, Tsou K., to United States of America, Navy. Post-launch flooding control apparatus. 3,100,421, 8-13-63, Cl. 89—1.7.
- Moyat, Peter, to Hartmann & Braun Aktiengesellschaft. Gas analyzing instrument. 3,072,787, 1-8-63, Cl. 250—43.5.
- Moyer, Donald W.: *See*—  
Virtue, Eugene P., and Moyer. 3,090,639.
- Moyer, Elmo E., to The Electric Auto-Lite Co. Ferroresonant voltage stabilizer. 3,112,440, 11-26-63, Cl. 323—56.
- Moyer, Frederick D., to Chicago Bridge & Iron Co. Floating cover for sloped wall reservoir. 3,079,030, 2-26-63, Cl. 220—26.
- Moyer, Frederick D., to Chicago Bridge & Iron Co. Water drawoff system for oil tanks. 3,115,888, 12-31-63, Cl. 137—172.
- Moyer, Frederick D., and I. L. Wissmiller, to Chicago Bridge & Iron Co. Resilient weather seal for a floating roof. 3,079,029, 2-26-63, Cl. 220—26.
- Moyer, James D., to Textile Machine Works. Clamp and cutter mechanism for knitting machines. 3,092,986, 6-11-63, Cl. 66—140.
- Moyer, James D., to The Gordon Co. Yarn clamping and severing mechanism for knitting machines. 3,097,512, 7-16-63, Cl. 66—140.
- Moyle, Clarence L., and D. M. Chern, to The Dow Chemical Co. Benzimidazolylalkylbenzenesulfonamide compounds. 3,075,991, 1-29-63, Cl. 260—309.2.
- Moyle, Clarence L., and R. L. Johnson, to The Dow Chemical Co. Phenolic antimicrobial compositions containing a polyamine-salicylaldehyde condensation product. 3,081,221, 3-12-63, Cl. 167—31.
- Moynihan, Edward F.: *See*—  
Post, Paul J., and Moynihan. 3,104,840.
- Moyroud, Louis M.: *See*—  
Higonnet, Rene A., and Moyroud. 3,094,050.  
Higonnet, Rene A., and Moyroud. 3,105,624.
- Moyse, James A., to Imperial Chemical Industries Ltd. Process for modifying textiles. 3,104,935, 9-24-63, Cl. 8—116.2.
- Mozie, Joseph D., to Thompson Ramo Wooldridge Inc. Programmed output energy solid fuel gas generator. 3,070,958, 1-1-63, Cl. 60—39.47.
- Moziek, John, to Monsanto Chemical Co. Apparatus for extruding thermoplastic material. 3,112,525, 12-8-63, Cl. 18—12.
- Moziek, John, and L. B. Bullock, to Monsanto Chemical Co. Continuous blender for thermoplastic materials. 3,076,637, 2-5-63, Cl. 259—8.
- Mozley, Robert F., to Sperry Rand Corp. Radar system ranging unit. 3,077,592, 2-12-63, Cl. 343—7.3.
- Mpakarakas, Thomas J. Indoor pole vaulting box. 3,075,765, 1-29-63, Cl. 272—59.
- Muccino, Louis F.: *See*—  
Ward, Wallace W. 3,112,521.
- Muchmore, Richard W.: *See*—  
Cook, Paul M., and Muchmore. 3,086,242.
- Muchnick, Paul, to Raytheon Co. Over-voltage protective circuit. 3,109,981, 11-5-63, Cl. 323—22.
- Muckelrath, Ernest R., to Air Heaters, Inc. Fuel burning air heater. 3,106,200, 10-8-63, Cl. 126—116.



- Mucon Corp.: *See*—  
Zlotnick, Herbert. 3,080,239.  
Zlotnick, Herbert. 3,103,442.
- Mudd-Kat Corp.: *See*—  
Tritle, Paul E. 3,101,805.
- Mudge, Elizabeth B.: *See*—  
Seyfried, Arthur W., and Mudge. 3,075,309.
- Mudge, Lyle K.: *See*—  
Scott, Frederick A., and Mudge. 3,114,682.
- Mueckter, Heinrich. *See*—  
Froske, Gerhard, Mueckter, Osterloh, and von Schrader-Beielstein. 3,080,423.
- Muehlhausen, Charles H., to The Oliver Corp. Lift mechanism for mowers. 3,086,345, 4-23-63, Cl. 56-25.
- Muehlhausen, Charles H., to Oliver Corp. Wagon guide arm for bale thrower and adjusting means therefor. 3,090,509, 5-21-63, Cl. 214-42.
- Muehlmann, Frank L.: *See*—  
Bruce, William F., Muehlmann, and Glassman. 3,081,229.
- Muehlner, Egon E., to General Dynamics Corp. Leak meter for detecting fluid pressure leaks. 3,092,821, 6-4-63, Cl. 340-238.
- Mueller A.G.: *See*—  
Felix, Emil. 3,108,509.
- Mueller, Albert C., and R. W. H. Tess, to Shell Oil Co. Natural and synthetic alcohol soluble resin with other synthetic copolymers for coatings. 3,093,889, 6-25-63, Cl. 260-8.
- Mueller, Albert J. Liquid shaving composition. 3,072,535, 1-8-63, Cl. 167-85.
- Mueller, Arthur, H. Schwarz, and T. Bersin, to Hausmann Laboratories Ltd. Process for preparing a ferric hydroxide polymaltos complex. 3,076,798, 2-5-63, Cl. 260-209.
- Mueller, Arthur C., to Bell & Howell Co. Automatic exposure control for photographic cameras. 3,099,198, 7-30-63, Cl. 95-64.
- Mueller, Arthur C., to Bell & Howell Co. Camera shutter. 3,111,073, 11-19-63, Cl. 95-11.5.
- Mueller Brass Co.: *See*—  
Gray, Robert A., Jr. 3,104,681.  
Fearnside, Thomas E. 3,109,224.  
Rader, Robert R. 3,108,778.
- Mueller, Carl H., to The McNeil Machine & Engineering Co. Drain attachment. 3,103,947, 9-17-63, Cl. 137-351.
- Mueller, Charles A.: *See*—  
Van Tubergen, Richard F., and Mueller. 3,085,413.
- Mueller Co.: *See*—  
Bowman, Walter J., Smith, Leopold, and Mueller. 3,115,354.  
Edwards, Lynn D. 3,105,521.  
Mueller, Frank H., and Smith. 3,080,089.  
Mueller, Frank H., and Smith. 3,104,554.  
Skomp, James H. 3,076,474.  
Smith, John J. 3,076,632.  
Smith, John J. 3,087,358.
- Mueller, Frank H.: *See*—  
Bowman, Walter J., Smith, Leopold, and Mueller. 3,115,354.
- Mueller, Frank H., and J. J. Smith, to Mueller Co. Fire hydrant. 3,080,089, 3-5-63, Cl. 220-55.
- Mueller, Frank H., and J. J. Smith, to Mueller Co. Fire hydrant. 3,104,554, 9-24-63, Cl. 74-18.2.
- Mueller, Fritz K., W. E. and H. C. Rothe, R. C. Martin, and A. G. Loughhead. Spherical-flywheel attitude-control system. 3,105,657, 10-1-63, Cl. 244-1.
- Mueller, Fritz W. H.: *See*—  
Evans, Helene D., and Mueller. 3,101,270.  
Roth, Curt B., and Mueller. 3,080,233.
- Mueller, George F., to FMC Corp. Method of producing all skin rayon. 3,106,444, 10-8-63, Cl. 18-54.
- Mueller, George P.: *See*—  
Jiu, James, and Mueller. 3,079,390.
- Mueller, George P., to G. D. Searle & Co. 3,16-bisoxxygenated 17-haloestra-1,3,5 (10)-trienes. 3,079,408, 2-26-63, Cl. 260-397.4.
- Mueller, Hans F.: *See*—  
Conn, Charles E., Jr., and Mueller. 3,114,524.
- Mueller, Helena.: *See*—  
Müller, Victor. 3,076,247.
- Mueller, John C., Jr., to The Lord Baltimore Press, Inc. Folding box. 3,111,222, 11-19-63, Cl. 206-65.
- Mueller, Josef.: *See*—  
Uhlenhant, Rudolf E., Mueller, and Rothweiler. 3,102,736.
- Mueller, Klaus P., to Robertshaw-Fulton Controls Co. Pneumatic hesitation relay. 3,115,147, 12-24-63, Cl. 137-116.5.
- Mueller, Louis E. Mat drying apparatus. 3,077,674, 2-19-63, Cl. 34-53.
- Mueller, Martin, to S. Graham. Mechanism for feeding ice cream cones or the like. 3,083,868, 4-2-63, Cl. 221-213.
- Mueller, Otto. Transmission. 3,083,590, 4-2-63, Cl. 74-781.
- Mueller, Paul A. Filter plugs for cigarettes. 3,079,929, 3-5-63, Cl. 131-208.
- Mueller, Paul E., to Bassani S.p.A. Electrical switches. 3,088,004, 4-30-63, Cl. 200-50.
- Mueller, Richard H., to Lear Siegler Inc. Heater. 3,078,837, 2-26-63, Cl. 126-110.
- Mueller, Richard J., and C. Weber, to Automatic Canteen Co. of America. Brewing apparatus. 3,094,918, 6-25-63, Cl. 99-289.
- Mueller, Rolf K., to General Mills, Inc. Memory system and method utilizing a semiconductor containing a grain boundary. 3,109,163, 10-29-63, Cl. 340-173.
- Mueller, Theodore G., to Consolidated Packaging Machinery Corp. Automatic scale for portioning powdered material. 3,103,252, 9-10-63, Cl. 177-107.
- Mueller Trybus Associates, Inc.: *See*—  
Trybus, Stanley L. 3,104,571.
- Mueller, V., & Co.: *See*—  
Glassman, Jacob A. 3,101,715.
- Mueller, Walter.: *See*—  
De Woody, Charles M., Pearce, Mueller, and Egizi. 3,092,704.
- Mueller, Wolfgang F.: *See*—  
Withers, Burleigh, Jr., and Mueller. 3,084,635.
- Mueller, William F. Cheese cutter. 3,096,582, 7-9-63, Cl. 31-23.
- Mueller-Tamm, Heinz, K. Buchholz, and F. Stastny, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Flame-proofed synthetic thermoplastic polymer containing an organic polybromine compound and method of making same. 3,093,599, 6-11-63, Cl. 260-2.5.
- Muench, Werner, V. Ruoti, and L. Notarbartolo, to Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A. Process for nitrosating cyclohexyl compounds to produce caprolactam. 3,108,096, 10-22-63, Cl. 260-239.3.
- Muench, Werner, G. Silvestri, and L. Notarbartolo, deceased (by E. P. Notarbartolo, executrix), to Snia Viscosa Società Nazionale Industria Applicazioni Viscosa S.p.A. Process for the nitrosation of cyclohexyl compounds. 3,111,515, 11-19-63, Cl. 260-239.3.
- Muenchinger, Herman G., to Noma Lites, Inc. Method of making punch-forming dies. 3,080,776, 3-12-63, Cl. 76-107.
- Muenchinger, Herman G., to Phillips Screw Co. Tools for recessed head fasteners. 3,103,623, 10-29-63, Cl. 145-50.
- Muessig, Karl.: *See*—  
Deinhardt, Hans, Muessig, and Prestel. 3,115,011.
- Muetz, Otto J. Vehicle ice grips. 3,112,783, 12-3-63, Cl. 152-208.
- Muff, Peter.: *See*—  
McGee, James D., Muff, and Saunders. 3,109,957.
- Muffler Corp. of America.: *See*—  
Phelan, Milton V. 3,109,510.
- Muffy, Glenn. Refrigerator-freezer. 3,106,072, 10-8-63, Cl. 62-126.
- Mufich, Frank J.: *See*—  
Kallel, Allen, and Mufich. 3,113,502.
- Mugg, Jarrell B., to Crown Zellerbach Corp. Treatment of sulfite spent liquor. 3,111,377, 11-19-63, Cl. 23-48.
- Mugg, Jarrell B., to Crown Zellerbach Corp. Process of treating sulfite spent liquor. 3,111,378, 11-19-63, Cl. 23-48.
- Mugler, Charles M. Folding table and bench combination. 3,079,197, 2-26-63, Cl. 297-159.
- Muhlbach, Anton, to United Shoe Machinery Corp. Machines for applying simultaneous pressures to the bottom and heel breast of a shoe. 3,081,469, 3-19-63, Cl. 12-16.4.
- Mühlbach, Anton, and J. Schildt, to A. Kimball Co. Apparatus for severing and printing records. 3,115,827, 12-31-63, Cl. 101-90.
- Mühlemann, Hans R.: *See*—  
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- Muhler, George.: *See*—  
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- Muhlfelder, Ludwig.: *See*—  
Caspar, Joann, Hoffman, and Muhlfelder. 3,102,387.
- Muhlmann, Rudolf, and G. Schrader, to Farbenfabriken Bayer Aktiengesellschaft. Thiophosphoric acid esters and process for their production. 3,082,239, 3-19-63, Cl. 260-461.
- Muhm, Robert E.: *See*—  
Cunningham, Paul M., and Muhm. 3,080,518.
- Muhr, John. Camping device. 3,088,475, 5-7-63, Cl. 135-1.
- Muir, Alan M., to R. D. Werner Co. (Canada) Ltd. Floor structure. 3,080,021, 3-5-63, Cl. 139-34.
- Muir, David, III, to Bell Telephone Laboratories, Inc. Automatic gain control circuit using plural time constant means. 3,109,989, 11-5-63, Cl. 325-410.
- Muirhead & Co. Ltd.: *See*—  
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- Couzens, Sydney N. 3,115,377.
- Mukai, Roy A.: *See*—  
Charbonneau, Allan P., and Mukai. 3,100,824.
- Mukai, Roy A., to Cutler-Hammer, Inc. Foot or palm actuator switch. 3,083,278, 3-26-63, Cl. 200-86.5.
- Mukaiyama, Teruaki.: *See*—  
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- Mularz, Walter L.: *See*—  
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- Mulch, Hans, to Ernst Leitz Gesellschaft mit beschränkter Haftung. Switching means in a slide projector. 3,115,811, 12-31-63, Cl. 88-28.
- Muldawer, Leonard, to United States of America, Army. Temperature responsive resistance control elements. 3,087,810, 4-30-63, Cl. 75-165.
- Mulder, Harry, to The Firestone Tire & Rubber Co. Wheel cover. 3,078,124, 2-19-63, Cl. 301-37.
- Mulder, Harry, to The Firestone Tire & Rubber Co. Chime structures for barrels. 3,095,111, 6-25-63, Cl. 220-66.
- Mulfab Corp.: *See*—  
Mead, Edwin L. 3,094,015.  
Mead, Edwin L. 3,094,224.
- Mulford, Charles T., to FMC Corp. Citrus fruit sectionizing head. 3,088,507, 5-7-63, Cl. 146-3.



- Mulhauser, George C., Jr. Padding shell chairs. 3,111,689, 11-26-63, Cl. 5-345.
- Mulhern, William A., to Gar Wood Industries, Inc. Decorative wheel trim. 3,083,060, 3-26-63, Cl. 301-37.
- Mulinos, Michael G., to Commercial Solvents Corp. Process for the protection of textiles. 3,116,207, 12-31-63, Cl. 167-84.
- Mulkey, Virgil L., J. D. Neish, and E. T. Williams; said Williams assor. to said Mulkey and said Neish. Electrical outlet box expandable protector. 3,115,265, 12-24-63, Cl. 220-3.5.
- Mull, Robert P., to Ciba Corp. (N,N-aza-bicyclo-alkylene-imino)-lower alkyl-guanidines. 3,078,272, 2-19-63, Cl. 260-293.
- Mull, Robert P., to Ciba Corp. Dibenzpolymethylenimino-alkylene-guanidines. 3,093,632, 6-11-63, Cl. 260-239.
- Mull, Robert P., to Ciba Corp. Diaza-heterocyclic guanidine compounds. 3,098,066, 7-16-63, Cl. 260-239.
- Mullaney, George J., and P. H. Kydd, to General Electric Co. Supersonic combustion. 3,075,353, 1-29-63, Cl. 60-39.74.
- Mullen, Eugene D., to The Dow Chemical Co. Chemical heating of a well or cavity and formation adjacent thereto. 3,103,973, 9-17-63, Cl. 166-25.
- Mullen, James A.: *See*—  
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- Mullen, John H.: *See*—  
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- Mullen, Thomas Y.: *See*—  
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- Mullen, Wilbur L. Spring tension device. 3,114,361, 12-17-63, Cl. 123-188.
- Muller, Alois, to Opal Mfg. Co. Ltd. Axially movable rotor assembly for electrical motors. 3,109,950, 11-5-63, Cl. 310-85.
- Muller, Arthur, and T. Bersin. Process for preparing an iron hydroxide polyisomaltose complex and the resulting product. 3,100,202, 8-6-63, Cl. 260-209.
- Muller, Carl: *See*—  
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- Muller & Co. K.G.: *See*—  
Grunvogel, Vinzenz A. 3,108,606.
- Müller, Curt, to Metallgesellschaft Aktiengesellschaft. Cleaning apparatus for atomizing driers. 3,107,385, 10-22-63, Cl. 15-316.
- Muller, Egon M.: *See*—  
Smythe, William J., and Muller. 3,113,116.
- Smythe, William J., Muller, and Weeden. 3,072,960.
- Muller, Emil O.: *See*—  
Boulsover, Geoffrey, and Muller. 3,094,779.
- Muller, Erhard: *See*—  
Flach, Rolf, and Muller. 3,087,446.
- Müller, Erhard, to Xaver Fendt & Co., Maschinen- und Schlepperfabrik. Apparatus for severing the roving courses in linking machines. 3,076,082, 1-29-63, Cl. 219-19.
- Müller, Erich, and D. Jerchel, to Dr. Karl Thomae, G.m.b.H. Reaction products of uracil derivatives and formaldehyde. 3,105,077, 9-24-63, Cl. 260-256.4.
- Müller, Ernst, to Hydraulik G.m.b.H. Means for elongating workpieces. 3,073,611, 1-15-63, Cl. 279-4.
- Müller, Ernst, to Demag Aktiengesellschaft, Firma. Extrusion apparatus. 3,080,051, 3-5-63, Cl. 207-17.
- Müller, Ernst. Winding and reeling machine. 3,080,133, 3-5-63, Cl. 242-155.
- Muller, Ernst, to Meypro AG. Method of separating the endosperms from the embryo and husko of seeds. 3,080,355, 3-5-63, Cl. 260-209.
- Müller, Ernst, and G. Seulen, to Hydraulik G.m.b.H. System for thermally separating the stump from the extrusion and for straightening the latter in a metal rod or pipe press. 3,073,442, 1-15-63, Cl. 207-10.
- Müller, Ernst W.: *See*—  
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- Müller, Erwin: *See*—  
Holtzschmidt, Hans, Von Spulak, Muller, and Otto. 3,098,840.
- Peter, Julius, Schmidt, and Müller. 3,085,993.
- Muller, Erwin, O. Bayer, H. Wilms, F. Van Spulak, and M. Theis, ½ to Farbenfabriken Bayer Aktiengesellschaft, and ½ to Mobay Chemical Co. Polyesters containing isocyanate groups. 3,095,399, 6-25-63, Cl. 260-33.6.
- Muller, Frank G. Valve assembly and seal forming means for the same. 3,095,177, 6-25-63, Cl. 251-173.
- Muller, Franz, Fulminawerk K.G.: *See*—  
Mazur, Erwin, and Reiter. 3,075,500.
- Müller, Fritz: *See*—  
Giesen, Johann, and Müller. 3,095,329.
- Muller, Georges, to Roussel-UCLAF, S.A. Process for the preparation of 11-substituted 17 $\alpha$ ,21-dihydroxy-16 $\alpha$ -methyl-9 $\alpha$ -fluoro- $\Delta^4$ -pregnadiene-3,20-diones. 3,115,491, 12-24-63, Cl. 260-239.55.
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- Multiplex Faucet Co., The: *See*—Seener, George E. 3,108,718.
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- Mulvany, Richard B.: *See*—Mulvany, Harry A. and R. B., and Dalan. 3,077,993.
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- Mumford, George V., and J. M. Wheaton, to Owens-Illinois Glass Co. Closure caps. 3,088,615, 5-7-63, Cl. 215-37.
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- Mumma, Harold J., to FMC Corp. Carton handling apparatus. 3,112,023, 11-26-63, Cl. 198-106.
- Mummert, John R., to Merz Engineering, Inc. Filtering mechanism. 3,074,561, 1-22-63, Cl. 210-333.
- Mummery, Lester R., to E. I. du Pont de Nemours and Co. Filament drawing. 3,077,004, 2-12-63, Cl. 18-48.
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- Muncie, Fred W., to Suni-Citrus Products Co. Process for purification of citrus oil. 3,093,630, 6-11-63, Cl. 260-236.6.
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- Munday, John C., D. T. Rogers, and A. J. Morway, to Esso Research and Engineering Co. Asphalt containing mixed metal salts. 3,095,314, 6-25-63, Cl. 106-269.
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- Mundis, Edgar R. Crib safety shield. 3,103,669, 9-17-63, Cl. 5-98.
- Mundlos, Eberhard: *See*—Probst, Otto, Fernholz, Mundlos, Oehme, and Orth. 3,113,149.
- Mundo, Charles J., Jr., to American Bosch Arma Corp. Doubly integrating accelerometer. 3,114,267, 12-17-63, Cl. 73-490.
- Mundt, Edward, to Hycon Mfg. Co. Servo system and comparator. 3,098,995, 7-23-63, Cl. 340-146.2.
- Mundy, Lloyd W.: *See*—Heer, Ralph W., and Mundy. 3,088,384.
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- Munk, Werner R. Device for the remote recording of cryogenic temperatures. 3,100,398, 8-13-63, Cl. 73-368.4.
- Munley, William J., Jr., L. W. Zeager, and W. E. Catterall, to Esso Research and Engineering Co. Preparation of metadioxanes. 3,080,378, 3-5-63, Cl. 260-340.7.
- Munn, George E., to E. I. du Pont de Nemours and Co. Process for acrylic polymerizations. 3,084,068, 4-2-63, Cl. 117-76.
- Munn, Paul S., to Simplex Wire and Cable Co. Cable splice. 3,114,793, 12-17-63, Cl. 174-71.
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- Munson, Phillip D. Magnetically supported interchangeable price tag holder. 3,074,193, 1-22-63, Cl. 40-5.
- Munson, Whitney K. Hand stamp and type therefor. 3,099,213, 7-30-63, Cl. 101-380.
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- Murray, Julius J., to High Voltage Engineering Corp. Means for pulsing an ion beam. 3,096,437, 7-2-63, Cl. 250-41.9.
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- Murdoch, Colin D.: *See*—  
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- Murek, Josef K., to General Dynamics Corp. High energy rate forming machine. 3,108,503, 10-29-63, Cl. 78-42.
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- Murgio, Joseph: *See*—  
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- Murgio, Joseph, to International Telephone and Telegraph Corp. Digital-to-analog converter. 3,110,894, 11-12-63, Cl. 340-347.
- Murib, Jawad H.: *See*—  
 Horvitz, David, and Murib. 3,111,386.
- Murib, Jawad H., to National Distillers and Chemical Corp. Separation and recovery process. 3,111,373, 11-19-63, Cl. 23-14.
- Murib, Jawad H., to National Distillers and Chemical Corp. Process for separation of boron-containing compounds from mixtures containing same and a hydrogen halide. 3,088,797, 5-7-63, Cl. 23-14.
- Murib, Jawad H., to National Distillers and Chemical Corp. Process for recovery of boron-containing compounds. 3,114,604, 12-17-63, Cl. 23-204.
- Murley, Ellsworth M., Jr.: *See*—  
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- Muro, Louis V.: *See*—  
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- Muroi, Tadashi: *See*—  
 Okamura, Seizo, Muroi, Asakura, and Chimura. 3,111,370.
- Muros, Joseph, to The Gillette Co. Adjustable razor. 3,088,206, 5-7-63, Cl. 30-60.5.
- Murphey, Robert L.: *See*—  
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- Murphy, Arthur J.: *See*—  
 Fitzgerald, Charles F., and Murphy. 3,087,448.
- Murphy, Augustine C., and T. J. Plastic conductor composition. 3,111,495, 11-19-63, Cl. 252-511.
- Murphy, Clarence R., to Gulf Research & Development Co. Process for the recovery of methanol. 3,092,667, 6-4-63, Cl. 260-632.
- Murphy, Clayton L.: *See*—  
 Hippen, Ralph W., and Murphy. 3,107,527.
- Murphy, Demery A., to Armco Steel Corp. Dual passage rotary swivel. 3,096,103, 7-2-63, Cl. 285-134.
- Murphy, Desmond F., to Globe Industries, Inc. Transistor oscillator. 3,111,632, 11-19-63, Cl. 331-113.
- Murphy Diesel Co.: *See*—  
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- Murphy, Edward H. Record cleaner. 3,077,622, 2-19-63, Cl. 15-4.
- Murphy, Francis T., to Rock-Ola Mfg. Corp. Credit accumulator. 3,100,035, 8-6-63, Cl. 194-48.
- Murphy, Francis X.: *See*—  
McQuillen, Edward J., and Murphy. 3,100,093.
- Murphy, Frank H.: *See*—  
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- Murphy, Frank P., and H. Kline. Method of shrinking, dyeing and finishing. 3,083,074, 3-26-63, Cl. 8-159.
- Murphy, Frank W., Jr.: *See*—  
Murphy, Frank W. 3,089,929.
- Murphy, Frank W. and F. W. Murphy, Jr. 3,114,903.
- Murphy, Frank W.,  $\frac{1}{2}$  to F. W. Murphy, Jr. Vibration responsive switch. 3,089,929, 5-14-63, Cl. 200-61.45.
- Murphy, Frank W. and F. W. Murphy, Jr. Safety switch-gauge. 3,114,903, 12-17-63, Cl. 340-266.
- Murphy, Garrison E.: *See*—  
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- Murphy, George T., to J. W. Hill. Wood grain door backer. 3,087,536, 4-30-63, Cl. 160-89.
- Murphy, Howard E.: *See*—  
Dolby, Ray M., Kabell, Murphy, and Walsh. 3,095,472.
- Murphy, Howard J. Tube shield. 3,073,886, 1-15-63, Cl. 174-35.
- Murphy, Hubert W., G. W. Probst, and V. C. Stephens, to Eli Lilly and Co. Corticotropin reaction complexes. 3,108,042, 10-22-63, Cl. 167-58.
- Murphy, James F.: *See*—  
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- Murphy, James L., to Barnes Engineering Co. Extended radiation micrometer gage. 3,093,742, 6-11-63, Cl. 250-220.
- Murphy, John E.: *See*—  
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- Murphy, John M. Seat adjusting mechanism. 3,115,327, 12-24-63, Cl. 248-397.
- Murphy, John P., to Yuba Consolidated Industries, Inc. Apparatus for bridge construction. 3,081,533, 3-19-63, Cl. 29-252.
- Murphy, John R., to Coil-Weld Corp. Method of opening a wound coil. 3,110,099, 11-12-63, Cl. 29-426.
- Murphy, L. R., Scale Co.: *See*—  
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- Murphy, Laurence W., and C. D. Macy, to Geo. A. Hormel & Co. Method of facilitating immobilization and/or slaughter of cattle and other large domestic animals. 3,101,508, 8-27-63, Cl. 17-45.
- Murphy, Lesli R., to L. R. Murphy Scale Co. Transportable scale with extensible deck. 3,097,713, 7-16-63, Cl. 177-126.
- Murphy, Matthew L., to Hawker Aircraft Ltd. Stabilizing control nozzle systems for use on aircraft. 3,111,289, 11-19-63, Cl. 244-52.
- Murphy, Maurice F., and B. F. Larrick, to United States of America, Navy. Controlled sensitivity igniter composition and method of producing same. 3,110,638, 11-12-63, Cl. 149-6.
- Murphy, Maxwell K. Heating element. 3,108,170, 10-22-63, Cl. 219-19.
- Murphy, Melvin H.: *See*—  
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- Murphy, Norman B., to The Bendix Corp. Mechanical phase compensator for cascade servo system. 3,093,121, 6-11-63, Cl. 121-41.
- Murphy, Patrick N. Emergency brake. 3,098,545, 7-23-63, Cl. 188-76.
- Murphy, Paul J., Jr.: *See*—  
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- Murphy, Raymond E. Burner baffle. 3,085,563, 4-16-63, Cl. 126-96.
- Murphy, Raymond J., to Medart Lockers, Inc. Multiple-unit power actuated movers for telescoping gymnasium seat-structures. 3,107,398, 10-22-63, Cl. 20-1.126.
- Murphy, Raymond J., to Medart Lockers, Inc. Portable telescoping gymnasium seat units. 3,107,399, 10-22-63, Cl. 20-1.126.
- Murphy, Roy D.: *See*—  
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- Murphy, Roy E., Jr., to United States of America, Navy. Device for simulating the kinesthesia of submarine control. 3,092,683, 6-4-63, Cl. 35-10.2.
- Murphy, Thomas J.: *See*—  
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- Murphy, Walter T., to The B. F. Goodrich Co. Golf ball having a polyetherurethane core. 3,098,658, 7-23-63, Cl. 273-230.
- Murphy, William M., Jr., to Raytheon Co. Automatic tracking circuit. 3,091,740, 5-28-63, Cl. 331-4.
- Murphy, William P., Jr., to Cordis Corp. Alternating tourniquet system. 3,101,085, 8-20-63, Cl. 128-325.
- Murphy, William P., Jr., to Cordis Corp. Infusion safety valve. 3,105,511, 10-1-63, Cl. 137-399.
- Murr, Eugene W. Line tension release device. 3,077,114, 2-12-63, Cl. 74-2.
- Murray Co. of Texas, Inc.: *See*—  
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- Murray Corp. of America, The: *See*—  
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- Stilwell, William E., Jr. 3,089,327.
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- Murray, Donald A., and C. F. Crumb, to International Harvester Co. Land leveler. 3,080,666, 3-12-63, Cl. 37-180.
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- Murray, Frederick R.: *See*—  
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- Murray, George W., Jr., and E. L. Armstrong, to Socony Mobil Oil Co., Inc. Milori blue grease. 3,108,957, 10-29-63, Cl. 252-25.
- Murray, Gilbert D., III: *See*—  
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- Murray, Hilton B. Rotary racks for kitchen cabinets and the like. 3,094,362, 6-18-63, Cl. 312-267.
- Murray, Jackson L., to West Virginia Pulp and Paper Co. Calender vibration eliminator. 3,111,894, 11-26-63, Cl. 100-162.
- Murray, James G.: *See*—  
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- Murray, James H.: *See*—  
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- Murray, James J. Torque alarm. 3,103,004, 9-3-63, Cl. 340-271.
- Murray, James V., Jr., and D. J. Foster, to Union Carbide Corp. Separation of aromatic amines using alkylene carbonates. 3,072,662, 1-8-63, Cl. 260-290.
- Murray, James V., Jr., and D. W. Peck, to Union Carbide Corp. Recovery of piperazine. 3,105,019, 9-24-63, Cl. 202-42.
- Murray, James W.: *See*—  
Hierta, Lars J., and Murray. 3,103,867.
- Murray, James W., Jr., to Shaffer Tool Works. Kick sub. 3,074,486, 1-22-63, Cl. 166-222.
- Murray, Jerome L. Method and means for measuring a jet engine thrust by sensing the output noise. 3,107,525, 10-22-63, Cl. 73-116.
- Murray, John A., and L. L. Sifford, to American Cyanamid Co. Automatic volumetric sampler and automatic material transfer. 3,076,341, 2-5-63, Cl. 73-423.
- Murray, John L.: *See*—  
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- Murray, John S. Self-biased transistor amplifiers having an emitter-follower stage and a subsequent voltage amplifying stage. 3,075,151, 1-22-63, Cl. 330-20.
- Murray, Joseph J., to United States of America, Atomic Energy Commission. High voltage electrodes. 3,087,056, 4-23-63, Cl. 250-41.9.
- Murray, Lester: *See*—  
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- Murray Mfg. Corp.: *See*—  
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- Lavery, Martin J., and Aronson. 3,090,263.
- Murray, Maynard R. Process of applying sea solids and fertilizer. 3,071,457, 1-1-63, Cl. 71-1.
- Murray, Michael. Illuminable fish lure. 3,077,046, 2-12-63, Cl. 43-17.6.
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- Murray Ohio Mfg. Co., The: *See*—  
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- Hahn, Gilbert B. 3,088,747.
- Murray, Richard F., to International Business Machines Corp. Scan element for computer. 3,099,818, 7-30-63, Cl. 340-172.5.
- Murray, Robert J., to United States of America, Army. Metal cutting method and apparatus. 3,088,202, 5-7-63, Cl. 29-567.
- Murray Rubber Co., Inc.: *See*—  
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- Murray, Thomas W. Closure mounting means for underfloor wiring ducts. 3,101,097, 8-20-63, Cl. 138-92.
- Murray, Victor E.,  $\frac{1}{2}$  to J. L. Balear. Egg opener and holder. 3,092,409, 6-4-63, Cl. 294-1.
- Murray, William J., to United States of America, Navy. Method of forming a brazed lock joint. 3,112,564, 12-3-63, Cl. 29-470.5.
- Murschel, Erwin, to C. F. Scheer & Cie. Sanding machine. 3,094,819, 6-25-63, Cl. 51-170.
- Murtha, Bruce E., to Combustion Engineering, Inc. Method of fabricating a tube cluster. 3,116,407, 12-31-63, Cl. 219-117.
- Murton, Crawford B., to Vesuvius Crucible Co. Stopper for a ladle or similar receptacle. 3,091,823, 6-4-63, Cl. 22-85.
- Murty, Anthony F. and B. P. Safety brake apparatus for vehicle. 3,095,067, 6-25-63, Cl. 188-170.
- Murty, Benedict P.: *See*—  
Murty, Anthony F. and B. P. 3,095,067.
- Murvall, Ake E., to Urfabriken, Aktiebolaget. Spinning reels. 3,108,762, 10-29-63, Cl. 242-84.2.
- Musat, George: *See*—  
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- Musch, John H., to The Firestone Tire & Rubber Co. Freeze stable synthetic latex and method of making same. 3,078,246, 2-19-63, Cl. 260-29.7.
- Musch, John H., to The Firestone Tire & Rubber Co. Stable polybutadiene latex paint containing zinc oxide and having enhanced freeze stability and wash resistance. 3,095,397, 6-25-63, Cl. 260-29.7.
- Muschamp, Robert A.: *See*—
- Winfield, William S., and Muschamp. 3,098,208.
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- Muschong Metal & Mfg. Co.: *See*—
- Tuhro, Albert F. 3,093,011.
- Musgrave, Daniel D. Electric exploder. 3,086,469, 4-23-63, Cl. 102-70.2.
- Musgrave, Daniel D. Electromechanical actuators with permanent magnets. 3,105,925, 10-1-63, Cl. 317-171.
- Musgrave, Daniel D. Firearm magazine with two oppositely disposed feed ends. 3,110,122, 11-12-63, Cl. 42-50.
- Musgrave, Daniel D. Variable spring. 3,115,337, 12-24-63, Cl. 267-1.
- Musgrave, Louise E. Splash shield. 3,112,571, 12-3-63, Cl. 36-70.2.
- Mushrush, Wilson G., to Syntron Co. Circular lapping machine. 3,088,247, 5-7-63, Cl. 51-3.
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- Muskat, Irving E., to Sinclair Research, Inc. Composition comprising a low viscosity styrene-malein anhydride copolymer and a polyhydric alcohol. 3,085,986, 4-16-63, Cl. 260-31.8.
- Muskat, Irving E., to Sinclair Research, Inc. Chain terminated copolymer of styrene and maleic anhydride of low solution viscosity. 3,085,994, 4-16-63, Cl. 260-78.5.
- Muskat, Josef: *See*—
- Schramm, Paul, Fechter, Baars, and Muskat. 3,109,875.
- Muskegon Piston Ring Co.: *See*—
- Nisper, Kenneth. 3,081,100.
- Nisper, Kenneth J. 3,100,929.
- Mussard, Marcel E., to Raytheon Co. Diode bridge sampler and capacitor storage device with feed-back means preventing drift caused by diode leakage. 3,075,086, 1-22-63, Cl. 307-88.5.
- Mussard, Marcel E., to Raytheon Co. Decoders. 3,100,257, 8-6-63, Cl. 235-154.
- Musschoot, Albert: *See*—
- Carrier, Robert M., Jr., Morris, and Musschoot. 3,093,941.
- Musschoot, Albert, to Chain Belt Co. Vibratory bin feeder. 3,083,811, 4-2-63, Cl. 198-53.
- Musschoot, Albert, to Chain Belt Co. Air spring pressure controls. 3,112,823, 12-3-63, Cl. 198-220.
- Musschoot, Albert, to Chain Belt Co. Stabilized air spring. 3,112,922, 12-3-63, Cl. 267-1.
- Musschoot, Albert, and L. B. Wilson, to Chain Belt Co. Device for separating fine from coarse materials. 3,087,618, 4-30-63, Cl. 209-329.
- Musschoot, Albert, and M. G. Thomson, to General Kinematics Corp. Vibratory device. 3,089,582, 5-14-63, Cl. 198-220.
- Musselman, Elvin M.: *See*—
- Miller, Louis D., and Musselman. 3,073,981.
- Musser, C Walton, to United States of America, Army. Micrometric rifle aligner. 3,070,892, 1-1-63, Cl. 33-180.
- Musser, C Walton, to United Shoe Machinery Corp. Fluid device. 3,073,250, 1-15-63, Cl. 103-117.
- Musser, C Walton, to United Shoe Machinery Corp. Fluid wave generator for harmonic drive. 3,088,333, 5-7-63, Cl. 74-640.
- Musser, C Walton, to United Shoe Machinery Corp. Differential control. 3,101,009, 8-20-63, Cl. 74-640.
- Musser, C Walton, to United States of America, Army. Muzzle velocity compensating device. 3,111,882, 11-26-63, Cl. 89-14.
- Musser, C Walton, to Harvey Aluminum (Inc.). Wave energy method and apparatus for time-determination. 3,113,415, 12-10-63, Cl. 58-2.
- Musser, C Walton, and M. Moldofsky, to United States of America, Army. Piezoelectric gage mount. 3,100,394, 8-13-63, Cl. 73-167.
- Musser, David M., and G. J. Nucchi, to Johnson & Johnson. Method of controlling fungi with esters of o-phenyl phenol. 3,102,840, 9-3-63, Cl. 167-30.
- Musser, Rufus H. Chamois wringer. 3,111,019, 11-19-63, Cl. 68-242.
- Musser, Rufus H. Supply and exhaust valve for a pressure chamber. 3,111,134, 11-19-63, Cl. 137-102.
- Musser, William H.: *See*—
- Eble, Joseph H., Musser, and Ward. 3,102,379.
- Mussler, Walter J. Collapsible portable cabin structure for automotive vehicles. 3,097,013, 7-9-63, Cl. 296-23.
- Mustad, A B O & Son: *See*—
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- Mustakas, Gus C., to United States of America, Agriculture. Method of preparing an air-drying conjugated soybean vinyl ether and isobutyl vinyl ether copolymer. 3,085,079, 4-9-63, Cl. 260-33.6.
- Mustakas, Gus C., and L. D. Kirk, to United States of America, Agriculture. Method of obtaining detoxified mustard seed products. 3,106,469, 10-8-63, Cl. 99-2.
- Mustard, Eldie W. Portable dock. 3,074,239, 1-22-63, Cl. 61-48.
- Mustee, Bernard E., to E. L. Mustee & Sons, Inc. Laundry tube hose system. 3,092,845, 6-11-63, Cl. 4-192.
- Mustee, E. L., & Sons, Inc.: *See*—
- Mustee, Bernard E. 3,092,845.
- Musto, Joseph. Linoleum knife. 3,076,263, 2-5-63, Cl. 30-317.
- Mustonen, Reino H., R. E. Heintz, and D. W. Jones, to General Motors Corp. Workpiece support. 3,103,145, 9-10-63, Cl. 90-13.
- Musy, Andre P., to Edouard Dubied et Cie (Societe Anonyme). Fluid connection for a rotating cylinder hydraulic motor. 3,100,424, 8-13-63, Cl. 92-106.
- Musy, Jean, and D. Zannoni, to Lamure & Cie. Apparatus for cutting tubes along rounded grooves. 3,070,885, 1-1-63, Cl. 30-102.
- Muszynski, Francis. Duck decoy. 3,079,719, 3-5-63, Cl. 43-3.
- Mutch, Robert D., to Dominion Bridge Co., Ltd. Operator's cab for travelling cranes. 3,090,495, 5-21-63, Cl. 212-18.
- Mutschler, David E., and L. W. Binger. Adhesive coated cleaning article. 3,082,453, 3-26-63, Cl. 15-104.
- Muter Co., (Jensen Mfg. Co. Division), The: *See*—
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- Muterel, Roland: *See*—
- Chevreaux, Gerard, and Muterel. 3,107,127.
- Muth, Franz, to H. F. & Ph. F. Reemtsma. Method of producing a fibrous tobacco material for cigarettes. 3,085,580, 4-16-63, Cl. 131-140.
- Muth, William M., Jr., and J. H. Hollyday, to Sperry Rand Corp. Conveyor. 3,090,508, 5-21-63, Cl. 214-42.
- Muto, Masako. Panty with hygienic band. 3,088,462, 5-7-63, Cl. 128-290.
- Mutschler, Edward C., to Engelhard Hanovia, Inc. Light communication system. 3,087,065, 4-23-63, Cl. 250-199.
- Mutschler, Erich: *See*—
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- Muttart, Vincent, to Independent Lock Co. Lock assembly. 3,101,965, 8-27-63, Cl. 292-357.
- Mutti, Daniel S. Fishing lure. 3,081,573, 3-19-63, Cl. 43-42.24.
- Mutto, Theodore R., to Mid-West Metallic Products, Inc. Tierable and nestable receptacle with hinged gate member. 3,091,355, 5-28-63, Cl. 220-19.
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- Muys, Gerard T., B. van der Ven, and A. P. de Jonge, to Lever Brothers Co. Microbiologically reducing keto acids. 3,076,750, 2-5-63, Cl. 195-30.
- Muzzi, Carmelo L. Electrical indicating apparatus. 3,111,033, 11-19-63, Cl. 73-362.
- Mycalex Corp. of America: *See*—
- Haller, Wolfgang K. 3,087,482.
- Hessinger, Philip S., and Weber. 3,087,785.
- Hessinger, Philip S., and Weber. 3,090,669.
- Mycalex Electronics Corp.: *See*—
- Lynch, George J., and Ormston. 3,098,129.
- Mycock, John R., and D. H. Palmer, to Clay-Adams, Inc. Test tube holder and support. 3,085,776, 4-16-63, Cl. 248-153.
- Mydels, John W., and C. N. Hurt, to Allis-Chalmers Mfg. Co. Rear gauge wheel for two-way plows. 3,106,252, 10-8-63, Cl. 172-224.
- My Double Co., Inc.: *See*—
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- Myerberg, Michael. Make-up mirror. Re. 25,402, 6-18-63, Cl. 240-4.1.
- Myerly, Richard C.: *See*—
- Lemon, Russell C., and Myerly. 3,112,318.
- Poppelsdorf, Fedor, and Myerly. 3,095,417.
- Poppelsdorf, Fedor, and Myerly. 3,106,557.
- Poppelsdorf, Fedor, and Myerly. 3,106,558.
- Myers, Arnold D.: *See*—
- Nyquist, Arthur S., and Myers. 3,096,208.
- Myers, Aurie S., Jr., to International Business Machines Corp. Self propagating core logic circuits. 3,104,326, 9-17-63, Cl. 307-88.
- Myers, Carl O. Boiler port mounting arrangement for pressure relief valves. 3,094,281, 6-18-63, Cl. 237-63.
- Myers, Charles R., and F. K. Hedler, to Koppers Co., Inc. Acoustically sealed track system for movable partitions. 3,098,519, 7-23-63, Cl. 160-40.
- Myers, Charles S., to Encyclopaedia Britannica Films Inc. Film strip package. 3,101,844, 8-27-63, Cl. 206-52.
- Myers, Dean W., to Aeon Industries, Inc., d.b.a. Pride Products Co. Stroller with base frame track folding action. 3,110,504, 11-12-63, Cl. 280-36.
- Myers, Earl D., to Ohaus Scale Corp. Take-down weighing scale with part storage facilities. 3,082,833, 3-26-63, Cl. 177-127.
- Myers, Edward C. Sickle guard construction. 3,098,338, 7-23-63, Cl. 56-296.
- Myers, Edward F., and E. W. Young, to Burroughs Corp. Pulse driver with magnetic amplitude and width control. 3,072,802, 1-8-63, Cl. 307-88.5.
- Myers, Elizabeth R.: *See*—
- Vail, Ande R. 3,093,023.
- Myers, Elman B., to Scarborough Associates, Inc. Selective color filter. 3,075,432, 1-29-63, Cl. 88-111.
- Myers, Elman B., to Fuller-Myers. Hydraulic shaving implement. 3,093,900, 6-18-63, Cl. 30-45.



- Myers, Errol L., to H. O. Trerice. Steam traps. 3,114,383, 12-17-63, Cl. 137-185.
- Myers, F. E., & Bro. Co., The: See—  
Ekey, William J. 3,112,706.  
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- Myers, Gifford, and R. K. Youtie. Article of houseware. 3,086,657, 4-23-63, Cl. 211-1.3.
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- Myers, Herbert G. J.: See—  
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- Myers, Herman L., to Raytheon Co. Composite article with tungsten and copper parts. 3,079,676, 3-5-63, Cl. 29-194.
- Myers, John C., and J. C. Cates, Jr., to The Dow Chemical Co. Composite anode. 3,072,558, 1-8-63, Cl. 204-280.
- Myers, John H.: See—  
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- Myers, John H., to Waldorf Paper Products Co. Sift proof cartons. 3,084,845, 4-9-63, Cl. 229-38.
- Myers, John W., deceased; June L. Myers, administratrix,  $\frac{1}{4}$  to B. Ahlport, and  $\frac{3}{4}$  to J. L. Myers. Coupling for conduits. 3,104,120, 9-17-63, Cl. 285-161.
- Myers, John W., to Phillips Petroleum Co. Catalytic alkylation of aromatics with paraffins. 3,109,038, 10-29-63, Cl. 260-671.
- Myers, June L.: See—  
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- Myers, Malcolm C., to Dover Corp. Safety cut-off for automatic dispensing valves. 3,072,294, 1-8-63, Cl. 222-74.
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- Myers, Robert L.: See—  
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- Myers, Thomas E. Method of dissolving iodine in water. 3,080,217, 3-5-63, Cl. 23-309.
- Myers, Truman A. Tire chain assembly. 3,088,511, 5-7-63, Cl. 152-217.
- Myers, William D., to Baker Oil Tools, Inc. Retrievable parallel string well packer. 3,094,168, 6-18-63, Cl. 166-118.
- Myers, William D., to Baker Oil Tools, Inc. Hydraulically actuated well packers. 3,112,796, 12-3-63, Cl. 166-120.
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- Myers, William R.: See—  
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- Myerson, Richard L.: See—  
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- Myklebust, Roger: See—  
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- Myles, John S., to Northern Electric Co. Ltd. Television apparatus for locking the phase of vertical synchronizing pulses. 3,112,864, 11-26-63, Cl. 178-69.5.
- Mylius, Elmer W., to Standard Bag Co. Sewing machine for draw-string bag making. 3,085,524, 4-16-63, Cl. 112-2.
- Mytling, Lauritz E., to The Allen Sheman Hoff Co. Fine solids transferring device and method. 3,085,831, 4-16-63, Cl. 302-27.
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- Mynall, Dennis J., to Associated Electrical Industries Ltd. Programmed machine tool control systems. 3,103,614, 9-10-63, Cl. 318-162.
- Mynatt, Willis L.: See—  
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- Myotte, Robert J., to National Copper and Smelting Co. Vertical feed cut-off saw. 3,100,412, 8-13-63, Cl. 83-163.
- Myotte, Robert J. Drawbench. 3,107,006, 10-15-63, Cl. 205-3.
- Myron, Thomas L.: See—  
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- Myrum, Andor G., to United States Steel Corp. Flow controller for stream of solids. 3,104,037, 9-17-63, Cl. 222-406.
- Myślinski, Stephen A., to Western Electric Co., Inc. Gas tube life tester. 3,100,867, 8-13-63, Cl. 324-24.
- Mytron Products Inc.: See—  
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- N.G.N. Ltd.: See—  
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- NJE Corp.: See—  
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- N & N, Inc.: See—  
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- Naab, Julius, to Ingersoll-Rand Co. Threaded members locked by expanded tubular locking pin. 3,100,516, 8-13-63, Cl. 151-8.
- Nabreski, Benjamin D., and A. L. Staudte, to United States of America, Army. Setback actuated timing device. 3,095-816, 7-2-63, Cl. 102-84.
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- Nachbar, Henry D., B. B. Biggs, P. J. Tariello, and K. O. George, to United States of America, Atomic Energy Commission. Shipping container for radioactive material. 3,073,961, 1-15-63, Cl. 250-108.
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- Nachmias, Germaine: See—  
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- Nachtman, John S., and H. G. Poole. Recovery of metal by use of lead. 3,090,686, 5-21-63, Cl. 75-84.
- Nachtseheim, Henry G., E. J. Meyer, and P. Grande, to Minnesota Mining and Mfg. Co. Pressure-sensitive adhesive tape. 3,089,786, 5-14-63, Cl. 117-122.
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- Nadeau, Donald P., to American Motors Corp. Vehicle door lock. 3,111,339, 11-19-63, Cl. 292-216.
- Nadeau, Gale F., C. F. Smith, and C. B. Starck, to Eastman Kodak Co. Stripping film for improved emulsion. 3,091,534, 5-28-63, Cl. 96-83.
- Nadel, Isadore G.: See—  
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- Nader, Hugo O. M. Prosthetic foot. 3,098,239, 7-23-63, Cl. 3-7.
- Nadhenry, Russell J.: See—  
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- Nadler, Harry, to United States of America, Atomic Energy Commission. Fuel element handling mechanism. 3,095-102, 6-25-63, Cl. 214-658.
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- Naess, Einar, to United States of America, Army. Blocking oscillator having a controlled rise time. 3,110,871, 11-12-63, Cl. 331—148.
- Nagai, Nobuya: *See—*  
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- Nagamatsu, Takeo: *See—*  
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- Nagano, Koichi: *See—*  
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- Nagasawa, Masao, to Ihara Noyaku Kabushiki Kaisha. Fungicides comprising organic ferric ammonium arsonates. 3,106,509, 10-8-63, Cl. 167—22.
- Nagata, Aikichi: *See—*  
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- Nagata, Aikichi, H. Yamamoto, S. Terashima, T. Matsumoto, S. Onishi, and S. Konishi, to Ajinomoto Kabushiki Kaisha. Process for producing refreshing beverage from oil-free soybean flake. 3,082,083, 3-19-63, Cl. 99—98.
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- Nagata, Kuniichi, and K. Obara, to Nippon Electric Co., Ltd. Vowel synthesizer. 3,087,989, 4-30-63, Cl. 179—1.
- Nagawa, Masatoshi: *See—*  
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- Nagel, Arthur N., to General Motors Corp. Vehicle body. 3,097,015, 7-9-63, Cl. 296—137.
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- Nagel, Ernst P.: *See—*  
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- Nagel, Ernst P., to Pneumafil Corp. Trumpet cleaner. 3,075,251, 1-29-63, Cl. 19—159.
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- Nagel, George W.: *See—*  
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- Nagel, Lester L., to Buell Engineering Co., Inc. High voltage switch contact surface. 3,086,099, 4-16-63, Cl. 200—164.
- Nagel, Richard R., and N. O. Campise, to Houston Oil Field Material Co., Inc. Paraffin scraper. 3,083,773, 4-2-63, Cl. 166—176.
- Nagel, William S.: *See—*  
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- Nägele, Bernhard, Jr. Multi-color pressure adjustable writing instrument. 3,098,467, 7-23-63, Cl. 120—14.5.
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- Nager, Maxwell, J. W. Jenkins, and L. W. Maas, to Shell Oil Co. Process for upgrading cracked gasoline fractions. 3,116,232, 12-31-63, Cl. 208—64.
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- Nagin, Harold, to Reliance Steel Products Co. Bridge floor. 3,110,049, 11-12-63, Cl. 14—73.
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- Nagin, Leon and H. S., and M. Pincus, to Reliance Steel Products Co. Highway markers. 3,106,878, 10-15-63, Cl. 94—1.5.
- Nagle, Floyd B.: *See—*  
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- Nagy, Louis. All purpose platform ladder. 3,093,209, 6-11-63, Cl. 182—118.
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- Nahrgang, James R. Centrifugal pump. 3,091,183, 5-28-63, Cl. 103—113.
- Naideth, Leon. Basketball goal set. 3,108,803, 10-29-63, Cl. 273—1.5.
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- Naifeh, Sam C., to Phillips Petroleum Co. Smoke control. 3,095,272, 6-25-63, Cl. 23—209.4.
- Nail, Billie G., and E. R. Sabin, to The Vendo Co. Cream dispensing apparatus for coffee vending machine. 3,100,585, 8-13-63, Cl. 222—63.
- Nail, Nelson R., to Eastman Kodak Co. Two-step electrophotography. 3,096,260, 7-2-63, Cl. 204—18.
- Nail, Walter P. Inflatable articles. 3,110,532, 11-12-63, Cl. 312—204.
- Naimer, Hubert L.: *See—*  
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- Naimer, Hubert. Threaded plastic rod with mold burr for locking function. 3,099,704, 7-30-63, Cl. 174—138.
- Naimer, Hubert L. and F. Bauer. Assembly of axially aligned components. 3,071,674, 1-1-63, Cl. 200—168.
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- Najarian, Herand K. Gas scrubber. 3,075,751, 1-29-63, Cl. 261—112.
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- Nakahira, George T. Automatic transmission spring compressing tool. 3,115,699, 12-31-63, Cl. 29—226.
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- Nakamura, Kiyoshi, to Nippon Electric Co. Ltd. Expansion circuit utilizing transistor biased near cut-off. 3,104,328, 9-17-63, Cl. 307—88.5.
- Nakamura, Takezo: *See—*  
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- Nakanishi, Tetsuichiro: *See—*  
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- Nakano, Koichi: *See—*  
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- Nakayama, Kiyoshi: *See—*  
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- Nalle, Charles R. Furniture support element. 3,104,493, 9-24-63, Cl. 45—139.
- Nalle, George S., Jr. Molded tampon applicator. 3,115,876, 12-31-63, Cl. 128—263.



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- Nallinger, Friedrich K. H., to Daimler-Benz Aktiengesellschaft. Vehicle brake. 3,080,948, 3-12-63, Cl. 188-78.
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- Namtsniak, Joseph, and J. W. Endress, to Carrier Corp. Control mechanism for fluid compression means. 3,081,604, 3-19-63, Cl. 62-84.
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- Namon, Richard. Speaker design. 3,107,746, 10-22-63, Cl. 181-32.
- Namsick, Raymond J., to The Goodyear Tire & Rubber Co. Flotation device. 3,102,705, 9-3-63, Cl. 244-102.
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- Nannigan, William D.: See—  
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- Nanovic, Nicholas S.: See—  
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- Nanson, Arthur. Contact or similar wheels for abrasive belts or the like. 3,083,584, 4-2-63, Cl. 74-230.7.
- Napier, D., & Son Ltd.: See—  
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- Elford, Lionel H. 3,099,385.
- Napier, David E. Gauge movements. 3,110,284, 11-12-63, Cl. 116-129.
- Napier, Donald R., to Continental Oil Co. Two step preparation of aluminum alkoxides. 3,097,226, 7-9-63, Cl. 260-448.
- Napolin, Seymour, to Granco Products, Inc. Adjustable capacitors. 3,085,182, 4-9-63, Cl. 317-249.
- Napolitano, John P.: See—  
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- Napolitano, Liberato R., 50% to H. C. Weisman. Matrix for line-casting machine. 3,071,242, 1-1-63, Cl. 199-63.
- Nappi, John J. Shoe sole cleaner. 3,083,393, 4-2-63, Cl. 15-215.
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- McFarland, James E. 3,080,540.
- Nardi, Guy. Combination wrench. 3,086,414, 4-23-63, Cl. 81-90.
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- Nardone, Romeo M. Two-way flush valve mechanism. 3,093,833, 6-18-63, Cl. 4-67.
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- Narel, Leonard M.: See—  
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- Narma, Rein: See—  
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- Narmco Industries, Inc.: See—  
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- Narragansett Gymnasium Equipment Co.: See—  
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- Delf, George A., and Stevenson. 3,087,206.
- Narrow Fabric Co., The: See—  
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- Seelig, Oliver N. 3,110,951.
- Narzakian, Zavan, to United States of America, Navy. Computing apparatus. 3,101,008, 8-20-63, Cl. 74-600.
- Nasco American Inc.: See—  
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- Nash, Darrell J.: See—  
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- Nash, Edward L., to General Motors Corp. Master cylinder. 3,070,961, 1-1-63, Cl. 60-54.6.
- Nash, Edward L., to General Motors Corp. Anchor means for brake shoes. 3,091,308, 5-28-63, Cl. 188-78.
- Nash Engineering Co.: See—  
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- Adams, Harold E. 3,102,083.
- Adams, Harold E. 3,102,491.
- Nash, Harold W.: See—  
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- Nash, John C. Tenter clip gate. 3,104,444, 9-24-63, Cl. 26-62.
- Nash, Lawrence H. Bimetallic salts of ethylene bis dithiocarbamic acid. 3,082,229, 3-19-63, Cl. 260-429.
- Nash, Lawrence M., to Johnson & Johnson. Cleaning implement. 3,099,855, 8-6-63, Cl. 15-231.
- Nash, Leonard J., to Godins "The Rollers of Steel Sections" Ltd. Machine for forming metal sections or tubes. 3,080,838, 3-12-63, Cl. 113-1.
- Nash, Monroe, and E. G. Freudenstein; said Freudenstein assor. to said Nash. Method of preparing an edible fish product. 3,108,882, 10-29-63, Cl. 99-188.
- Nash, Paul. Photoelectric inspection and sorting machines. 3,105,151, 9-24-63, Cl. 250-219.
- Nash, Paul. Inspection of sheet materials by photoelectric means. 3,105,152, 9-24-63, Cl. 250-219.
- Nash Plastics Ltd.: See—  
Fagan, Brian E., and Cuthbert. 3,100,116.
- Nash, Ralph C. Packaging of band saw blades. 3,115,243, 12-24-63, Cl. 206-52.
- Nash, Ralph C. Wrapper providing separable envelopes. 3,115,295, 12-24-63, Cl. 229-87.
- Nash, Richard L.: See—  
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- Nash, Robert A.: See—  
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- Nash, William H., to McGraw-Edison Co. Lightning arrester. 3,087,094, 4-23-63, Cl. 317-70.
- Nashman, Alvin E., and D. Metsky, to International Telephone and Telegraph Corp. Electronic accelerometer. 3,090,240, 5-21-63, Cl. 73-517.
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- Nashold, Robert W., H. J. Baldwin, and V. L. Mitchell, to The Cincinnati Milling Machine Co. Spiral milling machine. 3,101,649, 8-27-63, Cl. 90-11.5.
- Nashua Corp.: See—  
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- Doyle, Britton H., Eisenberg, and McDermott. 3,076,586.
- Eisenberg, Arnold J. 3,112,224.
- Lawton, William R., and Lopez. 3,076,707.
- Lawton, William R., and Lopez. 3,104,979.
- Lawton, William R., Smith, and Copley. 3,090,697.
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- Nashville Bridge Co.: See—  
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- Nashville Electronics, Inc.: See—  
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- Naslund, Lennart V., to Skil Corp. Rotary-hammer device. 3,114,423, 12-17-63, Cl. 173-97.
- Naslund, Ruth S. Hinged louver assemblies. 3,110,937, 11-19-63, Cl. 20-62.
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- Nass, Walter R., to General Dynamics Corp. Dynamic testing apparatus. 3,074,385, 1-22-63, Cl. 121-147.
- Nassar, Antoine M. Complementary musical instrument for ordinary piano making possible the interpretation of all the pieces written originally for organ. 3,103,848, 9-17-63, Cl. 84-448.
- Nassau, Kurt: See—  
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- Nasser, Mitchell, to General Electric Co. Front opening dishwasher with improved dish rack arrangement. 3,084,702, 4-9-63, Cl. 134-144.
- Nassikas, Euripides R., and A. M. Caloyer. Automatic vehicle warning system. 3,089,129, 5-7-63, Cl. 340-262.
- Nassour, Edward. Method of and means for making plastic figures having different postures of animation. 3,073,053, 1-15-63, Cl. 41-25.
- Nasuno, Akihumi,  $\frac{1}{2}$  to Kurashiki Rayon Co., Ltd., and  $\frac{1}{4}$  to Air Reduction Co., Inc. Method of treating fibers. 3,111,363, 11-19-63, Cl. 8-115.5.
- Nasvytis, Algirdas L.: See—  
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- Natanson, Edward A. Loader. 3,089,733, 5-14-63, Cl. 302-56.
- Natelli, Mario, to Kleer-Pak Machinery & Packaging, Inc. Sealing mechanism for packaging machines. 3,109,764, 11-5-63, Cl. 156-582.
- Naterop, Johan A.: See—  
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- Nathan, Amos. Electronic interpolating time sharing function generators. 3,102,951, 9-3-63, Cl. 235-197.



- Nathan, Amos. Electronic function generator with interpolating resistors. 3,106,639, 10-8-63, Cl. 235-197.
- Nathan, Amos, and J. Katzenelson, to Technion Research and Development Foundation Ltd. General purpose compensated diode function generator. 3,100,839, 8-13-63, Cl. 235-197.
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- Nathan, Irwin E. Separable compartmented container. 3,099,380, 7-30-63, Cl. 229-27.
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- Nathan, Tracy D., to Hamilton Kent Mfg. Co. Slit-surfaced o-ring and its use. 3,107,922, 10-22-63, Cl. 277-168.
- Nathan, Wilfred S., to The British Petroleum Co. Ltd. Vapor compression distillation process. 3,109,782, 11-5-63, Cl. 202-75.
- Nathansohn, Giangiacomo, and E. Testa, to Lepetit S.p.A. Process for preparing 16 $\beta$ -methylprednisone. 3,076,001, 1-29-63, Cl. 260-397.45.
- Natho, Paul J., to ACF Industries Inc. Hydraulic operator for reciprocating gate valves. 3,086,745, 4-23-63, Cl. 251-62.
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- Beacom, Robert, and Schubert. 3,103,840.
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- Morgan, William F. 3,097,857.
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- Webb, James E. 3,105,515.
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- Swanson, Floyd A. 3,097,453.
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- Daniel, David W. 3,092,935.
- Daniel, David W., and Kokorzycki. 3,071,862.
- Daniel, David W., and Kokorzycki. 3,097,567.
- Daniel, David W., and Sigman. 3,077,877.
- Davis, Kenneth J. 3,088,251.
- Davis, Kenneth J. 3,095,980.
- Davis, Kenneth J. 3,110,224.
- Gates, Thomas S. 3,099,882.
- Miller, Stewart F., and Zimmerman. 3,106,805.
- Motz, Carl H. 3,086,294.
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- National Carts, Inc.: *See—*
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- National Cash Register Co., The: *See—*
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- Anderson, John R. 3,079,591.
- Archer, Robert F. 3,094,687.
- Arnold, William C., and Jorgensen. 3,102,950.
- Bennett, John W., and Perry. 3,100,113.
- Berman, Elliot. 3,090,687.
- Berman, Elliot. 3,100,778.
- Berman, Elliot, and Schwab. 3,072,481.
- Brown, Jerome U. 3,077,950.
- Brynko, Carl, and Bakan. 3,116,206.
- Carlson, Carl O. 3,085,469.
- Close, Patrick B., Coulter, Ditmer, Fahrenbruck, Goldammer, Goodrick, Gulden, Holloran, Jenkins, Kilheffer, Kinker, Lyons, Manor, Marvin, Miller, O'Brian, Randall, Garner, Sather, Yost, and Braden. 3,112,394.
- Cornell, James R. 3,102,240.
- Cornell, James R., and Congleton. 3,109,122.
- Eberhardt, George J., and Werner. 3,092,313.
- Fisher, Robert D., Williams, and Harsacky. 3,116,159.
- Fogle, Mark V. 3,087,832.
- Foris, Peter L. 3,105,761.
- Goldstick, Gerson H. 3,116,476.
- Green, Albert J., Randall, Williams, and Werner. 3,100,037.
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- National Cash Register Co., The: *See—Continued*
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- Maieron, Theodore. 3,104,980.
- Maieron, Theodore, Schiller, and Vosmer. 3,099,571.
- Malcolm, Jack W. 3,087,149.
- Marcey, Stephen D. 3,079,293.
- Miller, Paul M. 3,109,817.
- Miller, Robert E. 3,116,148.
- Seehof, Jerrold M., Armstrong, and Smithberg. 3,089,122.
- Smith, Frederick L. 3,101,894.
- Trippy, Loren L. 3,073,968.
- Trimble, Ceburn B. 3,100,591.
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- Metzger, William J. 3,088,601.
- Metzger, William J. 3,108,697.
- Rekart, Harold L. 3,076,238.
- Russell, Richard E., De Penti, and Wyrrough. 3,086,807.
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- Wyrrough, David J. 3,101,967.
- Wyrrough, David J. 3,106,421.
- Yearley, Bernard C., Norton, and Gavin. 3,094,749.
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- National Cleveland Corp.: *See—*
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- National Co., Inc.: *See—*
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- Knapp, Guenther. 3,107,285.
- Knight, George A. 3,112,976.
- McCoubrey, Arthur O., and Ganssen. 3,080,519.
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- National Cooperatives, Inc.: *See—*
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- National Dairy Products Corp.: *See—*
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- Kraft, George H., and Podlesak. 3,080,238.
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- Partyka, Anthony. 3,093,485.
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- National Distillers and Chemical Corp.: *See—*
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- Braus, Harry, and Cohen. 3,111,380.
- Braus, Harry, and Homberg. 3,088,973.
- Braus, Harry, and Homberg. 3,098,848.
- Carlson, Eugene C., and Muller. 3,098,722.
- Clark, Jesse K. 3,097,289.
- Cochrane, Richard H. 3,083,513.
- Cohen, Howard J. 3,086,983.
- Commisso, Nicholas D. 3,088,244.
- Corbett, Herbert O. 3,086,648.
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- Dean, Ralph K., Slatkovski, and Wegner. 3,098,267.
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- Feldman, Julian, Saffer, and Allgeier. 3,088,982.
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- Hobin, Martin A., and Foos. 3,114,600.
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- Hungerford, Gordon P., Cooper, and Kaufman. 3,088,844.
- James, Albert L. 3,113,883.
- Lerman, Frank, and Bohnlofink. 3,099,697.
- Mador, Irving L., and Blackham. 3,114,762.
- Mador, Irving L., and Robinson. 3,111,543.
- Morton, Lester C. 3,087,529.
- Murib, Jawad H. 3,088,797.
- Murib, Jawad H. 3,111,373.
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- Nobis, John F., and Frank. 3,089,858.
- Nobis, John F., Mador, and Robinson. 3,111,543.
- Palmer, William H., and Hannon. 3,114,169.
- Porter, Glenn M. 3,090,269.
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- Schott, Stuart, and Hansley. 3,086,847.
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- National Laboratories and Mfg. Corp.: *See*—  
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Clearfield, Abraham. 3,104,248.  
Cobb, Vincent J. 3,105,743.  
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- National Mfg. Corp.: *See*—  
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- National Mine Service Co.: *See*—  
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- National Rejectors, Inc.: *See*—  
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- National Rubber Machinery Co.: *See*—  
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- National Smelting Co. Ltd., The: *See*—  
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- Nelson, Adolph J.: *See*—  
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- Nelson, Dwight M. Adjustable rear view mirror. 3,076,384, 2-5-63, Cl. 88—77.
- Nelson, Earl W., and T. J. Crossley, to American Cyanamid Co. Iron chloride combustion. 3,092,456, 6-4-63, Cl. 23—200.
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- Nelson, Florian N. Process for the growing and rooting of plants in a synthetic soil. Re. 25,438, 8-27-63, Cl. 47—58.
- Nelson, Fred O., to Milprint, Inc. Compartmented container arranged to simultaneously heat food in the various sections at differing heat rates. 3,079,913, 3-5-63, Cl. 126—390.
- Nelson, Fredrych P. Swimming paddles. 3,111,694, 11-26-63, Cl. 9—307.
- Nelson, George, and J. F. Pile, to Herman Miller, Inc. Drawer stack. 3,110,534, 11-12-63, Cl. 312—330.
- Nelson, George E. N.: *See*—  
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- Nelson, Glenn A., to Electric Lighting, Inc. Fluorescent lamp socket. 3,111,353, 11-19-63, Cl. 339—50.
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- Nelson, Gunner E., to Ethyl Corp. Preparation of lead cyanate. 3,116,107, 12-31-63, Cl. 23—75.
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- Nelson, John W., to Sinclair Research Inc. Calcium alkenyl succinate grease. 3,076,763, 2-5-63, Cl. 252—39.
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- Nelson, Norman A., to Jersey Production Research Co. Liquid volume compensator. 3,100,396, 8-13-63, Cl. 73—223.
- Nelson, Norman A., to Jersey Production Research Co. Gas lift operation of wells. 3,111,906, 11-26-63, Cl. 103—231.
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- Nelson, Paul H., to The Stanley Works. Pivot assembly for doors. 3,078,502, 2-26-63, Cl. 16-176.
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- Nelson, Paul H., to Landers, Frary & Clark. Stopper and cap assembly for a container. 3,111,238, 11-19-63, Cl. 215-48.
- Nelson, Paul R. Saw blade. 3,091,266, 5-28-63, Cl. 143-133.
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- Nelson, Richard L., to Brooklyn Products. Shampooer with configured compressible foam applicator roller. 3,104,413, 9-24-63, Cl. 15-529.
- Nelson, Robert C. Automatic radar monitor and alarm device. 3,093,820, 6-11-63, Cl. 343-5.
- Nelson, Robert E., to Energy Conversion, Inc. Thermoelectric control system. 3,111,008, 11-19-63, Cl. 62-3.
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- Nelson, Sydney. Plastic buoys. 3,071,788, 1-8-63, Cl. 9-8.3.
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- Bunting, William W., Jr., and Nelson. 3,110,151.
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- Nelson, Vernon L. Rock cutting apparatus. 3,103,922, 9-17-63, Cl. 125-13.
- Nelson, Wayne F., to Koehring Co. Flow control device. 3,072,145, 1-8-63, Cl. 137-525.1.
- Nelson, Wilford A. Apparatus for cleaning fruit such as berries and the like. 3,075,214, 1-29-63, Cl. 15-3.11.
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- Nemenoff, Bernard G.: *See*—  
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- Nemeth, Robert C. Pressure gauge and method of operation. 3,070,992, 1-1-63, Cl. 73-40.7.
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- Nemsky, Philip. Bank with combination locking means. 3,104,052, 9-17-63, Cl. 232-4.
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- Neracher, Otto E., and M. W. Winicov, to West Laboratories, Inc. Germicidal compositions. 3,102,839, 9-3-63, Cl. 167-17.
- Neracher, Otto E., and M. W. Winicov, to West Laboratories, Inc. Surface active phenoxy, ethoxylated hydroxy propylamines. 3,102,912, 9-3-63, Cl. 260-570.7.
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- Nerheim, Arvie G., to Standard Oil Co. Fractionator with plastic spinning band. 3,080,303, 3-5-63, Cl. 202-153.
- Nerheim, Arvie G., to Standard Oil Co. Apparatus and method for testing liquids. 3,080,746, 3-12-63, Cl. 73-53.
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- Nerheim, Arvie G., to Standard Oil Co. Gas density balance employing differential flow measurement. 3,091,113, 5-28-63, Cl. 73-30.
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- Nervik, John M., to Bell Telephone Laboratories, Inc. Telephone traffic data recorder. 3,075,046, 1-22-63, Cl. 179-8.
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- Nesbit, Harold A., to Patent Resources, Inc. Crane boom safety apparatus. 3,092,261, 6-4-63, Cl. 212-59.
- Nesh, Florence. Determination of trace amounts of water in other fluids. 3,106,836, 10-15-63, Cl. 73-53.
- Nesin, William Z. Aerosol valve permitting fast injection. 3,096,003, 7-2-63, Cl. 222-394.
- Neslund, Eddie E. Dial indicator caliper gage. 3,070,891, 1-1-63, Cl. 33-178.
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- Neugebauer, Gerhardt C. Wrist band illuminating device. 3,078,364, 2-19-63, Cl. 240-6.43.
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- Neuhauser, William J., to Reynolds Metals Co. Roll stacking device. 3,091,348, 5-28-63, Cl. 214-10.5.
- Neujahr, Roy E. Stabilizing means for drawers and the like. 3,103,901, 9-17-63, Cl. 108-137.
- Neukom, Alfred, to H. A. Schlatter Aktiengesellschaft. Apparatus for removing burrs from the inside of pipes and the like. 3,103,834, 9-17-63, Cl. 77-2.
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- Neumann, Willy, to Babcock & Wilcox, Ltd. Classifying apparatus. 3,098,036, 7-16-63, Cl. 209-144.
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- Neuworth, Martin B.: See—
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- Kulik, Metro D., and Neuworth. 3,071,621.
- Kulik, Metro D., and Neuworth. 3,071,625.
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- Laufer, Robert J., and Neuworth. 3,071,622.
- Neuworth, Martin B., to Consolidation Coal Co. Process for preparing ortho-sec-alkyl thiophenols using BF<sub>3</sub>-H<sub>3</sub>PO<sub>4</sub> complex as catalyst. 3,076,850, 2-5-63, Cl. 260-609.
- Neuworth, Martin B., to Consolidation Coal Co. Process for preparing para-t-alkyl thiophenols using BF<sub>3</sub>-H<sub>3</sub>PO<sub>4</sub> complex as catalyst. 3,076,851, 2-5-63, Cl. 260-609.
- Neuworth, Martin B., to Consolidation Coal Co. Double solvent refining of tar. 3,079,326, 2-26-63, Cl. 208-45.
- Neuworth, Martin B., and E. B. Hotelling, to Consolidation Coal Co. Process for preparing ortho-sec-alkyl thiophenols using BF<sub>3</sub> as catalyst. 3,076,849, 2-5-63, Cl. 260-609.
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- Neuzenghammer Ambosswerk, Messer- und Stahlwarenfabrik Malzacher K.G., Pa.: See—
- Malzacher, Hans. 3,116,180.
- Nevada Air Products Co.: See—
- Juenke, Vern S. 3,077,124.
- Neville Enterprises, Inc.: See—
- Levinson, Neville. 3,094,951.
- Neville, Hugh, Jr., and F. W. Longson, to Anawan Plastics & Machine Corp. Bowling ball lift. 3,094,328, 6-18-63, Cl. 273-49.
- Neville, James R. Oxygen sensor. 3,071,530, 1-1-63, Cl. 204-195.
- Nevin, Ira, and A. I. Fader, to Bakers Pride Oven Co., Inc. Smoke hood. 3,082,680, 3-26-63, Cl. 98-115.
- Nevin, Robert B. Means and method for improving combustion in internal combustion engines. 3,091,229, 5-28-63, Cl. 123-119.
- Nevin, Robert L., to Helm Machine Products, Inc. Food product slicing machine. 3,096,583, 7-9-63, Cl. 31-25.
- Nevitt, Thomas D., and H. S. Seelig, to Standard Oil Co. Process of dehydrogenation of o-amino biphenyls and diphenyl amines to produce carbazoles. 3,085,095, 4-9-63, Cl. 260-315.
- Nevo-Hachohen, Jacob I.,  $\frac{1}{2}$  to R. H. Rines. Process for the manufacture of fertilizers and the like. 3,092,487, 6-4-63, Cl. 71-37.
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- New, Russel W., to Meter-All Mfg. Co., Inc. Coin-operated time cycle device. 3,114,443, 12-17-63, Cl. 194-1.
- New, Thorndike C. T., to Westinghouse Electric Corp. Method and apparatus for the fabrication of alloyed transistors. 3,073,006, 1-15-63, Cl. 29-25.3.
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- Newallis, Peter E., to Monsanto Chemical Co. Organophosphorus esters. 3,106,565, 10-8-63, Cl. 260-332.1.
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- Neway Equipment Co.: See—
- Masser, Lloyd D. 3,081,134.
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- Bell, Millard J., and Hinds. 3,096,727.
- Newberg, Gerald, to Potter Instrument Co., Inc. Tape reel torque control system for tape handlers. 3,104,071, 9-17-63, Cl. 242-55.12.
- Newberry, James R., and J. B. O'Hara, to Olin Mathieson Chemical Corp. Separation of diborane from an admixture of diborane and hydrogen. 3,108,856, 10-29-63, Cl. 23-204.
- Newberry, Sterling P., to General Electric Co. Photographic storage system. 3,106,700, 10-8-63, Cl. 340-173.
- Newbery, Edward V., to The General Electric Co. Ltd. Telephone dialling indicator. 3,107,278, 10-15-63, Cl. 179-90.
- Newbold, Albert G., to Trainer Associates Inc. Ground digging auger. 3,094,178, 6-18-63, Cl. 175-388.
- Newbold, William F., to Minneapolis-Honeywell Regulator Co. Electronic controller. 3,081,425, 3-12-63, Cl. 323-22.



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- Ash, Stanley P. 3,077,864.
- Fenn, Raymond T. 3,078,657.
- Retz, William B. 3,081,523.
- New Brunswick Scientific Co., Inc.: *See*—
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- Libit, Sidney M., and Newby. 3,111,245.
- Newby, Billie J., to United States of America, Atomic Energy Commission. Precipitation of zirconium and fluoride ions from solutions. 3,093,452, 6-11-63, Cl. 23-14.5.
- Newby, Murrell P., to Minneapolis-Honeywell Regulator Co. Externally threaded encapsulated electronic module. 3,109,880, 11-5-63, Cl. 174-35.
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- Chapin, Daryl M., and Newby. 3,083,357.
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- Merrill, Bennett W. 3,082,817.
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- Newcomb, Cyrus B., Jr., to A. B. Chance Co. Covers for electrical equipment. 3,079,457, 2-26-63, Cl. 174-5.
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- Broughton, Arthur E. 3,111,957.
- Newcomb Electronics Corp.: *See*—
- Hawkins, William R. 3,090,661.
- Newcomb, Francis B., and J. W. Fitzsimmons, to American Can Co. Container. 3,082,904, 3-26-63, Cl. 220-44.
- Newcomb, John F. Adjustably positioned control means for power presses and other machine tools. 3,080,490, 3-5-63, Cl. 307-112.
- Newcomb, John F., to Allied Products Corp. Retainer removal means. 3,106,122, 10-8-63, Cl. 83-698.
- Newcomb, Philip P., to United Aircraft Corp. Nozzle construction. 3,099,909, 8-6-63, Cl. 60-35.6.
- Newcomb, Philip P., and A. Hasbrouck, to United Aircraft Corp. Combination turbojet and ramjet engine. 3,091,082, 5-28-63, Cl. 60-35.6.
- Newcomer, Everett J., to City Vending Equipment Corp. Article dispensing mechanism comprising a plurality of endless conveyors. 3,089,612, 5-14-63, Cl. 221-11.
- Newcomer, Harold F., to Landis Tool Co. Lubricating means for machine tool spindles. 3,104,921, 9-24-63, Cl. 308-122.
- Newcomer, Jack S.: *See*—
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- Linder, Jerome, Newcomer, and Smith. 3,105,848.
- Newcomer, Jack S., J. Linder, and K. J. Smith, to Hooker Chemical Corp. Preparation of a mixture of 1 part 2,3,6- and 3 parts 2,3,5-trichlorobenzoic acids. 3,096,367, 7-2-63, Cl. 260-515.
- Newell, Allen F., and W. L. Stephenson, to North American Philips Co. Inc. Push-pull transistor inverter. 3,098,202, 7-16-63, Cl. 331-114.
- Newell, Chester W., to Ampex Corp. Magnetic tape recording and/or reproducing system. 3,103,553, 9-10-63, Cl. 178-5.4.
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- Newell, Frederick T.: *See*—
- Risley, Roger E., and Newell. 3,106,069.
- Newell, George C.: *See*—
- Evelyn, George B., Newell, and Peterson. 3,101,918.
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- Newell, Isaac L., and W. F. Houlihan. Zinc plating brightener. 3,112,251, 11-26-63, Cl. 204-55.
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- Newell, Robert E. Hand washing machine. 3,081,471, 3-19-63, Cl. 15-21.
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- Newell, William H., to Sperry Rand Corp., Ford Instrument Co. Division. Inertial navigation system. 3,087,333, 4-30-63, Cl. 73-178.
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- New England Materials Laboratory, Inc.: *See*—
- Grant, Nicholas J., Zwilsky, and Bufford. 3,105,760.
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- Newey, Herbert A., and R. T. Holm, to Shell Oil Co. Epoxy esters of polyhalo-polycyclic acids. 3,106,536, 10-8-63, Cl. 260-2.
- Newgard, Henry J. Pool cover. 3,110,908, 11-19-63, Cl. 4-172.
- Newhall, Donald H., to Harwood Engineering Co. Poppet valve. 3,095,900, 7-2-63, Cl. 137-516.25.
- Newhall, Edmund E., to Bell Telephone Laboratories, Inc. Magnetic control circuits. 3,116,421, 12-31-63, Cl. 307-88.
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- Newhouse, Paul D., to Westinghouse Electric Corp. Signal selector circuit for passive detection apparatus. 3,077,601, 2-12-63, Cl. 325-303.
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- Newhouse, Vernon L., and J. W. Bremer, to General Electric Co. Cryogenic electronic gating circuit. 3,076,102, 1-29-63, Cl. 307-88.5.
- Newhouse, Vernon L., and A. S. Rettig, to Radio Corp. of America. Shifting apparatus. 3,076,181, 1-29-63, Cl. 340-174.
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- Newland, Arthur E., and A. J. Schultz, 40% to said Newland, 5% to M. Pratt, 2% to I. E. Huckleberry, 20% S. Sohacki, 5% to R. H. Woolery, 3% to A. M. Clark, 5% to J. K. Spears, and 10% each to L. E. Cornwell, and The National Bank of Indianapolis, executors of P. H. Cornwell, deceased. Sphygmometer apparatus. 3,086,513, 4-23-63, Cl. 128-2.05.
- Newland, Gordon C., and J. A. Van Allan, to Eastman Kodak Co. Cross-linked olefinic polymers. 3,075,950, 1-29-63, Cl. 260-66.
- Newland, Gordon C., and J. H. Chaudet, to Eastman Kodak Co. Heat and light stable polypropylene compositions. 3,096,302, 7-2-63, Cl. 260-45.95.
- Newland, Paul W., Sr., to Ansul Chemical Co. Hydro-flame arrester. 3,109,593, 11-5-63, Cl. 239-275.
- Newmaker, Frederick C., Jr., to The Dow Chemical Co. Packaging method. 3,096,602, 7-9-63, Cl. 53-22.
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- Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Duplication with heat-meltable solvent for hectographic coloring material. 3,088,028, 4-30-63, Cl. 250-65.1.
- Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Duplicating. 3,088,402, 5-7-63, Cl. 101-149.4.
- Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Pressure sensitive transfer elements and method for preparing same. 3,102,824, 9-3-63, Cl. 117-36.1.
- Newman, Douglas A., to Columbia Ribbon and Carbon Mfg. Co., Inc. Thermographic reproduction composite wherein a calcium carbonate layer is affected by a transferred heat-sensitive material. 3,109,748, 11-5-63, Cl. 117-36.7.



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- Newman, Douglas A., and A. T. Scholtzhauser, to Columbia Ribbon and Carbon Mfg. Co., Inc. Supercoated transfer elements. 3,080,954, 3-12-63, Cl. 197-172.
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- Newman, Earl C. Electrical circuit controllers. 3,096,414, 7-2-63, Cl. 200-113.
- Newman, Ernest G., R. J. Sippel, and R. A. Skov, to International Business Machines Corp. Skew correction system. 3,103,000, 9-3-63, Cl. 340-174.1.
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- Newman, Hugo, to Swingline, Inc. Fluted cutter. 3,106,191, 10-8-63, Cl. 120-96.
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- Newman, Richard. Slip-ring construction for power cable reel. 3,102,765, 9-3-63, Cl. 339-5.
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- Newman, Stanley H. Gas valve and burner. 3,096,636, 7-9-63, Cl. 67-7.1.
- Newman, Victor. Shirred fabric and apparatus for producing same. 3,104,633, 9-24-63, Cl. 112-2.
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- Nordeng, Adolph. Separable section post of culvert marker. 3,081,848, 3-19-63, Cl. 189—28.
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Stoddard, Stephen D., Nuckolls, and Cowan. 3,116,350.
- Nuclear-Chicago Corp.: *See*—  
Frank, Richard B. 3,089,085.  
Shevick, Philip. 3,103,588.
- Nuclear Corp. of America: *See*—  
Kleber, Eugene V. 3,113,991.  
Love, Bernard. 3,083,094.  
Vickery, Ronald C. 3,080,320.  
Vickery, Ronald C. 3,097,714.  
Vickery, Ronald C. 3,111,467.
- Nuclear Corp. of America, Inc.: *See*—  
Morganstern, Kennard H. 3,100,840.  
Niles, John R. 3,084,797.  
Novy, Virgil F., and Kirkpatrick. 3,074,829.  
Waller, Milton M. 3,113,521.
- Nuclear Materials and Equipment Corp.: *See*—  
Eck, John E., and Cain. 3,097,154.  
Weber, Sylvester A., and Connelley. 3,111,394.
- Nuclear Metals, Inc.: *See*—  
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- Nuclear Products Co.: *See*—  
Callahan, Francis J., Jr. 3,104,090.  
Zaburanec, Emery J. 3,087,704.
- Nudenberg, Walter: *See*—  
Karasch, Morris S., and Nudenberg. 3,090,808.  
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- Nugent, Wm. W., & Co. (Inc.): *See*—  
Petri, Andrew W. 3,080,646.
- Nugey, Anthony L. Receptacle for packaging liquid containers. 3,087,667, 4-30-63, Cl. 229-52.
- Nuissi, Carl: *See*—  
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- Nu-Line Industries, Inc.: *See*—  
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- Null, Fay E.: *See*—  
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- Numata, Takanobu: *See*—  
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- Numerof, Paul, and G. Lindenblad, to Olin Mathieson Chemical Corp. Surgical sponges. 3,074,406, 1-22-63, Cl. 123-296.
- Nurich, Fred H., to United States of America, Navy. Window and passive interference generator. 3,109,046, 10-29-63, Cl. 35-10.4.
- Nunlist, Erwin J., to Pfaunder Permutit, Inc. Apparatus for coupling shafts. 3,101,962, 8-27-63, Cl. 287-114.
- Nunn, Edwin C., to Minco Products, Inc. Miniature precision resistance element. 3,114,890, 12-17-63, Cl. 338-270.
- Nuorivaara, Enzo. Assembly of boards. 3,085,301, 4-16-63, Cl. 63-92.
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- Nurme, Udo. Fish lure. 3,087,273, 4-30-63, Cl. 43-42.06.
- Nurme, Karl, to Aktiebolaget Urfabriken. Line-arresting device in reels for fishing rods. 3,077,319, 2-12-63, Cl. 242-84.21.
- Nurme, Karl, to Aktiebolaget Urfabriken. Fishing reel with reciprocable spool. 3,094,296, 6-18-63, Cl. 242-84.21.
- Nurme, Karl, to Aktiebolaget Urfabriken. Spinning reel. 3,108,760, 10-29-63, Cl. 242-84.2.
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- Nusbaum, Mortimer. Floor or like tile. 3,082,488, 3-26-63, Cl. 20-8.
- Nusbaum, Wellman E. Flow meter. 3,098,384, 7-23-63, Cl. 73-228.
- Nusinoff, Willy. Boat bumper. 3,109,405, 11-5-63, Cl. 114-219.
- Nuss, Maynard M., to Skee-Bird Mfg. Co., Inc. Ski sled. 3,107,923, 10-22-63, Cl. 280-21.
- Nussbaum, Eugen. Slideless heddle frame. 3,071,164, 1-1-63, Cl. 139-92.
- Nussbaum, Sam: *See*—  
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- Nute, Jay H., and J. A. Ring, to The Patent and Licensing Corp. Carton with carrier handle. 3,076,591, 2-5-63, Cl. 229-52.
- Nutlie, Anthony N.: *See*—  
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- Nutone, Inc.: *See*—  
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Spear, Walter A., Turner, and Meeker. 3,087,411.
- Nutrilite Products, Inc.: *See*—  
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- Nutt, Eric V.: *See*—  
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- Nuttall, John M., to Baker Perkins Inc. Detinning bakery goods. 3,099,345, 7-30-63, Cl. 198-145.
- Nutter, Walter, S. L. Cole, D. T. Denson, and W. Slater, to T.M.M. (Research) Ltd. Apparatus for treating textile materials. 3,111,718, 11-26-63, Cl. 19-105.
- Nutting, Arthur, to American Air Filter Co., Inc. Unit filter assembly. 3,075,334, 1-29-63, Cl. 55-357.
- Nutting, Donald W. Book holder. 3,091,886, 6-4-63, Cl. 45-35.
- Nutzel, Karl, R. Stroh, E. Himmen, and W. Lohmar, to Farbenfabriken Bayer Aktiengesellschaft. Fuels for internal combustion engines. 3,080,221, 3-5-63, Cl. 44-69.
- Nuzzo, Charles. Saddle tree construction. 3,088,259, 5-7-63, Cl. 54-44.
- Nyberg, Ake L., to Svenska Rotor Maskiner Aktiebolag. Rotary regenerative heat exchanger. 3,114,413, 12-17-63, Cl. 165-7.
- Nyberg, Curt E.: *See*—  
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- Nyberg, Gunder W. Saw chain holding and filing apparatus. 3,089,351, 5-14-63, Cl. 76-36.
- Nyberg, James J., to Thompson Ramo Wooldridge Inc. Logical circuits employing saturable core inductors. 3,113,216, 12-3-63, Cl. 307-88.
- Nyberg, Johan E. Crusher apparatus. 3,107,063, 10-15-63, Cl. 241-212.
- Nyberg, Johan E. Gyratory crusher assembly. 3,109,600, 11-5-63, Cl. 241-211.
- Nyberg, Sture, to Anstalt Europaische Handelgesellschaft. Permutation switch. 3,093,714, 6-11-63, Cl. 200-43.
- Nyborg, Meredith M. Automatic soldering machine. 3,089,220, 5-14-63, Cl. 29-25.42.
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- Nydam, John H., to Whitin Machine Works. Fringe control blade for combing machine. 3,103,041, 9-10-63, Cl. 19-225.
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- Nye, Maurice A., and J. C. Bittman, to The Vaughn Machinery Co. Wire packaging machine. 3,097,812, 7-16-63, Cl. 242-82.
- Nye, Maurice A., and J. C. Bittman, to The Vaughn Machinery Co. Apparatus for continuously modifying the temperature of wire and the like. 3,098,109, 7-16-63, Cl. 266-3.
- Nygaard, Edwin M., and E. A. Oerbricht, to Socony Mobil Oil Co., Inc. Lubricating oil containing zinc carboxylate-coordinated zinc dithiophosphates. 3,102,096, 8-27-63, Cl. 252-32.7.
- Nygren, Arnold C., and W. A. Bjorn, to Shawmut Engineering Co. Yarn spool control mechanism for looms. 3,072,152, 1-8-63, Cl. 139-7.
- Nygren, Otto J. Garbage can cover holder. 3,096,063, 7-2-63, Cl. 248-292.
- Nyholm, Ronald S., to Wyandotte Chemicals Corp. Pyrazine-metal salt complexes. 3,086,973, 4-23-63, Cl. 260-242.
- Nyitrai, Ernest S. Work-locating means for machine tool work holders. 3,109,242, 11-5-63, Cl. 33-174.
- Nylen, Ronald J.: *See*—  
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- Nylok Corp., The: *See*—  
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Buckley, Timothy J. 3,079,969.
- Nylong Corp.: *See*—  
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- Nyman, Bo C. G., to Alwac International, Inc. Methods and apparatus for mixing fluids. 3,110,294, 11-12-63, Cl. 123-119.
- Nyman, Donald A. Concrete form structure. 3,074,142, 1-22-63, Cl. 25-131.
- Nyman, Elving A. Folding two-bunk beds and the like. 3,070,813, 1-1-63, Cl. 5-9.
- Nyman, Hugo, and P. M. Devendorf, to The Sargent Engineering Corp. Rotary motor or pump. 3,081,708, 3-19-63, Cl. 103-161.
- Nyman, Karl B. G., to Skanska Attikfabriken A.B. Toilet seat. 3,072,925, 1-15-63, Cl. 4-237.
- Nyman Mfg. Co.: *See*—  
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- Nyquist, Arthur S., and A. D. Myers, to American Cyanamid Co. Coating molded aminoplast articles with polyureas. 3,096,208, 7-2-63, Cl. 117-138.8.
- Nyquist, Frederick W.: *See*—  
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- Nyquist, Roy A., J. T. Zellers, Jr., and C. A. Mewbourne, to Libbey-Owens-Ford Glass Co. Sheet glass forming apparatus. 3,107,162, 10-15-63, Cl. 65-196.
- Nys, Jean M.: *See*—  
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- Nysted, Leonard N., and R. Pappo, to G. D. Searle & Co. Ozonolysis process and intermediates in the manufacture of 17-oxygenated 2-oxa-5a-androstan-3-ones. 3,109,016, 10-29-63, Cl. 260-468.



- Nystrand, Ernst D., to Paper Converting Machine Co., Inc. Strip bag-producing machine. 3,107,585, 10-22-63, Cl. 93-8.
- Nystrand, Ernst D., and R. E. Small, to Paper Converting Machine Co., Inc. Winder loader. 3,071,259, 1-1-63, Cl. 214-1.
- Nystrom, Axel C., to Western Electric Co., Inc. Strand control apparatus. 3,099,412, 7-30-63, Cl. 242-47.01.
- Nystul, Orville C.: *See*—
- Sundblad, Helmer A., and Nystul. 3,084,349.
- Nyswaner, Chester R., and W. H. Turner. Lock nut. 3,087,525, 4-30-63, Cl. 151-20.
- O.K. Machine and Tool Corp.: *See*—
- Ciejka, Rudolph J., and Mayerson. 3,075,277.
- O.K. Tool Co., Inc. The: *See*—
- Comire, Donald E. 3,087,230.
- Payne, Oscar V. 3,079,671.
- O-M Co., Ltd.: *See*—
- Haneda, Seisaku, and Ariga. 3,102,305.
- O-M Ltd.: *See*—
- Haneda, Seisaku, and Ariga. 3,074,120.
- Oak Mfg. Co.: *See*—
- Cappelle, Norman D., Kornacker, and Ma. 3,096,665.
- Ma, John Y. 3,111,636.
- Oakes, Alfred C. and W. W., and C. Hatfield, to Pittsburgh Plate Glass Co., Inc. Glass snapping apparatus. 3,072,308, 1-8-63, Cl. 225-96.5.
- Oakes, Billy D.: *See*—
- Harrison, Hugh T., and Oakes. 3,107,221.
- Monroe, Roger F., Kucera, Oakes, and Johnston. 3,077,454.
- Monroe, Roger F., Lowes, Foster, and Oakes. 3,079,345.
- Oakes, Billy D., to The Dow Chemical Co. Corrosion inhibition. 3,077,453, 2-12-63, Cl. 252-147.
- Oakes, Billy D., to The Dow Chemical Co. Propargyl 2,2,2-trifluoroethyl ether. 3,077,501, 2-12-63, Cl. 260-614.
- Oakes, David T., to Monsanto Chemical Co. Low fluid loss compositions. 3,112,266, 11-26-63, Cl. 252-8.55.
- Oakes, David T., to Monsanto Chemical Co. Secondary recovery technique. 3,113,617, 12-10-63, Cl. 166-9.
- Oakes, David T., to Monsanto Chemical Co. Secondary recovery technique. 3,113,618, 12-10-63, Cl. 166-9.
- Oakes, E. T. Corp. The: *See*—
- Oakes, Earle T. 3,081,069.
- Oakes, Earle T., Doom, McElligott, and Sundheim. 3,072,486.
- Oakes, Earle T., to The E. T. Oakes Corp. Mixing apparatus. 3,081,069, 3-12-63, Cl. 259-8.
- Oakes, Earle T., L. G. Doom, P. A. McElligott, and P. E. Sundheim, to The E. T. Oakes Corp. Preparation for soluble milk powder. 3,072,486, 1-8-63, Cl. 99-56.
- Oakes, Edwin I.: *See*—
- Erhardt, Edward T., and Oakes. 3,090,967.
- Oakes, George W. Ball-and-seat valves. 3,101,484, 8-27-63, Cl. 4-57.
- Oakes, George W. Readily detachable electric plug. 3,107,962, 10-22-63, Cl. 329-74.
- Oakes, Harry C., Jr. Method of applying a protective closure to a threaded opening. 3,113,377, 12-10-63, Cl. 29-523.
- Oakes, Wayne W.: *See*—
- Oakes, Alfred C. and W. W., and Hatfield. 3,072,308.
- Oakey, William E.: *See*—
- Brown, Robinson W., and Oakey. 3,097,532.
- Oakland, John B. Support and rest device for a flush toilet. 3,090,051, 5-21-63, Cl. 4-254.
- Oakland Metal Fabricators, Inc.: *See*—
- Brown, James A., Pennell, and Jacke. 3,101,089.
- Oakley, Alan P., to The Raleigh Cycle Co. Ltd. Cycle frames. 3,091,479, 5-28-63, Cl. 280-281.
- Oakley, Henry D.: *See*—
- Taylor, Clement F., Macintyre, and Oakley. 3,110,180.
- Oakley, John. Pivotal insert for shoe sole. 3,081,562, 3-19-63, Cl. 36-8.3.
- Oakley, John R., to The Metal Box Co., Ltd. Apparatus for setting up cartons. 3,087,391, 4-30-63, Cl. 93-51.
- Oakman, Albert S., and M. J. Sakatos, to Allied Control Co., Inc. Push button switch. 3,073,934, 1-15-63, Cl. 200-159.
- Oak Ridge Atom Industries, Inc.: *See*—
- Speas, Clarence J., and Andrews. 3,104,497.
- Oanes, Orville: *See*—
- Schilling, Lorell J., and Oanes. 3,115,116.
- Oarco, Inc.: *See*—
- Simpkins, Ralph A. 3,072,399.
- Oates, Frank B.: *See*—
- Kelley, Gilbert A., Rohm, and Oates. 3,106,747.
- Oatley, Arthur F. Mincing machine. 3,081,806, 3-19-63, Cl. 146-189.
- Oatman, Thomas D., and G. F. Dixon, to General Electric Co. Coupling removing tool. 3,112,386, 11-26-63, Cl. 219-7.5.
- Obara, Kiyoshi: *See*—
- Nagata, Kuniichi, and Obara. 3,087,989.
- Obellianne, Pierre M. J.: *See*—
- Sureau, Robert F. M., Kremer, and Obellianne. 3,084,988.
- Obenauf, Carl F.: *See*—
- Noznick, Peter P., Tatter, and Obenauf. 3,098,746.
- Obenshain, David N., to West Virginia Pulp and Paper Co. Precise web metering device. 3,083,602, 4-2-63, Cl. 83-75.
- Oberbach, Josef. Center guide strip for dual roadways. 3,114,303, 12-17-63, Cl. 94-1.5.
- Oberg, Fred N.: *See*—
- Snow, Robert E., and Oberg. 3,078,996.
- Oberg, John L., to Asbrink & Co., Aktiebolaget. Mobile pneumatic cleaning devices. 3,105,991, 10-8-63, Cl. 15-320.
- Oberg, Walter J. Vaporizer. 3,090,857, 5-21-63, Cl. 219-38.
- Oberholtzer, Robert E.: *See*—
- Kaffine, Heinrich O., and Oberholtzer. 3,080,837.
- Oberholtzer, Robert E., and H. O. Kaffine, deceased (M. E. Kaffine, administratrix), to James Lees and Sons Co. Method of making pile fabrics with loops of different heights. 3,112,721, 12-3-63, Cl. 112-266.
- Oberley, William J., and I. S. Goldstein, to Koppers Co., Inc. Treatment of wood with hot chromated copper arsenate solutions. 3,080,212, 3-5-63, Cl. 21-7.
- Oberly, Louis A., to Midland-Ross Corp. Winding apparatus. 3,097,805, 7-16-63, Cl. 242-43.
- Obermaner & Cie: *See*—
- Scharfenberger, Friedrich. 3,093,991.
- Obermaner, Frank E., to The Dole Valve Co. Selective automotive vacuum control valve. 3,082,953, 3-26-63, Cl. 237-2.
- Oberrender, Girard F.: *See*—
- Kane, Frank A., Jr. 3,080,858.
- Oberright, Edward A.: *See*—
- Leonardi, Samuel A., and Oberright. 3,105,820.
- Nygaard, Edwin M., and Oberright. 3,102,096.
- Oberster, Arthur E., and L. H. Sarett, to Merck & Co., Inc. 16-methyl derivatives of progesterone. 3,088,951, 5-7-63, Cl. 260-397.3.
- Oberster, Arthur E., R. E. Beyler, and L. H. Sarett, to Merck & Co., Inc. Aldosterone antagonists. 3,092,628, 6-4-63, Cl. 260-239.57.
- Oberster, Arthur E., R. E. Beyler, and L. H. Sarett, to Merck & Co., Inc. Haloethisterone compounds. 3,100,204, 8-6-63, Cl. 260-239.55.
- Oberto, Edwin L.: *See*—
- Bell, George R., Oberto, and Fraser. 3,112,885.
- Oblinger, James T.: *See*—
- Ammerman, Charles R., Schneider, and Oblinger. 3,111,634.
- Oborski, Zygfryd: *See*—
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- O'Boyle, Charles M.: *See*—
- Phillips, Clifford F., and Stultz. 3,103,063.
- O'Brian, Edward D.: *See*—
- Bourne, Marlan E., Boode, and O'Brian. 3,085,217.
- Bourne, Marlan E., Boode, and O'Brian. 3,092,801.
- O'Brian, Robert E., M. D. and E. D. 3,106,472.
- O'Brian, Mabel D.: *See*—
- O'Brian, Robert E., M. D. and E. D. 3,106,472.
- O'Brian, Paul L.: *See*—
- Close, Patrick B., Coulter, Ditmer, Fahrenbruck, Goldammer, Goodrick, Gulden, Holloran, Jenkins, Kilheffer, Kinker, Lyons, Manor, Marvin, Miller, O'Brian, Randall, Garner, Sather, Yost, and Braden. 3,112,394.
- O'Brian, Robert E., M. D. and E. D. Method of treating edible oils and greases. 3,106,472, 10-8-63, Cl. 99-118.
- O'Brian, Donald L.: *See*—
- Johnson, Lemoine L., O'Brein, and Watson. 3,109,715.
- O'Brien, Edward D., and W. C. Funk. Centrifugal separator. 3,089,596, 5-14-63, Cl. 210-369.
- O'Brien, Edward F., Jr., and J. Gerbas, to A-O Products Corp. Ventilator. 3,094,058, 6-18-63, Cl. 98-97.
- O'Brien, Edward J.: *See*—
- Wahlin, Fred W., and O'Brien. 3,072,346.
- O'Brien, Evelyn I. Continuous urinal for females. 3,072,125, 1-8-63, Cl. 128-295.
- O'Brien, Gene E., to G. E. and V. M. O'Brien. Silver reclaiming apparatus. 3,113,169, 12-3-63, Cl. 266-22.
- O'Brien, Hugh A., to International Business Machines Corp. Dual-channel sensing. 3,078,448, 2-19-63, Cl. 340-174.1.
- O'Brien, James F., and P. K. O'Connor, to The Drackett Co. Yarn mop. 3,111,700, 11-26-63, Cl. 15-229.
- O'Brien, Joseph A., to Bell Telephone Laboratories, Inc. Parity checked shift register counting circuits. 3,113,204, 12-3-63, Cl. 235-153.
- O'Brien, Leo J.: *See*—
- Bond, Donald C., and O'Brien. 3,072,191.
- O'Brien, Leo J., to The Pure Oil Co. Method of heating and producing oil wells. 3,087,545, 4-30-63, Cl. 166-39.
- O'Brien, Leo J., to The Pure Oil Co. Method of plugging a formation with beta-lactones. 3,103,248, 9-10-63, Cl. 166-33.
- O'Brien, Leo J., to The Pure Oil Co. Well-bore gas burner. 3,109,482, 11-5-63, Cl. 158-115.
- O'Brien, Loren J., to Dana Corp. Differential gearing. Re. 25,500 12-24-63, Cl. 74-710.5.
- O'Brien Mfg. Corp.: *See*—
- Siegal, Burton L. 3,106,734.
- O'Brien, Michael, to The Regents of the University of California. Bulk bin filler. 3,097,460, 7-16-63, Cl. 53-64.
- O'Brien, Richard C., to Harris-Intertype Corp. Photographic type composition. 3,099,945, 8-6-63, Cl. 95-4.5.
- O'Brien, Robert J., to Ekco-Containers Inc. Apparatus for separating and depositing nested containers. 3,108,714, 10-29-63, Cl. 221-211.
- O'Brien, Robert J., to Ekco Containers Inc. Packaging system and apparatus. 3,112,590, 12-3-63, Cl. 53-282.
- O'Brien, Samuel J.: *See*—
- Pierce, Elliot S., Slowata, and O'Brien. 3,089,778.
- Van Loo, William J., Lineken, and O'Brien. 3,084,071.



- O'Brien, Thomas E.: *See*—  
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- O'Brien, Thomas N. Cargo or load holder. 3,110,506, 11-12-63, Cl. 280—179.
- O'Brien, Verna M.: *See*—  
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- O'Brien, William D., and C. E. Pollard, Jr., to Bell Telephone Laboratories, Inc. Method of conditioning an all-position mercury switch. 3,116,384, 12-31-63, Cl. 200—112.
- O'Brien, William J. Rescue apparatus. 3,081,839, 3-19-63, Cl. 182—103.
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- Ochsner, Frederick C., and E. A. Miller, to Texas Instruments Inc. Electron discharge devices and materials therefor. 3,112,185, 11-26-63, Cl. 29—183.5.
- Ocko, Richard, to General Electric Co. Audio limiter for phase modulation circuits. 3,109,991, 11-5-63, Cl. 328—171.
- O'Coine, Marshall J., E. E. Johnson, and B. H. Warren, Jr. Counter apparatus particularly adapted for use by surveyors. 3,072,330, 1-8-63, Cl. 235—91.
- O'Connell, John J.: *See*—  
Kuhn, Albert J., and O'Connell. 3,110,158.
- O'Connell, John J., to General Motors Corp. Refrigerating apparatus. 3,070,973, 1-1-63, Cl. 62—180.
- O'Connell, John J., to General Motors Corp. Refrigerating apparatus. 3,104,533, 9-24-63, Cl. 62—149.
- O'Connell, John J., to General Motors Corp. Refrigerating apparatus with defrost means. 3,105,364, 10-1-63, Cl. 62—156.
- O'Connell, Robert A.: *See*—  
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- O'Connell, Thomas F. Seat device for a shower-bath stall. 3,096,067, 7-2-63, Cl. 248—436.
- O'Connell, William A. Floating swimming pool. 3,099,018, 7-30-63, Cl. 4—171.
- O'Connor, Buell: *See*—  
Ridgway, John A., and O'Connor. 3,085,123.
- O'Connor, Donald J., to Morton Salt Co. Dispensing closure. 3,081,005, 3-12-63, Cl. 222—189.
- O'Connor, James, Jr. Curb and gutter formers. 3,108,518, 10-29-63, Cl. 94—46.
- O'Connor, James J.: *See*—  
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- O'Connor, John A., and S. J. Matys, to The Carborundum Co. Silicon carbide resistance body and method of making the same. 3,094,679, 6-18-63, Cl. 338—330.
- O'Connor, Michael N.: *See*—  
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- O'Connor, Philip K.: *See*—  
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- Oishi, John R., to Trico Products Corp. Remotely actuated trunk lock arrangement for a motor vehicle. 3,113,447, 12-10-63, Cl. 70-262.
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- Okleja, Stanley L., to The Anderson Co. Windshield wiper arm-blade connector. 3,071,798, 1-8-63, Cl. 15-250.32.
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- Old, Albert F., to Solite Corp. Apparatus for treating a gaseous mixture. 3,105,103, 9-24-63, Cl. 261-16.
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- Olden, Roger G., to Radio Corp. of America. Corona device. 3,075,078, 1-22-63, Cl. 250-49.5.
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- Oldenburg, Kenneth F., to Clary Corp. Calculating machine. 3,104,808, 9-24-63, Cl. 235—60.31.
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- Olds, William L., and W. J. Baker, to Gardner-Denver Co. Conductor wrapping device. 3,078,052, 2-19-63, Cl. 242—7.
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- Olenik, Nicholas J., to Inland Steel Co. Transfer device. 3,082,913, 3-26-63, Cl. 222—70.
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- Olson, Cecil G.: *See—*  
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- Olson, Edwin, to Liberty Folder Co. Tabloid folding machine. 3,074,710, 1-22-63, Cl. 270-83.
- Olson, Elwood W. Engine moving apparatus. 3,107,898, 10-22-63, Cl. 254-85.
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- Olson, Everette C., to North Electric Co. Current supply apparatus. 3,079,542, 2-26-63, Cl. 323-22.
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- Olson, Harry F., to Radio Corp. of America. Stereophonic loudspeaker system. 3,105,113, 9-24-63, Cl. 179-1.
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- O'Neill, John H., and R. J. Parsons, to Sperry Rand Corp. Method for producing high temperature electrical insulation. 3,115,432, 12-24-63, Cl. 156-47.
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- O'Neill, Robert A., to Lockheed Aircraft Corp. Method and apparatus for forming conically shaped articles. 3,091,279, 5-28-63, Cl. 153-60.
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- Orlando, Eugenio. Means for splitting the edges of soft workpieces. 3,091,112, 5-28-63, Cl. 69-16.
- Orlando, Luigi E., and C. Corradi, to Alfa Romeo, S.p.A. Air-cooled internal combustion engine. 3,099,983, 8-6-63, Cl. 123-41.61.
- Orlando, Vincent A.: *See*—
- Chin, Bock M., and Orlando. 3,109,140.
- Chin, Bock M., and Orlando. 3,109,939.
- Orley, Bud: *See*—
- Womack, Archer L., Blaine, and Orley. 3,109,522.
- Orlick, Adolph and J. Educational toy device for teaching alphabets or the like by sound. 3,087,259, 4-30-63, Cl. 35-35.
- Orlick, John: *See*—
- Orlick, Adolph and J. 3,087,259.
- Orlin, William J. Supersonic nozzle. 3,104,680, 9-24-63, Cl. 138-45.
- Orloff, Daniel L.: *See*—
- Ahern, William B., and Orloff. 3,077,968.
- Orloff, Daniel L., and R. J. Keating, to Oscar Mayer & Co., Inc. Stuffing hopper unit. 3,097,392, 7-16-63, Cl. 17-35.
- Orloff, Harold D., to Ethyl Corp. Lubricating oils. 3,092,585, 6-4-63, Cl. 252-48.4.
- Orloff, Harold D., to Ethyl Corp. Sulfur bridged cyclohexyl phenols. 3,100,229, 8-6-63, Cl. 260-609.
- Orloff, Harold D., to Ethyl Corp. Stabilized jet fuel compositions. 3,102,798, 9-3-63, Cl. 44-76.
- Orloff, Harold D., and J. P. Napolitano, to Ethyl Corp. Jet fuel compositions. 3,089,762, 5-14-63, Cl. 44-78.
- Orloff, Harold D., and G. G. Knapp, to Ethyl Corp. Stabilized lubricants. 3,115,463, 12-24-63, Cl. 252-49.8.
- Orloff, Harold D., and G. G. Knapp, to Ethyl Corp. Stabilized lubricants. 3,115,464, 12-24-63, Cl. 252-49.8.
- Orloff, Harold D., and G. G. Knapp, to Ethyl Corp. Stabilized compositions of matter. 3,115,465, 12-24-63, Cl. 252-49.9.
- Orloff, Harold D., and G. G. Knapp, to Ethyl Corp. Synergistic antioxidants. 3,115,466, 12-24-63, Cl. 252-49.9.
- Orloff, John F., to Huck Mfg. Co. Rivet with a serrated pin and an annular locking member. 3,107,572, 10-22-63, Cl. 85-40.
- Orlov, Boris: *See*—
- Bleiweiss, Arthur F., Colombo, Dickson, and Orlov. 3,098,139.
- Orman, Edward C.: *See*—
- Frye, Carl L., Jr., Orman, and Davis. 3,078,620.
- Ormanns, Gottfried, and H. Hap, to Rheinmetall, G.m.b.H., Firma. Blank cartridge. 3,103,883, 9-17-63, Cl. 102-39.
- Orme, Grant L. Binding machine. 3,083,742, 4-2-63, Cl. 140-93.2.
- Ormond, Alfred N. Beam calibrator. 3,096,638, 7-9-63, Cl. 73-1.
- Ormond, Alfred N. Apparatus for measuring static loads. 3,105,564, 10-1-63, Cl. 177-211.
- Ormonoterapia Richter S.p.A.: *See*—
- De Ruggieri, Pietro, Ferrari, and Gandolfi. 3,101,358.
- De Ruggieri, Pietro, and Gandolfi. 3,114,749.
- Toccaceli, Nazzareno. 3,099,600.
- Ormsby, Raymond G., and F. J. Tremontozzi, to Corning Glass Works. Method and apparatus for forming glass. 3,098,948, 7-23-63, Cl. 317-6.
- Ormsby, Thomas F. Flexible hose pump. 3,079,868, 3-5-63, Cl. 103-149.
- Ormston, William J.: *See*—
- Lynch, George J., and Ormston. 3,098,129.
- Orndorff, John R. Aseptic surgical wound protector. 3,111,943, 11-26-63, Cl. 128-1.
- Orner, Amos B. Horizontal drilling apparatus. 3,078,933, 2-26-63, Cl. 175-219.
- Orner, Harry. Spring mechanism. 3,080,159, 3-5-63, Cl. 267-1.
- Orner, Harry. Spring mechanism. 3,080,160, 3-5-63, Cl. 267-1.
- Orner, Harry. Lock screw assembly incorporating stress indicator means. 3,087,371, 4-30-63, Cl. 85-62.
- Ornitz, Martin N., and H. R. James, deceased (E. T. James, executrix), to Blaw-Knox Co. Furnace rolls. 3,115,335, 12-24-63, Cl. 263-6.
- Oronzio de Nora Impianti Elettrochimici: *See*—
- Massner, Georg. 3,103,484.
- Orost, Joseph: *See*—
- Kroning, Robert D., and Orost. 3,090,835.
- O'Rourke, Fred C., to Plastic Applicators, Inc. Retainer assembly for securing a covering on a tubular member. 3,087,513, 4-30-63, Cl. 138-109.
- Orowan, Egon. Safety windshield for motor vehicles. 3,081,127, 3-12-63, Cl. 296-84.
- Orowan, Egon. Enterostomy appliance. 3,100,488, 8-13-63, Cl. 128-283.
- Orr Felt & Blanket Co., The: *See*—
- Kelly, Vincent C. 3,094,149.
- Orr, Harley J., and G. O. Williams, to Hobart Bros. Co. Micro wire gun and cable assembly. 3,112,392, 11-26-63, Cl. 219-130.
- Orr, Harold T. Vehicular mounted carrier. 3,105,666, 10-1-63, Cl. 248-201.
- Orr, Harold W., to Phillips Petroleum Co. Method of and apparatus for controlling a fluid separation process. 3,111,460, 11-19-63, Cl. 202-40.
- Orr, James C.: *See*—
- Bowers, Albert, Edwards, and Orr. 3,077,484.
- Bowers, Albert, Edwards, and Orr. 3,077,485.
- Bowers, Albert, Edwards, and Orr. 3,080,394.
- Bowers, Albert, Edwards, and Orr. 3,080,398.
- Bowers, Albert, Edwards, and Orr. 3,080,400.
- Bowers, Albert, Edwards, and Orr. 3,080,401.
- Bowers, Albert, Edwards, and Orr. 3,082,223.
- Bowers, Albert, and Orr. 3,086,012.
- Bowers, Albert, and Orr. 3,086,013.
- Bowers, Albert, and Orr. 3,103,523.
- Ringold, Howard, Jr., Alvarez, and Orr. 3,076,823.
- Orr, James C., J. Edwards, and A. Bowers, to Syntex Corp. 2-halo methyl derivatives of the androstane series. 3,080,395, 3-5-63, Cl. 260-397.4.
- Orr, James C., A. Bowers, and J. Edwards, to Syntex S.A. 2-difluoromethyl- $\Delta^1$  and  $\Delta^1,4$ -3-keto steroids of the pregnane series and process therefor. 3,086,015, 4-16-63, Cl. 260-239.55.
- Orr, James D.: *See*—
- Culpepper, Arthur C., Orr, and Burk. 3,082,884.
- Orr, John B. Dispensing container. 3,100,592, 8-13-63, Cl. 229-2.5.
- Orr, William R.: *See*—
- Richardson, Jasper E., and Orr. 3,102,954.
- Orr, William R., J. E. Richardson, and E. Baskir, to Shell Oil Co. Scintillation detection in well logging using fast and slow phosphors. 3,116,417, 12-31-63, Cl. 250-71.5.
- Orr, Willis P., to Jersey Production Research Co. Self-expanding retrievable or permanent bridge plug. 3,097,696, 7-16-63, Cl. 166-135.
- Orr, Willis P., to Jersey Production Research Co. Cementing of well pipe in stages. 3,097,699, 7-16-63, Cl. 166-224.
- Orr, Willis P., B. G. Agnew, and W. C. Lindsey, to Jersey Production Research Co. Tension tubing anchor. 3,104,708, 9-24-63, Cl. 166-46.
- Orrell, Joseph B.: *See*—
- Collier, Eugene L. 3,085,883.
- Orshansky, Elias, Jr. Hydraulic motor. 3,090,361, 5-21-63, Cl. 121-61.
- Orsing, John H. Saliva ejectors. 3,086,289, 4-23-63, Cl. 32-33.
- Orsinger, Albert R., and A. P. Williams, to Texas Instruments Inc. Floating roof tank gauge. 3,085,434, 4-16-63, Cl. 73-321.
- Orsolato, Giordano: *See*—
- Ausenda, Carlo, D'Epinoix, Castellini, and Orsolato. 3,094,028.
- Orsoni, Bartolomeo: *See*—
- Loertscher, Waldemar, Hess, Orsoni, and Fabris. 3,070,837.
- Orsymonde, Societe Anonyme dite: *See*—
- Lafon, Louis. 3,079,300.
- Orszulak, John J. Portable blinking warning sign and control handle. 3,075,174, 1-22-63, Cl. 340-107.
- Ort, Morris R., and W. H. Yanko, to Monsanto Chemical Co. Stabilization of organic coolants and moderators in neutron reactors. 3,113,090, 12-3-63, Cl. 204-193.2.
- Orter, Ralph H. Flush valve for water closets. 3,070,809, 1-1-63, Cl. 4-57.
- Orth, Adolf: *See*—
- Probst, Otto, Fernholz, Mundlos, Oehme, and Orth. 3,113,149.
- Orth, George O., Jr.: *See*—
- Hales, Ralph A., Le Maistre, and Orth. 3,071,599.



- Orth, George O., Jr., to Buffelen Sales Co., Inc. Method and means for pre-sealing wood surfaces. 3,090,695, 5-21-63, Cl. 117-8.
- Ortheil, Hans, to Burlington Industries, Inc. Process for dyeing blends of nylon 6 and nylon 66. 3,105,732, 10-1-63, Cl. 8-21.
- Orthner, Ludwig, M. Reuter, and F. Landauer, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Surface-active urethanes and a process for preparing them. 3,086,986, 4-23-63, Cl. 260-481.
- Orthner, Ludwig, K. Horst, A. Scharf, W. Kirst, J. Oxé, and R. Gross, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for preparing solutions of coupling components of the ice color series. 3,101,235, 8-20-63, Cl. 8-44.
- Orthopaedic Specialties Corp.: See—
- Cochran, Ulrich D., and Di Cosola. 3,103,926.
- Cochran, Ulrich D., and Di Cosola. 3,112,743.
- Orthopedic Equipment Co.: See—
- Gary, James S. 3,103,069.
- Ortho Pharmaceutical Corp.: See—
- Millman, Nathan, and Homm. 3,108,043.
- Orthuber, Richard K.: See—
- Stanley, Charles V., and Orthuber. 3,107,300.
- Ortloff, Gerald D.: See—
- West, Robert C., Ortloff, and Beeson. 3,084,743.
- Ortloff, John E., P. S. McReynolds, and B. T. Willman, to Jersey Production Research Co. Stabilizing a formation. 3,104,705, 9-24-63, Cl. 166-39.
- Ortman, Charles E., Jr., to Stanray Corp. Cutting tool and milling head insert therefor. 3,103,736, 9-17-63, Cl. 29-96.
- Ortmann & Herbst: See—
- Naecker, Uwe. 3,090,408.
- Ortner, Samuel. Tape dispensing machine. 3,088,356, 5-7-63, Cl. 83-233.
- Orton, John W.: See—
- Travis, Ernest M. 3,083,591.
- Orton, Raymond E., to The Cleveland Trencher Co. Track adjusting system. 3,082,043, 3-19-63, Cl. 305-10.
- Orton, Samuel T., Jr., to Union Associates, Inc. Apparatus for removing strings from liquid solutions. 3,102,858, 9-3-63, Cl. 210-512.
- Orwin, Olaf J. B., to Fisher & Ludlow Ltd. Conveyor installations. 3,074,357, 1-22-63, Cl. 104-172.
- Orwin, Olaf J. B., to Fisher & Ludlow Ltd. Conveyor systems. 3,076,418, 2-5-63, Cl. 104-172.
- Orwin, Olaf J. B., to Fisher & Ludlow Ltd. Conveyor systems. 3,092,038, 6-4-63, Cl. 104-172.
- Orwin, Olaf J. B., to Fisher & Ludlow Ltd. Overload clutch or torque limiting device. 3,095,955, 7-2-63, Cl. 192-56.
- Orwin, Robert J., to The Hallcrafters Co. Regenerative circuit in an I.F. amplifier stage. 3,107,333, 10-15-63, Cl. 330-112.
- Osa, Tetsuro: See—
- Higuchi, Kozo, Tsuyuguchi, Osa, Ando, and Yonemoto. 3,114,625.
- Osaki, Iwao, K. Fukui, and S. Nishimura, to Toyo Boseki Kabushiki Kaisha and Howa Kogyo Kabushiki Kaisha. Sliver coiling. 3,083,415, 4-2-63, Cl. 19-159.
- Osaku Kinsoku Kogyo Co., Ltd.: See—
- Kageyama, Ikuzo, and Miyamura. 3,114,758.
- Osawa, Manabu. Alternating current commutator motor which stops quickly by self braking action. 3,107,321, 10-15-63, Cl. 318-244.
- Osban, William R.: See—
- Leins, Richard W., and Osban. 3,083,073.
- Osban, William R., to American Cyanamid Co. Squeeze-roll assembly. 3,101,563, 8-27-63, Cl. 68-258.
- Osberg, Harald A.: See—
- Flomen, Edward, Brich, and Osberg. 3,115,240.
- Osborn, Elburt F., to Bethlehem Steel Co. Chrome silica brick. 3,082,105, 3-19-63, Cl. 106-59.
- Osborn, Ernest T. Card shuffling device. 3,107,096, 10-15-63, Cl. 273-149.
- Osborn, Francis W., to The Coleman Co., Inc. Refrigerant metering device. 3,105,367, 10-1-63, Cl. 62-511.
- Osborn, John D., to G. M. Turner, and W. M. Horner. Hydraulically operable horizontal drilling apparatus. 3,107,738, 10-22-63, Cl. 173-74.
- Osborn Mfg. Co., The: See—
- Abraham, Edward D. 3,089,206.
- Charvat, Vernon K. 3,090,061.
- Charvat, Vernon K. 3,114,925.
- Ellms, Robert W. 3,089,205.
- Less, Joseph A. 3,106,739.
- Miller, Leon F. 3,089,207.
- Nelson, Brooks E. 3,087,599.
- Nelson, Brooks E. 3,090,062.
- Nelson, Brooks E. 3,109,190.
- Peterson, Ruven O. 3,072,945.
- Peterson, Ruven O. 3,076,219.
- Peterson, Ruven O. 3,078,624.
- Peterson, Ruven O. 3,102,056.
- Peterson, Ruven O. 3,105,988.
- Stingley, Norman H. 3,106,426.
- Osborn, Robert O., and A. J. Porck, to E. I. du Pont de Nemours and Co. Cellulose derivatives and shaped structures thereof. 3,102,881, 9-3-63, Cl. 260-231.
- Osborn, Scott G. Display rack. 3,101,849, 8-27-63, Cl. 211-166.
- Osborn, William G.: See—
- Matthysse, Irving F., and Osborn. 3,088,993.
- Osborne, Duncan W., to Automotive Products Co. Ltd. Internal shoe drum brakes. 3,113,466, 12-10-63, Cl. 74-110.
- Osborne, Fred, to S. P. Kinney Engineers, Inc. Method of and apparatus for processing slag. 3,104,164, 9-17-63, Cl. 65-20.
- Osborne, Fred H., to The Wurlitzer Co. Automatic phonograph. 3,073,604, 1-15-63, Cl. 274-10.
- Osborne, Fred H., and J. H. Riggs, to The Wurlitzer Co. Voltage compensating power supply unit. 3,079,544, 2-26-63, Cl. 323-45.
- Osborne, Fred H., C. L. Flateau, and A. C. Ippolito, to The Wurlitzer Co. Coin controlled tape player. 3,080,456, 3-5-63, Cl. 179-100.2.
- Osborne, Fred H., and R. S. Tuttle, to The Wurlitzer Co. Background music phonograph. 3,100,644, 8-13-63, Cl. 274-10.
- Osborne, Fred H., and R. S. Tuttle, to The Wurlitzer Co. Coin controlled phonograph. 3,116,065, 12-31-63, Cl. 274-10.
- Osborne, John B., to The M. W. Kellogg Co. Conversion process and apparatus for use therein. 3,077,447, 2-12-63, Cl. 208-74.
- Osborne, Lloyd M., to Inventions Management Corp. Fluid actuated hammer and nailer. 3,106,134, 10-8-63, Cl. 91-189.
- Osborne, Michael B., to The Thomas Hill Engineering Co. (Hull) Ltd. Article-handling machines. 3,104,753, 9-24-63, Cl. 198-30.
- Osborne, Ralph H., and C. S. Miller. Foldable backrest cabinet for beds. 3,110,911, 11-19-63, Cl. 5-59.
- Osborne, Richard W., and T. J. Morris, to Radio Corp. of America. Cathode-ceramic assembly for electron guns and method of making. 3,087,082, 4-23-63, Cl. 313-337.
- Osborne, Robert F.: See—
- Codichini, Joseph J., Eichler, Lewis, Northrup, Osborne, and Schoen. 3,079,483.
- Eichorn, Roger H., Morrill, Northrup, and Osborne. 3,099,943.
- Eichorn, Roger H., and Osborne. 3,099,944.
- Osburn, Carl L., and D. A. Marsh, to Phillips Petroleum Co. Carbon black plant control. 3,116,119, 12-31-63, Cl. 23-259.5.
- Osdene, Thomas S., to American Home Products Corp. 2-phenyl-6-a-naphthyl-4,7-diaminopteridine. 3,104,242, 9-17-63, Cl. 260-251.5.
- Osder, Stephen S., to Sperry Rand Corp. Flight path control system. 3,094,300, 6-18-63, Cl. 244-77.
- Osder, Stephen S., to Sperry Rand Corp. Flight path control system. 3,095,169, 6-25-63, Cl. 244-77.
- Osder, Stephen S., to Sperry Rand Corp. Fail-safe control systems for aircraft. 3,100,861, 8-13-63, Cl. 318-489.
- Ose, Albert K., and J. Cultivator frame. 3,094,172, 6-18-63, Cl. 172-456.
- Ose, John: See—
- Ose, Albert K., and J. 3,094,172.
- Osepchuk, John M., to Raytheon Co. Electron sorting devices. 3,073,991, 1-15-63, Cl. 315-39.3.
- Osepchuk, John M., to Raytheon Co. Travelling wave devices. 3,084,279, 4-2-63, Cl. 315-39.3.
- Oser, Zalik: See—
- Joris, George G., and Oser. 3,111,544.
- Osgood, Alain A., J. D. McGregor, and O. L. Bertorelli, to J. M. Huber Corp. Carbon black collection systems. 3,106,459, 10-8-63, Cl. 23-259.6.
- Osgood, Charles F., to Joy Mfg. Co. Rock drill rotation mechanism. 3,074,381, 1-22-63, Cl. 121-7.
- Osgood, Charles F., to Joy Mfg. Co. Low height mine haulage apparatus. 3,081,894, 3-19-63, Cl. 214-517.
- Osgood, Charles F., to Joy Mfg. Co. Pivoted feed leg type rock drill. 3,111,177, 11-19-63, Cl. 173-36.
- Osgood, Charles F., to Joy Mfg. Co. Cutter bit and support therefor having resilient detent means. 3,116,052, 12-31-63, Cl. 262-33.
- O'Shea, William F., to Continental-Wirt Electronics Corp. Rotary potentiometer. 3,072,872, 1-8-63, Cl. 338-174.
- O'Shel, William E.: See—
- Penfold, Vincent H., and Ireland. 3,099,756.
- O'Shields, Richard L., to Bass Brothers Enterprises, Inc. Method and apparatus for treatment of drilling mud. 3,085,587, 4-16-63, Cl. 137-4.
- Oshima, Motoyoshi, Y. Maeda, and K. Kashima, to The Noguchi Institute. Process of liquefaction of lignin. 3,105,095, 9-24-63, Cl. 260-593.
- Oshima, Shintaro: See—
- Takahashi, Hidetoshi, Goto, and Oshima. 3,101,450.
- Oshima, Shintaro, H. Enomoto, S. Watanabe, and K. Amano, to Kokusai Denshin Denwa Kabushiki Kaisha. Logic circuits employing bridge networks compressing transformer secondaries and N-type conductivity curve negative resistance elements. 3,116,426, 12-31-63, Cl. 307-88.5.
- Oshima, Shintaro, and H. Enomoto, to Kokusai Denshin Denwa Kabushiki Kaisha. Storage system for electric signals. 3,116,475, 12-31-63, Cl. 340-174.
- Oshima, Takeichi, and Y. Uyemura. Coating composition. 3,100,154, 8-6-63, Cl. 106-57.
- Oshima, Takeichi, and Y. Uyemura. Rust-preventing coating composition. 3,105,056, 9-24-63, Cl. 260-32.8.
- Oshima, Teruo, to Sumitomo Chemical Co., Ltd. Process for manufacturing dimethyloluron-alkylethers and copolymers thereof with methylolmelamine alkyl ethers. 3,089,859, 5-14-63, Cl. 260-45.2.
- O'Sickey, Lawrence B.: See—
- Simmons, Harold C., and O'Sickey. 3,093,317.



- O'Siel, Dorothy, and H. A. Cooper. Safety tip cigarette. 3,102,543, 9-3-63, Cl. 131-4.
- Osifchin, Nicholas, and A. L. Zitcer, to United States of America, Army. Coaxial transmission line. 3,093,805, 6-11-63, Cl. 333-84.
- Osinski, Alfred L.: *See*—  
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- Ospow, Lloyd I.: *See*—  
Boe, Carsten F., and Ospow. 3,096,001.
- Oslund, Walter W.: *See*—  
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- Osmaston, Ronald. Propeller for outboard motor. 3,071,195, 1-1-63, Cl. 170-173.
- Osmond, Desmond W. J., and H. H. Thompson, to Imperial Chemical Industries Ltd. Dispersion polymerization of an acrylate in the presence of a rubber and a non-polar organic solvent and product obtained. 3,095,388, 6-25-63, Cl. 260-4.
- Osmun, Dean W.: *See*—  
Lee, William T., Osmun, and Newman. 3,108,637.
- Osmun, Dean W. Apparatus for applying chemicals. 3,077,701, 2-19-63, Cl. 47-1.5.
- Osoba, Joseph S.: *See*—  
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- Osofsky, Irving B., to Cornell Aeronautical Laboratory, Inc. Method and apparatus for augmenting the drive of a gas turbine. 3,093,968, 6-18-63, Cl. 60-39.21.
- Ospenson, Joseph N.: *See*—  
Kohn, Gustave K., Moore, and Ospenson. 3,076,741.  
Moore, Joseph E., Ospenson, and Kohn. 3,110,726.
- Osswald, Dieter: *See*—  
Heiss, Hans, and Osswald. 3,110,596.
- Ostberg, Bertil E., to Polaroid Corp. Methods of hydrolizing and polishing cellulose ester sub-surface of photographic product produced therefrom. 3,078,178, 2-19-63, Cl. 117-34.
- Östberg, Elsie: *See*—  
Karlstöm, Karl A. S., and Östberg. 3,104,868.
- Ostberg, Elsie A. M.: *See*—  
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- Östberg, Karl G.: *See*—  
Karlstöm, Karl A. S., and Ostberg. 3,081,980.  
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- Ostberg, Werner, to Dundee Cement Co. Hot clinker conveying and cooling apparatus. 3,089,653, 5-14-63, Cl. 241-81.
- Ostberg, Werner, to Dundee Cement Co. Cement manufacture. 3,089,688, 5-14-63, Cl. 263-32.
- Osteen, Emmett H. Shoe cleaner. 3,094,727, 6-25-63, Cl. 15-4.
- Osten, Fred C., Sr. Removable sash window construction. 3,108,335, 10-29-63, Cl. 20-42.
- Oster, Gerald: *See*—  
Oster, Gisela K. and G. 3,074,794.  
Oster, Gisela K. and G. 3,097,097.
- Oster, Gerald. Photopolymerization with the formation of relief images. 3,097,096, 7-9-63, Cl. 98-30.
- Oster, Gisela K. and G. Visible light bichromate process and material. 3,074,794, 1-22-63, Cl. 96-35.
- Oster, Gisela K. and G. Photo degrading of gel systems and photographic production of reliefs therewith. 3,097,097, 7-9-63, Cl. 96-35.
- Oster, John, Mfg. Co.: *See*—  
Annis, Richard R. 3,074,489.  
Arel, Robert W., and Madl. 3,081,394.  
Neff, Gene M. 3,075,101.
- Oster, Jonathan. Concrete screeding machines. 3,110,234, 11-12-63, Cl. 94-45.
- Oster, Thomas H., to Ford Motor Co. Core box. 3,103,716, 9-17-63, Cl. 22-13.
- Osterberg, Jori O., to Northwestern University. Pole-surrounding soil-reinforcing structure. 3,077,704, 2-19-63, Cl. 50-532.
- Osterer, David G., and F. Kohler, to American Machine & Foundry Co. Method for manufacturing helically welded tubing. 3,073,945, 1-15-63, 219-67.
- Ostergren, Ralph H., to Northrop Corp. Rotating wheel scanner. 3,072,794, 1-8-63, Cl. 250-203.
- Osterhoudt, Harry, to Perfection Automotive Products Corp. Interlock for speedometer head and cable. 3,074,253, 1-22-63, Cl. 64-4.
- Osterhoudt, Harry, to Perfection Automotive Products Corp. Helper spring assembly for shock absorbers. 3,096,084, 7-2-63, Cl. 267-8.
- Osterhoudt, Harry, to Perfection Automotive Products Corp. Speedometer cable. 3,105,368, 10-1-63, Cl. 64-4.
- Osterloh, Gerhard: *See*—  
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- Osterman, Henry R., to Whitinsville Spinning Ring Co. Spinning ring. 3,081,592, 3-19-63, Cl. 57-120.
- Osterman, Milton: *See*—  
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- Ostrander, Robert K. Multivoice unit. 3,093,928, 6-18-63, Cl. 46-117.
- Ostrander, Robert K. Tearing doll. 3,106,040, 10-8-63, Cl. 46-135.
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- Ostrom, Martin E., to National Lock Co. Counter-balancing lid support and hinge. 3,112,514, 12-3-63, Cl. 16-190.
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- Oswold, Oluf G., to Bausch & Lomb Inc. Multiflash device. 3,087,318, 4-30-63, Cl. 67-31.
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 Tkacs, Henry T. 3,088,573.  
 Whitehurst, Harry B. 3,073,658.  
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 Whitehurst, Harry B., Warthen, Lockwood, and Ailes. 3,103,722.
- Owens, David P. Miter tool for a straight back hand saw. 3,085,342, 4-16-63, Cl. 33-75.
- Owens, Frederick H.: *See*—  
 Fellman, Robert P., Goode, and Owens. 3,100,761.
- Owens, Horace G., Jr. Separator for surface sulphur operations. 3,072,463, 1-8-63, Cl. 23-280.
- Owens-Illinois Glass Co.: *See*—  
 Adams, Elmer L. 3,079,635.  
 Adams, Elmer L. 3,080,614.  
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 Allgeyer, Guy H. 3,072,240.  
 Allgeyer, Guy H. 3,095,082.  
 Amsden, Donald L. 3,090,995.  
 Antoszewski, Walter J. 3,073,034.  
 Bacon, Frank R., and Billian. Re. 25,456.  
 Barnby, Donald W. 3,110,919.  
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 Beck, Basil D., and Swain. 3,104,967.  
 Billian, Carroll J. 3,077,456.  
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 Bivens, Paul E., and Wideman. 3,107,161.  
 Boyd, Robert A. 3,113,728.  
 Chismar, Andrew B., and Kmetz. 3,100,150.  
 Cipriani, Chester C., and Stark. 3,084,483.  
 Cooke, Charles C., and Hamilton. 3,075,371.  
 Donahue, Gary M., Scher, and Train. 3,093,240.  
 Early, Richard L. 3,089,594.  
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 Fry, William L., and Uhlig. 3,101,147.  
 Gasmire, Richard C. 3,079,631.  
 Graham, Robert E. 3,088,830.  
 Greene, Ralph L., and Willwerth. 3,073,504.  
 Heck, Irving A., and Humphrey. 3,087,283.  
 Heider, James E. 3,098,593.  
 Hohl, John, and Wheaton. 3,096,898.  
 Husum, Charles W. 3,088,579.  
 Jenkins, Albert S. 3,089,414.  
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- Owens-Illinois Glass Co.: *See*—Continued  
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 Jenkins, Mervyn M., and Macy. 3,104,187.  
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 Johnson, John R., Voss, and Wright. 3,089,254.  
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 King, Robert W. 3,106,745.  
 Mathias, Benny B. 3,075,382.  
 Mathias, Benny B., and Murley. 3,107,011.  
 Mayhew, Ray W., and Vogelpohl. 3,071,280.  
 McGowan, John P. 3,070,982.  
 Mennitt, Joseph L. 3,088,186.  
 Mumford, George V., and Wheaton. 3,088,615.  
 Nelson, John R., and Soubier. 3,086,249.  
 Ninneman, Eric O., and Armbruster. 3,074,533.  
 Nolan, Claude E. 3,103,765.  
 Olson, Ralph H. 3,116,138.  
 Pellett, Fred C., and Flaskamp. 3,071,276.  
 Pirooz, Perry P. 3,088,833.  
 Pirooz, Perry P. 3,088,834.  
 Pirooz, Perry P. 3,088,835.  
 Plymale, Charles E. 3,111,710.  
 Rex, Raymond H. 3,093,861.  
 Rex, Raymond H., and Adams. 3,092,440.  
 Riopelle, Harry O. 3,094,902.  
 Santelli, Thomas R. 3,075,948.  
 Santelli, Thomas R., and Wallace. 3,072,634.  
 Schaich, Wilbur A. 3,088,161.  
 Schreiber, Carl W. 3,100,051.  
 Schreiber, Carl W. 3,101,151.  
 Shafer, Hal J., Jr. 3,086,458.  
 Sherman, Orville B. 3,082,484.  
 Sherman, Orville B. 3,114,594.  
 Silverman, William B. 3,109,045.  
 Soubier, Leonard D., and Nelson. 3,115,682.  
 Spalding, Richard O., and Street. 3,073,217.  
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 Stenger, Hans G. 3,090,994.  
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 Thielholdt, Henry W. 3,084,395.  
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 Uhlig, Albert F. 3,106,780.  
 Veres, Frank. 3,075,860.  
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 Wilkins, Colbert W. 3,085,731.  
 Wolford, Wallace W. 3,080,659.  
 Wright, Francis S. 3,107,086.  
 Young, James A. 3,080,090.
- Owens, James B., to Westinghouse Electric Corp. Circuit interrupting device. 3,077,526, 2-12-63, Cl. 200—148.
- Owens, James L.: *See*—  
 Johnson, Donald E., and Owens. 3,105,288.
- Owens, Neal. Surgical dressing. 3,089,488, 5-14-63, Cl. 128—156.
- Owens, Neal. Wet surgical dressing. 3,089,492, 5-14-63, Cl. 128—268.
- Owens, Robert F., to General Electric Co. Variable governor datum sets for a twin spool gas turbine fuel control. 3,073,116, 1-15-63, Cl. 60—39.16.
- Owens, Walter J., to Her Majesty the Queen in right of Canada as represented by the Minister of National Defence. Independent torsion bar suspension unit. 3,096,085, 7-2-63, Cl. 267—57.
- Owens, Walter J., to Her Majesty the Queen in right of Canada, as represented by the Minister of National Defence. Laminated torsion bar suspension. 3,098,645, 7-23-63, Cl. 267—57.
- Owens, William V., to Paper Sacks Ltd. Bag opening device. 3,081,930, 3-19-63, Cl. 229—66.
- Owens, Leonard C., to Dreamland Electrical Appliances Ltd. Electric blankets. 3,102,186, 8-27-63, Cl. 219—46.
- Owney, Lloyd C. Sign letters in script. 3,081,569, 3-19-63, Cl. 40—140.
- Ownby, Warren G.: *See*—  
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- Ownby, Warren G., to Camco, Inc. Selectively actuated well tool. 3,105,547, 10-1-63, Cl. 166—65.
- Ownby, Warren G., to Camco, Inc. Tubing nipple and selector tool. 3,105,548, 10-1-63, Cl. 166—65.
- Ownby, Warren G., and K. Robinson, to Camco, Inc. Well perforating control. 3,105,546, 10-1-63, Cl. 166—55.1.
- Oxé, Josef: *See*—  
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- Oxenham, John K., to Sylvania-Thorn Colour Television Laboratories Ltd. Cathode ray tube viewing screen for colour television. 3,090,888, 5-21-63, Cl. 315—12.
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- Oxford Paper Co.: *See*—  
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- Oxford, Richard V., to Jered Industries, Inc. Rotary seal. 3,073,657, 1-15-63, Cl. 308—187.1.
- Oxley, Leroy V., and C. M. Blythe. Vacuum actuated blocking valve for vacuum controlled mechanism. 3,094,144, 6-18-63, Cl. 137—609.
- Oxley, Robert F.: *See*—  
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- Oy, Kaaukas Ab.: *See*—  
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- Oyanagi, Yasuji: *See*—  
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- Ozawa, Toshio, T. Yamashita, and S. Hayashi, to Kanegafuchi Spinning Co., Ltd. Modified polyvinyl acetate powders and compositions. 3,092,600, 6-4-63, Cl. 260—29.6.
- Ozgur, Cahit, to Dominion Engineering Works Ltd. Self-adjusting contra rotating axial flow pumps and turbines. 3,088,414, 5-7-63, Cl. 103—94.
- Ozkardes, Haldun: *See*—  
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- Ozone, Koho, to General Dynamics Corp. Resonant reed relay. 3,102,214, 8-27-63, Cl. 317—147.
- Oztekin, Muammer A. Adjustable shelf support. 3,093,094, 6-11-63, Cl. 108—6.
- P.A.B.B. Inc.: *See*—  
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- P & D Corp.: *See*—  
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- PGAC Development Co.: *See*—  
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 Le Bus, Jake H., Castel, and Mahaffey. 3,079,793.  
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- P & K Inc.: *See*—  
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- PRD Electronics, Inc.: *See*—  
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- P.S.P. Engineering Co.: *See*—  
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- Paal, Hans, to Fr. Hesser Maschinenfabrik-Aktiengesellschaft, Firma. Machine for producing filled packages, particularly liquid-filled packages. 3,092,943, 6-11-63, Cl. 53—183.
- Paananen, Eugene E., to Burroughs Corp. Photo-electric card reading system. 3,114,841, 12-17-63, Cl. 250—219.
- Paananen, Roy A., and D. H. White, to Raytheon Co. Traveling wave electrical discharge device. 3,071,709, 1-1-63, Cl. 315—3.5.
- Paasche, Fritz, to Land- und Seekabelwerke AG. Separable connectors for electric conduits and cables. 3,079,580, 2-26-63, Cl. 339—94.
- Pabalan, Javier A., Jr.: *See*—  
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- Pabst Brewing Co.: *See*—  
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- Pabst, Carl F., and H. R. Hudson, to The Lodge & Shipley Co. Lathes. 3,104,572, 9-24-63, Cl. 82—23.
- Pacac, Mathew, to Eaton Mfg. Co. Apparatus for making grooved wheels. 3,087,531, 4-30-63, Cl. 153—2.
- Pacciardini, Antonio: *See*—  
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- Pace, Arthur. Chance device for encouraging public supervision of a cash register. 3,091,388, 5-28-63, Cl. 235—7.
- Pace, Inc.: *See*—  
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- Pace, John S., Jr. Fluid lock. 3,102,315, 9-3-63, Cl. 24—
- Pachner, Leo C., to P & K Inc. Fish stringer. 3,111,734, 11-26-63, Cl. 24—161.
- Pachter, Frank C. Quick adjusting means for relatively positionable members. 3,110,111, 11-12-63, Cl. 33—154.221.
- Pachter, Irwin J.: *See*—  
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- Pachter, Irwin J., and J. Weinstock, to Smith Kline & French Laboratories. Hydrazinopteridine derivatives. 3,080,369, 3-5-63, Cl. 260—251.5.
- Pachter, Irwin J., and J. Weinstock, to Smith Kline & French Laboratories. Pyrrolypteridine derivatives. 3,105,076, 9-24-63, Cl. 260—251.5.
- Pacific & Atlantic Shippers, Inc.: *See*—  
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- Pacific Car and Foundry Co.: *See*—  
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- Pacific Flush Tank Co.: *See*—  
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- Pacific Industrial Mfg. Co.: *See*—  
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- Pacific Natural Gas Exploration Co.: *See—*  
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- Pacific Resins & Chemicals, Inc.: *See—*  
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- Pacific Scientific Co.: *See—*  
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- Pacific Seating Corp.: *See—*  
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- Pacific Semiconductors, Inc.: *See—*  
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- Pacific Vegetable Oil Corp.: *See—*  
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- Pacific Coast Engineering Co.: *See—*  
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- Pacitti, Peter. Combination detachable blade razor and hair shaper. 3,084,430, 4-9-63, Cl. 30-55.
- Pack, Albert H.: *See—*  
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- Pack Mfg. Co.: *See—*  
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- Package Containers Inc.: *See—*  
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- Package Machinery Co.: *See—*  
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 Cross, Cedric B. 3,106,279.  
 Dion, John F. 3,081,675.  
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- Packaging Frontiers Inc.: *See—*  
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 Schneider, William S., and Corella. 3,082,586.
- Packard-Bell Computer Corp.: *See—*  
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- Packard-Bell Electronics Corp.: *See—*  
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- Packard, George B., and C. W. Monigle, to Barco Mfg. Co., Inc. Valve controlled spraying device for a chemical intermixed with water. 3,113,725, 12-10-63, Cl. 239-318.
- Packard, Henry, to Northrop Corp. Self-testing gyroscope. 3,077,760, 2-19-63, Cl. 73-1.
- Packard Instrument Co., Inc.: *See—*  
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- Packard, Joseph W. Prismatic reflecting device. 3,073,210, 1-15-63, Cl. 88-1.
- Packard, Lyle E., to Packard Instrument Co., Inc. Radio-activity spectrometry in sample analysis. 3,114,835, 12-17-63, Cl. 250-71.5.
- Packed Column Corp.: *See—*  
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- Packer, Charles S., N. W. Keller, and W. B. Rosinski, to Just-rite Mfg. Co. Pivoted reflector holder for a hand lantern. 3,084,248, 4-2-63, Cl. 240-10.65.
- Packer, Marvin. Toy figure. 3,097,446, 7-16-63, Cl. 46-123.
- Packer, Mervyn B., A. F. Prestidge, J. Rodway, and F. G. Parnell, to Automotive Products Co. Ltd. Vehicle brake system. 3,093,422, 6-11-63, Cl. 303-21.
- Packers' Development Corp.: *See—*  
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- Packman, Lester M., to National Frost Protection Co., Inc. Machine for forming pellets and the like. 3,101,510, 8-27-63, Cl. 18-12.
- Packman, Alice M.: *See—*  
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- Packman Machinery Ltd.: *See—*  
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- Packman, Percival J.: *See—*  
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- Packman, Percival J., to Packman Machinery Ltd. Cup separators. 3,090,523, 5-21-63, Cl. 221-36.
- Paco Corp.: *See—*  
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- Pactor Corp.: *See—*  
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- Pacuk, Peter P. Wheel-mounted rider-propelled rocking hobby horse. 3,086,785, 4-23-63, Cl. 280-1.196.
- Padberg, Louis R., Jr. Pneumatic sound source. 3,077,944, 2-19-63, Cl. 181-5.
- Paddock Pool Equipment Co.: *See—*  
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- Padek, Ted. Automatic cleaning system. 3,079,935, 3-5-63, Cl. 134-45.
- Padeit, Johannes G., to Graflex, Inc. Knob for setting diaphragm aperture on camera equipped with exposure meter. 3,100,428, 8-13-63, Cl. 95-10.
- Paden, Loyd B.: *See—*  
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- Padgett, Allen V., to J.P. Co., Inc. Apparatus for supporting a vehicle frame for straightening. 3,091,278, 5-28-63, Cl. 153-32.
- Padgett, Cooper J.: *See—*  
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- Padilla, Leonardo C.: *See—*  
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- Padykula, Frank J.: *See—*  
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- Padzieski, Nancee L. Device for dispensing predetermined quantities of liquid. 3,089,623, 5-14-63, Cl. 222-205.
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- Pagador, Pete P.: *See—*  
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- Paganini, Frank T., to General Electric Co. Clothes washing machine. 3,102,409, 9-3-63, Cl. 68-18.
- Pagano, Carmine N., to International Telephone and Telegraph Corp. Synchronized gate. 3,115,607, 12-24-63, Cl. 328-91.
- Pagano, Elmer C., to Surelock Mfg. Co., Inc. Packing for hydraulic power units. 3,110,502, 11-12-63, Cl. 277-189.
- Pagano, Joseph F.: *See—*  
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- Page, Ancel S., to Dura Corp. Walking beam assembly for tandem axle suspension. 3,083,980, 4-2-63, Cl. 280-104.5.
- Page Belting Co.: *See—*  
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- Page, Donald F.: *See—*  
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- Page, Esther: *See—*  
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- Page, George A., Jr.: *See—*  
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- Page, Graham D., to The Austin Motor Co. Ltd. Hydrostatic power transmissions. 3,086,364, 4-23-63, Cl. 60-52.
- Page, Graham D., to The Austin Motor Co. Ltd. Pressure control valves of the centrifugal type. 3,090,394, 5-21-63, Cl. 137-56.
- Page, Irving, deceased; E. Page, administratrix, 1/4 to W., 1/4 to E., 1/4 to Roberta, and 1/4 to Rhoda Page. Thermostat-timer device. 3,097,285, 7-9-63, Cl. 219-20.
- Page, Irving H. Fixed pulse rejection system for radar moving target indicator. 3,114,110, 12-10-63, Cl. 328-167.
- Page, John, and R. E. McCleary, to United States Gypsum Co. Board-forming machine. 3,083,756, 4-2-63, Cl. 156-346.
- Page, John S. Casing pump. 3,102,495, 9-3-63, Cl. 103-181.
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- Page, Richard W. Chuck. 3,094,338, 6-18-63, Cl. 279-23.
- Page, Richard W. Drilling instrument. 3,098,299, 7-23-63, Cl. 32-27.
- Page, Richard W. Dental engine arm. 3,106,777, 10-15-63, Cl. 32-25.
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- Page, Warren: *See—*  
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- Page, William H., II, to Universal Oil Products Co. Method of catalytically purifying exhaust gases of internal combustion engines and cyclically regenerating the lead-contaminated catalyst. 3,072,458, 1-8-63, Cl. 23-2.
- Pagel, Hayes L., and O. Gunderson. Pneumatic combine. 3,105,339, 10-1-63, Cl. 56-19.
- Pagel, Richard F., to American Zinc, Lead and Smelting Co. Electrolytic production of zinc. 3,098,019, 7-16-63, Cl. 204-55.



- Pagel, Richard F., to American Zinc, Lead and Smelting Co. Recovery of metal values. 3,113,860, 12-10-63, Cl. 75-115.
- Pagendarm, Richard V.: *See*—  
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- Pagendarm, Richard V., to Atlas General Industries, Inc. Drive mechanism for folding box machines of the plunger and die type. 3,089,393, 5-14-63, Cl. 93-51.
- Pages, Inc.: *See*—  
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- Paget, George E., and A. L. Walpole, to Imperial Chemical Industries Ltd. Bis(lower alkyl-thio-carbamoyl)-hydrazine derivatives for regulating gonadotrophin. 3,105,797, 10-1-63, Cl. 167-74.
- Paget, John A., to United States of America, Atomic Energy Commission. Safety system for control rod. 3,089,838, 5-14-63, Cl. 204-193.2.
- Paget, John A., S. L. Koutz, R. S. Stone, and H. B. Stewart, to United States of America, Atomic Energy Commission. Emergency shutdown for nuclear reactors. 3,115,453, 12-24-63, Cl. 204-193.2.
- Pagnacco, Arrigo. Apparatus for determining and evaluating a curve indicating the frequency of test valves in a series of tests. 3,113,453, 12-10-63, Cl. 73-95.
- Pagny, Pierre, and P. Koussoros, to Potasse et Engrais Chimiques. Process of preparing double fluoride of tetravalent uranium and alkaline earth metal. 3,073,671, 1-15-63, Cl. 23-14.5.
- Pagoda, Walter S. Filing device for distributor contact points. 3,079,668, 3-5-63, Cl. 29-76.
- Pagoda, John L. Block aligner. 3,102,339, 9-3-63, Cl. 33-85.
- Pagonis, George A., to Light Metals Research Laboratory, Inc. Apparatus for treating titanium and other metals. 3,079,451, 2-26-63, Cl. 13-27.
- Pagonis, George A., to Light Metals Research Laboratory, Inc. Method of and apparatus for forming an ingot of molten reactive material. 3,093,872, 6-18-63, Cl. 22-79.
- Pahl, James H., to Rodgers Hydraulic Inc. Track press. 3,099,130, 7-30-63, Cl. 59-7.
- Pahl, John G., to K-P-F Electric Co. Switch operating device. 3,077,949, 2-19-63, Cl. 185-27.
- Pahud, George M., to Sigma Instruments, Inc. Sensitive relay. 3,079,478, 2-26-63, Cl. 200-104.
- Paidar, Emil J., Co.: *See*—  
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- Paiement, Georges E., to The Flintkote Co. Chimney housing. 3,089,521, 5-14-63, Cl. 133-158.
- Paige, James H., and J. L. Wells, to Fabyrdynamics, Inc. Mobile work holder. 3,096,890, 7-9-63, Cl. 214-1.
- Paige, Robert, to The Stalker Drill Works Ltd. Drills. 3,073,189, 1-15-63, Cl. 77-68.
- Paige, Walter G., to Burroughs Corp. High speed print mechanism. 3,077,830, 2-19-63, Cl. 101-93.
- Paige, Walter G., to Burroughs Corp. Printing machine. 3,085,670, 4-16-63, Cl. 197-16.
- Paige, Walter G., and P. R. Hoffman, to Burroughs Corp. Printing apparatus. 3,085,504, 4-16-63, Cl. 101-93.
- Paillard S.A.: *See*—  
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Chevallaz, Henri. 3,079,055.  
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- Paine, Jordan. Street light bracket connection means. 3,098,668, 7-23-63, Cl. 287-56.
- Painter, Claude D. One piece collapsible and glueless egg carton. 3,107,039, 10-15-63, Cl. 229-28.
- Painter, David L.: *See*—  
Teague, James, Jr., Painter, and Peterlil. 3,107,816.
- Painter, Erle V.: *See*—  
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- Painter, Giles W.: *See*—  
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- Painter, Giles W., to Lord Mfg. Co. Damped structure. 3,079,277, 2-26-63, Cl. 117-121.
- Painter, John B., to Johns-Manville Corp. Dry cold molding composition containing thermosetting resin binder and hydrated mineral absorbent. 3,084,130, 4-2-63, Cl. 260-29.3.
- Paintex Mfg. Co.: *See*—  
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- Paisley, John, to Eastwoods Ltd. Apparatus for marshalling a group of articles in spaced rows. 3,089,577, 5-14-63, Cl. 198-31.
- Paisley, John, to Eastwoods Ltd. Apparatus for adjusting the spacing of spaced rows of articles upon a support. 3,113,682, 12-10-63, Cl. 214-6.
- Paist, Charles, D. W. Sibal, and D. V. Clay, to St. Regis Paper Co. Machine for applying metal strips to cartons. 3,088,381, 5-7-63, Cl. 93-41.1.
- Paitchell, Harold, and I. Goldberg, to Bagel Machines, Inc. Apparatus for automatically forming dough rings for making bagels. 3,080,831, 3-12-63, Cl. 107-8.
- Pajac, Theodore P., to General Grid Corp. Low density construction material. 3,096,053, 7-2-63, Cl. 244-133.
- Pajackowski, Andrzej, and J. M. Turner, to Canadian Industries Ltd., and Imperial Chemical Industries Ltd. New chemical compounds and uses thereof. 3,108,093, 10-22-63, Cl. 260-89.5.
- Pakan, John J., to A.R.F. Products, Inc. Tunable filter. 3,074,035, 1-15-63, Cl. 333-73.
- Pak-Mar Mfg. Co.: *See*—  
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- Pako Corp.: *See*—  
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Maddock, Ralph B., and Winter. 3,077,155.  
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- Päksy, Jeno. Toy constructional outfit. 3,074,203, 1-22-63, Cl. 46-29.
- Pakutka, Willard M.: *See*—  
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- Palajac, Peter, Jr., to Ford Motor Co. Vehicle suspension. 3,103,349, 9-10-63, Cl. 267-52.
- Palamidessi, Giorgio: *See*—  
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- Palandri, Giuseppe, and P. G. Priaroggia, to Pirelli Società per Azioni. Underground plastic pipeline system for laying high tension electric cables. 3,084,208, 4-2-63, Cl. 174-24.
- Palandri, Giuseppe, and P. G. Priaroggia, to Pirelli Società per Azioni. Submarine electric cables. 3,115,542, 12-24-63, Cl. 174-102.
- Palanker, Walter P.: *See*—  
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- Palazzolo, Girolama. Ear dewaxer. 3,099,263, 7-30-63, Cl. 128-184.
- Palcanis, Franklin G.: *See*—  
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- Palermo, Anthony, Jr., and E. B. Graves, to Picker X-ray Corp. Waite Mfg. Div. Inc. X-ray table with tilted tube. 3,094,616, 6-18-63, Cl. 250-61.5.
- Palermo, Ralph: *See*—  
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- Palevsky, Max, R. M. Beck, and G. J. Giel, to Packard-Bell Computer Corp. Data converter. 3,077,303, 2-12-63, Cl. 235-154.
- Paley, Winston B., to E. M. Javits. Cigarette lighting means. 3,109,435, 11-5-63, Cl. 131-7.
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- Palfrey, Frederick M., and R. Wolfe, to E. I. du Pont de Nemours and Co. Process for treating tetraalkyllead compositions. 3,083,920, 5-7-63, Cl. 252-386.
- Palfreyman, Jack, to Rolls-Royce Ltd. Gas turbine engine. 3,107,489, 10-22-63, Cl. 60-39.14.
- Palic, Petar, to North American Philips Co., Inc. Magnetic recording of measuring processes. 3,084,011, 4-2-63, Cl. 346-33.
- Paliotta, John. Fastener for use as a cuff link. 3,080,630, 3-12-63, Cl. 24-97.
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- Pall, David B., to Pall Corp. Magnetic pressure indicator. 3,077,854, 2-19-63, Cl. 116-70.
- Pall, David B., to Pall Corp. Filter unit. 3,083,834, 4-2-63, Cl. 210-299.
- Pall, David B., and M. P. L. Siebel, to Pall Corp. Magnetic pressure-responsive devices. 3,077,176, 2-12-63, Cl. 116-70.
- Pall, David B., and H. Cordes, to Pall Corp. High pressure sealing element. 3,093,581, 6-11-63, Cl. 210-444.
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- Pallisades Products Corp.: *See*—  
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- Pallutz, Heinrich: *See*—  
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- Palm, Albert: *See*—  
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- Palm, Alfred, to Siemens & Halske Aktiengesellschaft. Coordinate selector switch. 3,086,085, 4-16-63, Cl. 179-27.54.
- Palm, Bert E., to The Lubrizol Corp. Process for producing core laminations. 3,114,661, 12-17-63, Cl. 148-122.
- Palm, Clifford W., and J. E. Cunningham, to Celanese Corp. of America. Method and apparatus for producing novelty yarn. 3,105,349, 10-1-63, Cl. 57-34.
- Palm, Donald C., to The B. F. Goodrich Co. Bushing assembly. 3,107,951, 10-22-63, Cl. 308-36.1.
- Palm, Donald C., to The B. F. Goodrich Co. Bushing assembly. 3,107,952, 10-22-63, Cl. 308-36.1.
- Palm, Donald C., to The B. F. Goodrich Co. Bushing assembly. 3,107,953, 10-22-63, Cl. 308-36.1.



- Palm, Michael M., to Curtiss-Wright Corp. Fuel tank filler adapter cap. 3,080,995, 3-12-63, Cl. 220-55.
- Palmaer, Tore G. Connecting mechanism between a head-strap and devices connected to it. 3,104,398, 9-24-63, Cl. 2-209.
- Palmason, Einar H., to Parkson Industrial Equipment Co. Concentration of foaming materials. 3,073,380, 1-15-63, Cl. 159-49.
- Palmer, Charles E. Method of packaging meat. 3,074,798, 1-22-63, Cl. 99-174.
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- Palmer Chemical & Equipment Co., Inc.: *See—*  
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- Palmer, Dewey H., to Clay-Adams, Inc. Intravenous needle. 3,082,769, 3-26-63, Cl. 128-221.
- Palmer, Everett S., Jr., to Phillips Petroleum Co. Control of stripping still and dephlegmator operation. 3,096,274, 7-2-63, Cl. 208-341.
- Palmer, Gregory E. Cardholder. 3,086,658, 4-23-63, Cl. 211-50.
- Palmer, Harold C.: *See—*  
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- Palmer, Harold V. Toiletries dispenser for shower. 3,091,402, 5-28-63, Cl. 239-315.
- Palmer, Harry A., to Kelsey-Hayes Co. Loading and unloading apparatus. 3,090,498, 5-21-63, Cl. 214-1.
- Palmer, Howard R., to Titanium Metals Corp. of America. Vacuum furnace. 3,072,392, 1-8-63, Cl. 263-3.
- Palmer, Howard R., to Titanium Metals Corp. of America. Electrolytic pickling apparatus. 3,082,164, 3-19-63, Cl. 204-225.
- Palmer, John E., to Golden Arrow Mfg. Ltd. Agricultural crop sprayers. 3,107,055, 10-15-63, Cl. 239-164.
- Palmer, John M., to Shell Oil Co. Method for investigating earth formations. 3,114,256, 12-17-63, Cl. 73-38.
- Palmer, John P. Tool handle. 3,089,525, 5-14-63, Cl. 145-29.
- Palmer, Karl, to Westinghouse Electric Corp. Filar suspended instrument movement. 3,090,007, 5-14-63, Cl. 324-154.
- Palmer, Karl, to Westinghouse Electric Corp. Crosspiece and balance screw for instruments and the like. 3,106,906, 10-15-63, Cl. 116-136.5.
- Palmer, Lavinia J.: *See—*  
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- Palmer, Leon E., to International Business Machines Corp. Case shift interlock for typewriter. 3,077,971, 2-19-63, Cl. 197-16.
- Palmer, Leon E., to International Business Machines Corp. Keylever storage mechanism. 3,086,635, 4-23-63, Cl. 197-16.
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- Palmer, Maxwell R.: *See—*  
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- Palmer, Osmond F., to Eastman Kodak Co. Process programming timer. 3,081,688, 3-19-63, Cl. 95-89.
- Palmer, Reed A., to Westinghouse Electric Corp. Frankfurter cooker. 3,099,202, 7-30-63, Cl. 99-337.
- Palmer, William E., to Swift & Co. Tenderness testing device. 3,078,710, 2-26-63, Cl. 73-81.
- Palmer, William F., to Sylvania Electric Products Inc. Apparatus for charging and regulating the voltage across a capacitor. 3,105,170, 9-24-63, Cl. 315-183.
- Palmer, William H., and B. M. Hannon, to National Distillers and Chemical Corp. Internally heated die plate for polyethylene extruder. 3,114,169, 12-17-63, Cl. 18-12.
- Palmieri, Nicola, to Pirelli Societa per Azioni. Construction of joints and sealing ends for high tension electric cables. 3,104,275, 9-17-63, Cl. 174-73.
- Palmore, Frank E. Hydro-foil apparatus. 3,105,249, 10-1-63, Cl. 9-310.
- Palmore, Robert A., to American Air Filter Co., Inc. Plate electrode assembly for electrostatic precipitator. 3,114,616, 12-17-63, Cl. 55-143.
- Palmquist, Carl W.: *See—*  
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- Palmqvist, Fredrik T. E., to Separator, Aktiebolaget. Apparatus for maintaining constant flow resistance in a centrifugal extractor. 3,085,742, 4-16-63, Cl. 233-15.
- Palmqvist, Fredrik T. E., and S. Beskow, to Aktiebolaget Separator. Apparatus for contacting two fluids with each other countercurrently. 3,108,953, 10-29-63, Cl. 233-15.
- Palopoli, Frank P., V. J. Feil, and H. D. Benson, to Richardson-Merrill, Inc. Basic substituted alkoxy diphenylalkanois, diphenylalkenes and diphenylalkanes. 3,075,014, 1-22-63, Cl. 260-570.
- Paltier Corp., The: *See—*  
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- Paluska, Roy T.: *See—*  
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- Pampus, Gottfried, and H. Groene, to Farbenfabriken Bayer Aktiengesellschaft. Polymerization of conjugated diolefines. 3,072,621, 1-8-63, Cl. 260-83.7.
- Pan, Samuel C.: *See—*  
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- Pan American Resources, Inc.: *See—*  
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- Pandell, Nestor W., and H. R. Bellinson, to Cluett, Peabody & Co., Inc. Wrinkle measuring device. 3,072,012, 1-8-63, Cl. 88-14.
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- Panek, Louis A., and J. A. Stock, to United States of America, Interior. Pressure control mechanism. 3,108,716, 10-29-63, Cl. 222-48.
- Panel Engineering Corp.: *See—*  
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- Pangrac, George D., to The Dow Chemical Co. Anti-block edge for plastic bags and the like. 3,113,715, 12-10-63, Cl. 229-53.
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- Panhard, Paul, to Societe Anonyme des Anciens Etablissements Panhard & Levassor. Machines of the piston-pump type. 3,108,436, 10-29-63, Cl. 60-52.
- Panhard, Paul, to Societe Anonyme des Anciens Etablissements Panhard & Levassor. Differential transmission. 3,111,043, 11-19-63, Cl. 74-650.
- Paniagua, Juan G. Combination bottle cap seal and opener. 3,095,991, 7-2-63, Cl. 215-40.
- Panicello, Joseph F., to Bell Telephone Laboratories, Inc. Frequency divider employing a device operated to provide a dynamic input versus output signal transfer characteristic of an exponential nature. 3,110,820, 11-12-63, Cl. 307-88.5.
- Panissidi, Hugo A.: *See—*  
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- Panissidi, Hugo A., to International Business Machines Corp. Fluid apparatus. 3,114,394, 12-17-63, Cl. 137-625.64.
- Panizzi, Luigi, and A. Vercellone, to Societa Farmaceutici Italia. Process for making 1,4-dicafeylquinic acid. 3,100,224, 8-6-63, Cl. 260-473.
- Pankove, Jacques I., to Radio Corp. of America. Multi-electrode semiconductor devices. 3,108,210, 10-22-63, Cl. 317-235.
- Pankow, Paul A. H.: *See—*  
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- Pankratz, A. J., and R. M. Shoemaker, to General Precision, Inc. Transducer assembly for magnetic recorders. 3,075,051, 1-22-63, Cl. 179-100.2.
- Pankratz, Paul M., H. C. Houvener, and R. H. Matthias, to The Dow Chemical Co. Adjustable flexible orifice for extrusion of foam plastics. 3,112,527, 12-3-63, Cl. 18-12.
- Panmetals and Processes Inc.: *See—*  
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- Panneton, Jean J.: *See*—  
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- Pannier, Ralph A., to The Pannier Corp. Remotely operated metal stamping and marking machine. 3,112,688, 12-3-63, Cl. 101-4.
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- Pansing, Nelson J., and G. B. Long, to General Motors Corp. Time comparator or drier control. 3,088,221, 5-7-63, Cl. 34-45.
- Pansing, Nelson J., G. B. Long, and J. L. Miller, to General Motors Corp. Domestic appliance. 3,102,008, 8-27-63, Cl. 34-79.
- Pansini, Andrew L. Portable leaf trap for swimming pools. 3,091,340, 5-28-63, Cl. 210-354.
- Pansy, Felix E., and J. D. Dutcher, to Olin Mathieson Chemical Corp. Perlmycin. 3,096,243, 7-2-63, Cl. 167-65.
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- Panton, Verner. Chair. 3,086,818, 4-23-63, Cl. 297-349.
- Pantray, Inc.: *See*—  
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- Panza, Eugene. Sanitary device. 3,090,965, 5-28-63, Cl. 4-1.
- Panzer, Jerome, and J. E. Shewmaker, to Esso Research and Engineering Co. Lubricants containing various cross-linked substances as thickening agents. 3,086,942, 4-23-63, Cl. 252-40.5.
- Panzer, Jerome, A. Beerbower, and F. Bonmartini, to Esso Research and Engineering Co. Method of preparing finely divided solid metal salts. 3,111,381, 11-19-63, Cl. 23-89.
- Panzer, Mitchell E. Strip winding means. 3,084,884, 4-9-63, Cl. 242-74.
- Pao, John. Toy monorail train system. 3,111,910, 11-26-63, Cl. 104-120.
- Paola, Carl R.: *See*—  
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- Paolantonio, Nicholas. Mopping device having grapple means for disposal of swab. 3,101,500, 8-27-63, Cl. 15-118.
- Paoletti, Lino M., and L. L. Rakoczi, to Radio Corp. of America. Circuits for generating pulses whose duration is controlled by delay means or external circuits. 3,107,332, 10-15-63, Cl. 328-63.
- Papa, Donald M., to Cutler-Hammer, Inc. Pressure responsive operator. 3,080,890, 3-12-63, Cl. 137-784.
- Papa, Joseph: *See*—  
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- Papajohn, Elissa D. Sanitary napkin cradle support. 3,079,922, 3-5-63, Cl. 128-291.
- Papalos, John G.: *See*—  
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- Papaminas, Andrew A. Sleep inhibiting device and method. 3,082,414, 3-19-63, Cl. 340-279.
- Papanti, Ralph. Door lock. 3,073,144, 1-15-63, Cl. 70-211.
- Pape, William H.: *See*—  
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- Papee, Denis, and R. Gauguin, to Pechiney, Compagnie de Produits Chimique et Electrometallurgiques. Process for the preparation of a transition alumina dehydration catalyst. 3,112,279, 11-26-63, Cl. 252-438.
- Paper Converting Machine Co., Inc.: *See*—  
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- Paper, Meyer, D. W. Knudtson, G. K. Olson, and R. F. Rouser; said Knudtson, said Olson and said Rouser assors. to said paper. Hardware marking during rolling. 3,076,358, 2-5-63, Cl. 80-9.
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- Papero, Patrick V., Jr.: *See*—  
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- Papero, Patrick V., Jr., O. E. Snider, and R. J. Duggan, to Allied Chemical Corp. Caprolactam polymerization. 3,090,773, 5-21-63, Cl. 260-78.
- Papero, Patrick V., Jr., and R. L. Morter, Jr., to Allied Chemical Corp. Strabilized caprolactam polymer composition. 3,113,120, 12-3-63, Cl. 260-42.
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- Papesch, Viktor, to G. D. Searle & Co. 2,4,6-trialkylpyrazolo [4,3-d]-4,5,6,7-tetrahydropyrimidine-5,7-diones. 3,113,944, 12-10-63, Cl. 260-256.4.
- Papesh, Steven A., and J. A. Donohue, to Standard Oil Co. Metal removing with an asphaltene containing wash oil. 3,076,756, 2-5-63, Cl. 208-251.
- Papin, Joseph E., to Wagner Electric Corp. Anti-creep brake mechanism. 3,106,221, 10-8-63, Cl. 137-598.
- Papineau, Milton D. Phase analyzer. 3,092,804, 6-4-63, Cl. 340-6.
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- Papke, Friedrich, to Voigtlander A.G. Block type photographic viewfinder with parallax compensation. 3,081,664, 3-19-63, Cl. 88-1.5.
- Papke, Friedrich, to Voigtlander A.G. Albada type viewfinder having undulating reflecting mask frame. 3,087,375, 4-30-63, Cl. 88-1.5.
- Papke, Friedrich, to Voigtlander A.G. Photographic finder with imaging of the indicator position of the exposure meter. 3,087,376, 4-30-63, Cl. 88-1.5.
- Papke, Friedrich, to Voigtlander A.G. Albada type viewfinder with image frame in composite rear lens assembly. 3,094,579, 6-18-63, Cl. 88-1.5.
- Papo, Maurice: *See*—  
Estrems, Eugeni, and Papo. 3,107,342.
- Papp, Andrew, to Regis Plastics. Detachable hand guard for knives. 3,108,375, 10-29-63, Cl. 30-295.
- Papp, Cornelius A., to United States of America, Army. Apparatus and process for producing coatings on metals. 3,108,900, 10-29-63, Cl. 117-93.1.
- Pappas, George F.: *See*—  
Fish, Leonard W., and Pappas. 3,093,571.
- Pappas, George F., to Esso Research and Engineering Co. Short contact time system. 3,074,878, 1-22-63, Cl. 208-127.
- Pappas, George F., and D. D. MacLaren, to Esso Research and Engineering Co. Hydrofining of shale oil. 3,091,586, 5-28-63, Cl. 208-210.
- Pappas, James: *See*—  
New, Thorndike, C. T., and Pappas. 3,099,588.
- Pappas, James K. Gear checking fixture. 3,090,128, 5-21-63, Cl. 33-179.5.
- Pappas, Peter H., to Pappas Refrigeration Co. Food chilling. 3,097,501, 7-16-63, Cl. 62-63.
- Pappas, Phillip M. Frying apparatus. 3,075,702, 1-29-63, Cl. 236-32.
- Pappas Refrigeration Co.: *See*—  
Pappas, Peter H. 3,097,501.
- Pappas, Thomas P.: *See*—  
Gray, Edward E., Pappas, and Taylor. 3,113,989.
- Pappas, William S., to United States of America, Atomic Energy Commission. Continuous analyzer utilizing boiling point determination. 3,081,619, 3-19-63, Cl. 73-17.
- Pappo, Raphael: *See*—  
Nystrand, Leonard N., and Pappo. 3,109,016.
- Pappo, Raphael, to G. D. Searle & Co. 17 $\alpha$ -alkyl-17 $\beta$ -hydroxy-18-norandrost-4-en-3-ones. 3,080,360, 3-5-63, Cl. 260-239.55.
- Pappo, Raphael, to G. D. Searle & Co. Optionally 6-methylated and optionally 17-alkanoxyoxygenated 2-oxapregnane-3,20-diones, A-homo compounds corresponding, and 4,5-dehydro and 4,5,6,7-bisdehydro derivatives thereof. 3,080,381, 3-5-63, Cl. 260-343.2.
- Pappo, Raphael, to G. D. Searle & Co. 18-acyloxy-5-pregnen-3-ols, derivatives and intermediates for their preparation. 3,087,926, 4-30-63, Cl. 260-239.55.
- Pappo, Raphael, to G. D. Searle & Co. 17 $\alpha$ ,21-dihydroxy-2-oxapregnane-3,11,20-trione, esters thereof and intermediates thereto. 3,093,658, 6-11-63, Cl. 260-343.2.
- Pappo, Raphael, to G. D. Searle & Co. Optionally 17-alkylated 2-oxa-5 $\alpha$ -androstane-3 $\beta$ ,11 $\beta$ -diols, ethers and esters thereof. 3,101,350, 8-20-63, Cl. 260-345.2.
- Pappo, Raphael, and C. Jung, to G. D. Searle & Co. Optionally 17-alkylated 17-oxygenated 2-oxaandrostanes and intermediates. 3,101,349, 8-20-63, Cl. 260-345.2.
- Papritz, Franz, H. Goldmann, and T. Schmidt, to Hoag-Streit A.G. Apparatus for measuring the intra-ocular or tonometric pressure of an eye. 3,070,997, 1-1-63, Cl. 73-50.
- Paprocki, Stanley J., and G. W. Cunningham, to United States of America, Atomic Energy Commission. Ductile chromium. 3,074,153, 1-22-63, Cl. 29-182.5.
- Papsdorf, Robert A., to Emerson-Fryne Co. Recessed lighting fixture having a separable pre-wired section. 3,091,687, 5-28-63, Cl. 240-78.
- Papworth, Thomas H. Grain probe with ratchet handle. 3,109,307, 11-5-63, Cl. 73-425.2.
- Paquet, Maxime. Treatment of tanned leathers. 3,079,211, 2-26-63, Cl. 8-94.21.
- Paquin, Leon J.: *See*—  
Mazanek, John B., and Paquin. 3,115,829.
- Paradis, Lucien, to Sopas Profumli S.p.A. Cosmetic kit. 3,099,272, 7-30-63, Cl. 132-79.
- Paradise, Mose L. Laundry table. 3,089,438, 5-14-63, Cl. 108-26.
- Paradise, Ronald Y.: *See*—  
Schroeder, George, and Paradise. 3,071,324.
- Paragon Bridge and Steel Co.: *See*—  
De Podesta, Frank B. 3,099,230.
- Paragon Products Corp.: *See*—  
Scholz, Peter S. 3,090,848.
- Paramelle, Bernard, to Electronique Medicale Serdal. Respiratory apparatus. 3,106,204, 10-8-63, Cl. 128-29.
- Paramount Fabricating Co.: *See*—  
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- Paramount Paper Products Co.: *See*—  
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- Paramount Pictures Corp.: *See*—  
Akrell, Carl A. S. 3,104,280.
- Ralbourn, Paul, and Gewertz. 3,112,421.
- Sanford, Emil E. 3,096,396.
- Parana, William J., to Waukesha Foundry Co. Non-galling alloy. 3,072,477, 1-8-63, Cl. 75-170.



- Paravox, Inc.: *See*—  
Tresise, Raleigh E., and Kendall. 3,095,483.
- Parayarn Elastic Co.: *See*—  
Smith, Wilbert D. 3,098,347.
- Parcell, Robert F.: *See*—  
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- Pardee, William A.: *See*—  
Kresge, Alfred N., Pardee, and Ward. 3,105,858.
- Pare, Philip J., to American Cyanamid Co. Process for the preparation of s-vinyl phosphorodithioates. 3,073,859, 1-15-63, Cl. 260—461.
- Pare, Philip J., to American Cyanamid Co. Preparation of 1-cyclohexenes. 3,088,967, 5-7-63, Cl. 260—464.
- Parechoc S.A.: *See*—  
Matthey, Roger. 3,112,964.
- Parent, Donald F.: *See*—  
Rubio, Abdon, and Parent. 3,077,334.
- Parfums Christian Dior: *See*—  
Picot, Bernard T. E. 3,101,160.
- Parham, Charles D., and J. E. Spake, to Collins and Aikman. Automatic double shuttle loom. 3,074,439, 1-22-63, Cl. 139—243.
- Pari, Jack M. Traction attachment for beds. 3,086,519, 4-23-63, Cl. 128—75.
- Pari, Jack M. Adjustable drawer and shelf slide mounting assembly. 3,087,771, 4-30-63, Cl. 312—332.
- Parilla, Arthur R. Aircraft, missiles, missile weapons systems, and space ships. 3,094,072, 6-18-63, Cl. 102—50.
- Parilla, Arthur R. Fabrication of bodies having compound curvature. 3,096,576, 7-9-63, Cl. 29—421.
- Paris, James H.: *See*—  
Church, Richard A., Blanchette, and Paris. 3,082,676.
- Paris, James H., to Carrier Corp. Gas and liquid contact apparatus. 3,101,383, 8-20-63, Cl. 261—24.
- Paris, Michel H. L. M., and E. M. Burslein, to Compagnie de Pont-A-Mousson, and SOVACO Societe pour la Valorisation des Combustibles, Minerals et autres Matieres Minerales. Process of agglomerating fines of materials containing iron of which a portion has been completely reduced. 3,097,945, 7-16-63, Cl. 75—3.
- Paris Precision Products: *See*—  
Weiss, Bernhardt B., and Running. 3,090,599.
- Paris, René A., and R. Périères, to Pechiney. Process of making aluminum nitride. 3,092,455, 6-4-63, Cl. 23—192.
- Parish, William, to Swift & Co. Fluorine recovery. 3,091,513, 5-28-63, Cl. 23—153.
- Pariset, Jean: *See*—  
Moutaud, Gilbert, and Parisot. 3,102,826.
- Park, Arthur: *See*—  
Anderson, Duane B., Lummus, and Park. 3,110,668.
- Eilers, Louis H., and Park. 3,075,463.
- Eilers, Louis H., and Park. 3,104,706.
- Park, Arthur, to Pan American Petroleum Corp. Low solids drilling fluid. 3,081,260, 3-12-63, Cl. 252—8.5.
- Park, Arthur, and J. W. Spurlock, to Pan American Petroleum Corp. Fluid loss retarder for clear water drilling fluids. 3,085,977, 4-16-63, Cl. 252—8.5.
- Park-Baker Electronic Development Corp.: *See*—  
Park, Donald M. 3,105,106.
- Park, Donald M., to Park-Baker Electronic Development Corp. Gaseous glow tube controlled musical instrument. 3,105,106, 9-24-63, Cl. 84—1.03.
- Park Electrochemical Corp.: *See*—  
Kend, David. 3,108,707.
- Park, John K., and W. K. Lydic, to Owens-Corning Fiberglass Corp. Yarn spool. 3,105,655, 10-1-63, Cl. 242—118.7.
- Park, Joseph D., and A. P. Stefani, to Minnesota Mining and Mfg. Co. Process for reacting nitrosyl halide with fluorine-containing olefins and products produced therefrom. 3,072,705, 1-8-63, Cl. 260—466.
- Park, Linwood D. Apparatus for removing snow from highways. 3,106,792, 10-15-63, Cl. 37—12.
- Park, Neil H. Cigarette coal anchor for filter cigarette. 3,081,776, 3-19-63, Cl. 131—4.
- Park Plastics Co.: *See*—  
Joffe, Edward J. 3,104,848.
- Park, Richard L., to Martin-Marietta Corp. Apparatus for threading wire into a machine. 3,110,430, 11-12-63, Cl. 226—91.
- Park, Robert H., to Brockway Glass Co., Inc. Method and apparatus for making plastic articles. 3,078,507, 2-26-63, Cl. 18—5.
- Park, Robert H., to Brockway Glass Co., Inc. Apparatus for blow molding hollow articles. 3,089,186, 5-14-63, Cl. 18—5.
- Park, Robert H., to Brockway Glass Co., Inc. Plastic extrusion tube scraper apparatus. 3,104,421, 9-24-63, Cl. 18—14.
- Park, Russell A.: *See*—  
Kuhn, Leroy B., and Park. 3,078,179.
- Park, Wallace S. Stabilizer for the optical projector carriage of photogrammetric projection instruments. 3,099,934, 8-6-63, Cl. 88—24.
- Park, William H.: *See*—  
Bourne, Douglas J., and Park. 3,098,390.
- Parke, Davis & Co.: *See*—  
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- Capps, David B. 3,074,938.
- De Wald, Horace A., Hoeft, and Holmes. 3,112,337.
- Ehrlich, John, Bartz, and Knudsen. 3,100,176.
- Eislager, Edward F. 3,083,195.
- Eislager, Edward F., and Worth. 3,074,947.
- Fleming, Robert W., and L'italien. 3,106,564.
- Parke, Davis & Co.: *See*—Continued  
Frohardt, Roger P., Dion, and Ehrlich. 3,111,523.
- Godefroi, Erik F. 3,111,527.
- Godefroi, Erik F., Maddox, and Parcell. 3,097,136.
- Hoeft, Milton L., and Holmes. 3,111,521.
- Hull, Robert L. 3,086,011.
- Kinney, Aldon M. 3,112,535.
- Lo Grippo, Gerald A., Timm, and Taylor. 3,076,748.
- Maddox, V. Harold, and Godefroi. 3,097,207.
- Meyer, Robert F. 3,111,540.
- McLean, I. William, Jr., and Rightsel. 3,105,011.
- McLean, I. William, Jr., and Trader. 3,100,178.
- Meyer, Robert F. 3,074,956.
- Meyer, Robert F. 3,089,878.
- Miller, Charles A. 3,076,816.
- Mottin, Ralph E. 3,087,595.
- Mottin, Ralph E. 3,106,281.
- Scherrer, Robert A. 3,107,263.
- Scherrer, Robert A. 3,109,022.
- Scholten, Lawrence M., McMillan, and Sutton. 3,097,743.
- Stevens, Calvin L., and Fleming. 3,082,255.
- Wheeler, Larry M. 3,100,177.
- Parke, Melville R., and G. A. Gagnon, to Warwick Mfg. Corp. Insulated wire head. 3,102,324, 9-3-63, Cl. 29—33.
- Parke, Robert M., to General Electric Co. Dip forming tubing. 3,094,752, 6-25-63, Cl. 22—203.
- Parker, Alverta M., and P. J. Ulbarre. Cushioned fracture bedpan. 3,084,348, 4-9-63, Cl. 4—113.
- Parker, Bernard, to General Precision Inc. Free rotor gas bearing gyro. 3,115,784, 12-31-63, Cl. 74—5.12.
- Parker, Bernhard D., to Decca Ltd. Binary digital data transmission systems. 3,113,294, 12-3-63, Cl. 340—154.
- Parker, Bruce B.: *See*—  
Collier, Eugene L. 3,085,883.
- Parker, Carlyle V., to United States of America, Navy. Electronic RF switch. 3,076,155, 1-29-63, Cl. 333—7.
- Parker, Clarence B., to Longview Fibre Co. Container and cardboard blank for forming same. 3,101,882, 8-27-63, Cl. 229—39.
- Parker, Earl R., to General Dynamics Corp. Method of weight determination. 3,083,298, 3-26-63, Cl. 250—106.
- Parker, Edgar W., Jr., to A. Y. Dowell and A. Y. Dowell, Jr. Hoisery package and method for producing the same. 3,084,794, 4-9-63, Cl. 206—79.
- Parker, Edward J., to Starch Products Ltd. Drying glutted and dough-like materials. 3,094,421, 6-18-63, Cl. 99—199.
- Parker, Emory: *See*—  
Mack, Gerry P., and Parker. 3,082,189.
- Parker, Eric, to Decca Ltd. Cathode ray tube display apparatus. 3,109,063, 10-29-63, Cl. 178—7.85.
- Parker, Eric, to Decca Ltd. Apparatus for air traffic control. 3,113,292, 12-3-63, Cl. 340—26.
- Parker Feeders, Inc.: *See*—  
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- Parker, Geoffrey J.: *See*—  
Holmes, Brian J., Lloyd, Krajewski, Parker, and Forrest. 3,103,602.
- Parker, George: *See*—  
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- Parker, George B. D. Beach tent. 3,075,536, 1-29-63, Cl. 135—5.
- Parker, George K., to Thermo-Plastic Products Co., Inc. Fastening and sealing means for containers. 3,088,623, 5-7-63, Cl. 220—46.
- Parker-Hannin Corp.: *See*—  
Hofer, James F. 3,076,413.
- Klamm, Carl E. 3,038,755.
- Lansky, Zdenek J., and Scalbom. 3,076,525.
- Lebow, Ralph H. 3,095,179.
- Simmons, Harold C. 3,097,795.
- Stacey, Hugh J. 3,088,489.
- Stacey, Hugh J. 3,106,065.
- Webster, William G., and Simmons. 3,080,885.
- Parker, Harry W.: *See*—  
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- Parker, Harry W., to Phillips Petroleum Co. Flame position determination in well bores. 3,072,184, 1-8-63, Cl. 166—4.
- Parker, Harry W., to Phillips Petroleum Co. Recovery of hydrocarbons by in situ combustion. 3,072,186, 1-8-63, Cl. 166—11.
- Parker, Harry W., to Phillips Petroleum Co. In situ combustion using iron catalysts. 3,087,540, 4-30-63, Cl. 166—11.
- Parker, Harry W., to Phillips Petroleum Co. Miscible-fluid flooding technique. 3,103,972, 9-17-63, Cl. 166—9.
- Parker, Harry W., to Phillips Petroleum Co. Process for producing oil shale in situ by electrocarbonization. 3,106,244, 10-8-63, Cl. 166—11.
- Parker, Harry W., and J. W. Marx, to Phillips Petroleum Co. Solvent-resistant molded articles. 3,081,185, 3-12-63, Cl. 106—218.
- Parker, Herbert E., R. A. Sullivan, and R. R. Whipple, to Western Electric Co., Inc. Mold for casting electrical component mounting boards. 3,076,230, 2-5-63, Cl. 18—36.
- Parker, Humphrey F.: *See*—  
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- Parker, Humphrey F., E. E. Robins, and F. O. Church, to Columbus McKinnon Corp. Conveyor trolley and track thereof. 3,074,356, 1-22-63, Cl. 104—172.



- Parker, Humphrey F., and E. E. Robins, to Columbus McKinnon Corp. Conveyor trolley stabilizers. 3,094,943, 6-25-63, Cl. 104-172.
- Parker, John A.: *See*—  
Butterworth, Richard, and Parker. 3,094,508.
- Parker, John A., and J. Versnel, to Armstrong Cork Co. Non-crystallizing polyester, and polyurethane made therefrom. 3,094,510, 6-18-63, Cl. 260-75.
- Parker, John H. Street barricade. 3,089,682, 5-14-63, Cl. 256-64.
- Parker, John M.: *See*—  
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Wasson, Burton K., and Parker. 3,098,012.  
Wasson, Burton K., and Parker. 3,099,662.
- Parker, Joseph D., to Beloit Iron Works. Method and apparatus for feeding stock to paper making machine. 3,092,538, 6-4-63, Cl. 162-216.
- Parker, Joseph D., to Beloit Iron Works. Method and apparatus for distributing particle suspension. 3,092,540, 6-4-63, Cl. 162-343.
- Parker, Joseph W., to Pharma Plastics Inc. Closure. 3,081,899, 3-19-63, Cl. 220-27.
- Parker, Kenneth G., to C.A.V. Ltd. Shaft bearings. 3,110,528, 11-12-63, Cl. 308-122.
- Parker, Leon O., to San Francisco Research Corp. Tubular surgical bandages, casts, and molds. 3,097,644, 7-16-63, Cl. 128-157.
- Parker, Leslie K., to Aluminum Laboratories Ltd. Inspecting or sorting apparatus. 3,091,332, 5-28-63, Cl. 209-75.
- Parker, Leslie K., to The Perkin-Elmer Corp. Nuclear magnetic resonance apparatus. 3,113,264, 12-3-63, Cl. 324-5.
- Parker, Louis W. Printed circuits. 3,080,541, 3-5-63, Cl. 336-200.
- Parker, Louis W. Three-dimensional direction finder for aircraft guidance. 3,103,663, 9-10-63, Cl. 343-108.
- Parker, Louis W. Temperature and field density compensators for electrical indicating instruments. 3,112,444, 11-26-63, Cl. 324-105.
- Parker, Norman S.: *See*—  
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- Parker, Norman W.: *See*—  
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- Parker, Paul T.: *See*—  
Gladrow, Elroy M., and Parker. 3,098,032.
- Parker, Paul T., J. L. Bryan, Jr., A. B. Small, D. W. Pugh, and F. J. Buchmann, to Esso Research and Engineering Co. Continuous chlorination and bromination of butyl rubber. 3,099,644, 7-30-63, Cl. 260-85.3.
- Parker Pen Co., The: *See*—  
Green, Homer T. 3,115,119.  
Jeffris, Bruce M. 3,073,285.  
Tullis, Lyell C. 3,079,679.  
Wittnebert, Frederick R., and Sonntag. 3,087,464.
- Parker, Richard W., W. Houser, and T. P. R. Stout, to Parker Sweeper Co. Sweeper with side dumping debris basket. 3,089,169, 5-14-63, Cl. 15-83.
- Parker, Rienzi B., Jr., and P. A. Reiman, to Kalvar Corp. Scatter photography element containing Werner type chrome carboxylic acid complexes. 3,081,169, 3-12-63, Cl. 96-75.
- Parker, Robert B. Hand cleaning device. 3,075,221, 1-29-63, Cl. 15-176.
- Parker, Ronald R.: *See*—  
Deve, Vagn, and Parker. 3,104,431.
- Parker, Roy A., and J. D. Thompson; said Thompson assor. to Highland Dairies, Inc. Can dispensing apparatus. 3,096,908, 7-9-63, Cl. 221-176.
- Parker, Rudolph J. Adjustable split-leaf switch terminal. 3,071,660, 1-1-63, Cl. 200-11.
- Parker, Stewart H. Duplicating device. 3,075,458, 1-29-63, Cl. 101-131.
- Parker Sweeper Co.: *See*—  
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- Parker, William H.: *See*—  
Huckabay, William B., and Parker. 3,090,938.
- Parker, William S., to Vickers-Armstrongs (Engineers) Ltd. Riding ring for rotary cylinders. 3,096,127, 7-2-63, Cl. 308-36.
- Parker, William S., and J. N. Fox, to Vickers-Armstrongs (Engineers) Ltd. Weighting apparatus. 3,089,556, 5-14-63, Cl. 177-86.
- Parker, Wilton E.: *See*—  
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- Parkersburg-Aetna Corp.: *See*—  
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- Parkersburg Rig & Reel Co., The: *See*—  
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- Parke, George L. and R. J., and G. C. Tubbs. Bird feeder assembly. 3,115,865, 12-31-63, Cl. 119-52.
- Parke-Hannifin Corp.: *See*—  
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- Parke, Richard J.: *See*—  
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- Parkhill, Thomas D., and J. P. H. Shaw, to Imperial Chemical Industries Ltd. Process for the production of hydrocyanic acid. 3,102,001, 8-27-63, Cl. 23-151.
- Parkhurst, Malcolm K.: *See*—  
Burch, Hadley K., and Parkhurst. 3,105,886.
- Parkin, Leslie, to United-Carr Fastener Corp. Fastener means for detachably securing two angularly disposed members to one another. 3,102,308, 9-3-63, Cl. 20-92.
- Parkin, Ronald: *See*—  
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- Parkins, John H., III, to Deering Milliken Research Corp. Method and apparatus for winding coreless bobbins. 3,112,896, 12-3-63, Cl. 242-18.
- Parkinson, Chester B., Jr.: *See*—  
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- Parkinson, David B., and C. F. Sprosty, to Clevite Corp. Hermetic seal. 3,082,291, 3-19-63, Cl. 174-77.
- Parkinson, Harold B. Process of preparing printing plates. 3,105,783, 10-1-63, Cl. 156-14.
- Parkinson, John, to New York Business Development Corp. Filter unit and filter cartridge therefor. 3,112,262, 11-26-63, Cl. 210-130.
- Parkinson, Martin C., and C. E. Bender, to The Vir Tis Co., Inc. Freeze-drying flasks. 3,080,990, 3-12-63, Cl. 215-31.
- Parkison, Richard G., to American Radiator & Standard Sanitary Corp. Closet tank fittings with silencing means. 3,107,747, 10-22-63, Cl. 181-36.
- Parkison, Wayne M.: *See*—  
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- Parks, Arthur C., to General Motors Corp. Shaft assembly. 3,072,413, 1-8-63, Cl. 277-8.
- Parks, Asbury S., to Clayton Mark & Co. Shutoff valve with needle element therein and valve seating construction. 3,084,903, 4-9-63, Cl. 251-187.
- Parks, Christ F., J. E. Strassner, and F. W. Burtch, to The Dow Chemical Co. Inhibition of deposition of hydrocarbonaceous solids from oil. 3,096,777, 7-9-63, Cl. 137-15.
- Parks, Howard E.: *See*—  
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- Parks, John H., R. H. Miller, and R. T. Paluska, to Caterpillar Tractor Co. Pressure actuated fuel control for supercharged engines. 3,077,873, 2-19-63, Cl. 123-140.
- Parks, Kenneth E. Optical illusion walking game. 3,111,313, 11-19-63, Cl. 273-1.
- Parks, Noble L., ½ to R. A. Goodling, ¼ to W. L. Runge, and ¼ to E. D. Dryden. Demountable cargo box for vehicles. 3,073,467, 1-15-63, Cl. 214-515.
- Parks, Robert F., to Steel Heddlie Mfg. Co. Loom beam let-off. 3,087,516, 4-30-63, Cl. 139-110.
- Parks, Thomas D.: *See*—  
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- Parks, Thomas D., to The Clorox Co. Hypochlorite bleach bottle. 3,074,548, 1-22-63, Cl. 206-84.
- Parks, Walter J., to The W. S. Tyler Co. Pedestal supports for vibrating screening equipment. 3,081,875, 3-19-63, Cl. 209-412.
- Parks, Walter J., to The W. S. Tyler Co. Rubber mounting unit. 3,107,890, 10-22-63, Cl. 248-358.
- Parkson Industrial Equipment Co.: *See*—  
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- Parlasca, Edwin W., to Flexonics Corp. Tube forming method. 3,077,170, 2-12-63, Cl. 113-33.
- Parlatore, Neal R.: *See*—  
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- Parmakian, George, to Riley Stoker Corp. Steam generating unit. 3,095,863, 7-2-63, Cl. 122-479.
- Parmakian, George, and G. R. Terpe, to Riley Stoker Corp. Power generating system. 3,110,290, 11-12-63, Cl. 122-479.
- Parmele, Harris B., F. J. Schultz, and C. O. Jensen, to P. Lorillard Co. Tobacco product. 3,112,755, 12-3-63, Cl. 131-9.
- Parmenter, Richard. Silencer for ships. 3,084,651, 4-9-63, Cl. 114-5.
- Parnell, Frank G.: *See*—  
Packer, Mervyn B., Prestidge, Rodway, and Parnell. 3,093,422.
- Parr, Bernard A., E. H. Lowe, and J. A. Bryan, to Parr Equipment Co. Nut having elastic locking ring secured at one end and method of securing same. 3,115,918, 12-31-63, Cl. 151-7.
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- Patton, Frank J., Jr. Toy parking device. 3,106,038, 10-8-63, Cl. 46—40.
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- Pease, David W., to Curtiss-Wright Corp. Rotary-oscillatory device for mixing, tumbling, comminuting, and the like. 3,091,433, 5-28-63, Cl. 259—72.
- Pease, Liberty: *See—*  
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- Pease, Lionel, and J. R. Wells. Self-cinching tong dogs for sawmills. 3,071,170, 1-1-63, Cl. 143—125.
- Pease, Richard O., to Dura-Vent Corp. Roof ventilator. 3,082,677, 3-26-63, Cl. 98—46.
- Pease, William C., III, and A. L. Vandergriff, to Lummus Cotton Gin Co. Saw type cotton gin and process for ginning cotton. 3,091,001, 5-28-63, Cl. 19—55.
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- Peaster, Bertram A., to Integral Ltd. Reciprocating pumps. 3,101,056, 8-20-63, Cl. 103—37.
- Peat, Macly R., to Wm. J. Stange Co. Method of stabilizing spice material and the resulting product. 3,095,306, 6-25-63, Cl. 99—140.
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- Peay, Paul W., to United States of America, Air Force. Peripheral support for revolving radome. 3,075,191, 1-22-63, Cl. 343—87,2.
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- Pecasse, Albertus H.: *See—*  
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- Pecceirill, Donald. Apparatus for making bulged articles. 3,094,091, 6-18-63, Cl. 113—44.
- Pecchenino, Paul L., to International Business Machines Corp. Positioning mechanism in selective type printing machine. 3,094,064, 6-18-63, Cl. 101—93.
- Pecci, Angelo A. Electric heating system. 3,103,575, 9-10-63, Cl. 219—38.
- Pech, Allison E., to FMC Corp. Method of preparing evaporated milk by two-stage sterilization. 3,112,205, 11-26-63, Cl. 99—214.
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- Pechmann, Wilhelm, to H. Strunck & Co. Method and apparatus for the application of coloring matter to tablets, such as dragees. 3,090,296, 5-21-63, Cl. 101—44.
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- Peck, Allan W., and M. W. Glassman. Receptacle or tray. 3,110,397, 11-12-63, Cl. 206—19,5.
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- Pedley-Knowles & Co.: *See*—  
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- Peebles, Benjamin W., and D. H. Shuttleworth, to Mohasco Industries, Inc. Sound insulating sheet material. 3,077,947, 2-19-63, Cl. 181-33.
- Peebles, David D., to Western Condensing Co. Apparatus for the treatment of dry powdered materials. 3,085,492, 4-16-63, Cl. 99-234.
- Peebles, David D., to Foremost Dairies, Inc. Centrifugal atomizer and method. 3,095,149, 6-25-63, Cl. 239-224.
- Peebles, David D., and P. D. Clary, Jr., to Foremost Dairies, Inc. High protein milk product and process. 3,074,796, 1-22-63, Cl. 99-55.
- Peebles, David D., P. D. Clary, Jr., and C. A. Kampf, to Foremost Dairies, Inc. Milk treatment process. 3,074,797, 1-22-63, Cl. 99-60.
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- Peek, Henry L., and J. W. Timmerman, to Allis-Chalmers Mfg. Co. Interrupting device employing continuous hydraulic control. 3,105,126, 9-24-63, Cl. 200-82.
- Peek, Johannes J. A., H. Rinia, and S. Duinker, to North American Philips Co., Inc. Variable reluctance magnetic circuit. 3,100,852, 8-13-63, Cl. 310-15.
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- Peeler, Lawrence F., and E. L. La Foy. Precast unit for forming a hyperbolic paraboloidal roof structure. 3,094,812, 6-25-63, Cl. 50-52.
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- Peeps, Donald J., to The De Vilbiss Co. Air flow control for pressure feed containers. 3,090,530, 5-21-63, Cl. 222-406.7.
- Peer, Hendricus G., to Nederlandse Organisatie voor Toegestap-Natuurwetenschappelijk Onderzoek ten behoeve van. Process for the chlorination of allene. 3,110,740, 11-12-63, Cl. 260-654.
- Peer, Hendricus G., and O. E. van Lohuizen, to Nederlandse Organisatie voor Toegestap-Natuurwetenschappelijk Onderzoek Ten Behoeve Van Nijverheid. Process for the production of unsaturated hydrocarbons with three carbon atoms. 3,082,273, 3-19-63, Cl. 260-683.
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- Peickil, Vasilie L., to Federal-Mogul-Bower Bearings, Inc. High speed molding machine. 3,079,632, 3-5-63, Cl. 18-5.
- Peickil, Vasilie L., to Federal-Mogul-Bower Bearings, Inc. Method of installing a shaft seal within a housing. 3,110,095, 11-12-63, Cl. 29-401.
- Peickil, Vasilie L., A. M. Seemann, and R. N. Haynie, to Federal-Mogul-Bower Bearings, Inc. Method for making multiple-lip seals. 3,077,637, 2-19-63, Cl. 18-55.
- Peickil, Vasilie L., and J. E. Lepetch, to Federal-Mogul-Bower Bearings, Inc. Face seal. 3,086,782, 4-23-63, Cl. 277-92.
- Peickil, Vasilie L., and J. E. Lepetch, to Federal-Mogul-Bower Bearings, Inc. Method of producing a face seal. 3,108,370, 10-29-63, Cl. 29-529.
- Peiffer, Norman H., and E. S. Proctor, to Kaman Aircraft Corp. Blade pitch control mechanism for a helicopter. 3,095,931, 7-2-63, Cl. 170-160.25.
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- Pelino, William M., to Servo Corp. of America. Hot box detector. 3,108,773, 10-29-63, Cl. 246—169.
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- Pell, Phil S. Cutter construction for cutting cables, solid bars and the like. 3,093,024, 6-11-63, Cl. 83—568.
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- Pellicone, Joseph S., E. N. Dejewski, and L. Pezza, to Chesebrough-Pond's Inc. Swab making apparatus. 3,090,080, 5-21-63, Cl. 19—143.5.
- Pellon Corp.: *See*—  
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- Peloggio, Achille. Driving device for linking machines. 3,103,902, 9-17-63, Cl. 112—25.
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- Peltier, Maurice L., and P. A. Rombau, to Societe de Produits Chimiques des Terres Rares. Process for separating samarium, europium and ytterbium from other rare earths. 3,102,783, 9-3-63, Cl. 23—24.
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- Needham, Lester H., and Babcock. 3,112,579.
- Penfold, Frederick T., to Lines Bros. Ltd. Baby-carriages and the like. 3,079,194, 2-26-63, Cl. 296—27.
- Penfold, Vincent H., and R. E. Ireland, to W. E. O'Shea. Current pulsing circuit which is sensitive to current changes. 3,099,756, 7-30-63, Cl. 307—132.
- Pengilly, Brian W., to The Goodyear Tire & Rubber Co. Uranium compounds as catalysts in a process for preparing esters. 3,072,612, 1-8-63, Cl. 260—75.
- Pengilly, Peter J.: *See*—  
Brocklehurst, Peter, and Pengilly. 3,075,921.
- Penhorwood, Lawrence G.: *See*—  
Bargdill, Gerald E., and Penhorwood. 3,105,529.
- Penick, Joe E.: *See*—  
Evans, Louis P., Payne, and Penick. 3,072,567.
- Penick, S. B., and Co. *See*—  
Brown, Bernard B., and Bywater. 3,086,911.
- Caldas, Jose M., and St. Clair. 3,085,936.
- Haus, Joseph B., Brooks, and Price. 3,098,004.
- Salkin, Ralph. 3,072,664.
- Peninger, Hernon B. Rolling toy. 3,102,361, 9-3-63, Cl. 46—205.
- Penkoff, Theodore. Air nozzle. 3,107,861, 10-22-63, Cl. 239—577.
- Penksa, Stanley. Prophylactic device. 3,085,570, 4-16-63, Cl. 128—132.
- Penksa, Stanley. Vaginal tampons. 3,085,574, 4-16-63, Cl. 128—263.
- Penksa, Stanley. Tampon devices. 3,101,714, 8-27-63, Cl. 128—285.
- Penland, Lowell B., to National Automatic Tool Co., Inc. Diaphragm clamping device. 3,075,414, 1-29-63, Cl. 77—32.2.
- Penland, Lowell B., to National Automatic Tool Co., Inc. Positive drive for rotatable tools. 3,115,348, 12-24-63, Cl. 279—51.
- Penley, Ralph H. Box loading apparatus. 3,088,257, 5-7-63, Cl. 53—159.
- Penman, Montgomery B., to The Magee Carpet Co. Method of making high and low tufted fabrics. 3,110,276, 11-12-63, Cl. 112—266.
- Penn Aircraft Products, Inc.: *See*—  
Wolcott, Glenn W. 3,109,479.
- Penn, Arthur, and F. Marsh, to Simon-Carves Ltd. Means for retarding the movement of vehicles or the like. 3,075,476, 1-29-63, Cl. 104—256.
- Penn Controls, Inc.: *See*—  
Emmons, Robert E. 3,078,878.
- Matthews, Russell B. 3,089,014.
- Pounds, Richard T. 3,086,147.
- Wilder, Justin E. 3,094,599.
- Penn, Ernest J., to General Motors Corp. Jet thrust reverser. 3,080,710, 3-12-63, Cl. 60—35.54.
- Penn, Franz: *See*—  
Langer, Konrad, and Penn. 3,083,957.
- Penn, Harry S. Esters of bile acid degradation products and a process for preparing same. 3,076,000, 1-29-63, Cl. 260—397.1.
- Penn, Harry S. Test for cancer employing esters of bile acid degradation products. 3,087,862, 4-30-63, Cl. 167—84.5.



- Penn Industries, Inc.: *See*—  
Pedersen, Thomas R. 3,089,452.
- Penn Metal Co., Inc.: *See*—  
Stovall, Wilbur C., Jr. 3,083,794.
- Penn, Walter H., and F. G. Lotz, to Hartmann & Braun Aktiengesellschaft. Gas analyzer based on the principle of thermal conductivity. 3,088,310, 5-7-63, Cl. 73-27.
- Penn, William B.: *See*—  
Wesoloski, Adolph J., and Penn. 3,071,846.
- Pennati, Giancarlo, to Società Applicazioni Gomma Antivibranti S.A.G.A., S.p.A. Sound-proofing, ventilating and conditioning. 3,074,339, 1-22-63, Cl. 98-40.
- Pennell, Franklin H.: *See*—  
Rieppel, Perry J., Niemann, Sopher, and Pennell. 3,104,313.
- Pennell, John D., Jr.: *See*—  
Malley, Thomas J., Schindler, and Pennell. 3,086,845.
- Pennell, Otto E., Jr.: *See*—  
Brown, James A., Pennell, and Jacke. 3,101,089.
- Penning, Hendricus M., and M. Kollin, to Shell Oil Co. Nuclear reactor coolants. 3,108,935, 10-29-63, Cl. 204-154.2.
- Penning, Kurt, and M. Ahrend, to Carl Zeiss Optische Werke. Stereoscopic map plotting device for transforming a physical three-dimensional movement into two two-dimensional movements. 3,100,265, 8-6-63, Cl. 250-220.
- Penningroth, Herbert M., to General Motors Corp. Decoder mechanism. 3,074,051, 1-15-63, Cl. 340-164.
- Penningroth, Herbert M., to General Motors Corp. Radio-telephone cabinet. 3,101,225, 8-20-63, Cl. 312-222.
- Penningroth, Herbert M., to General Motors Corp. Shielded electrical coil assembly. 3,101,463, 8-20-63, Cl. 336-87.
- Pennington, Edgar T., to Sylvania Electric Products Inc. Planar tube. 3,082,348, 3-19-63, Cl. 313-250.
- Pennington, Gerald L.: *See*—  
Pennington, Richard E. and G. L. 3,083,419.
- Pennington, John S., to McCallis Macalloy Ltd. Wedge anchors for gripping prestressing tendons. 3,072,988, 1-15-63, Cl. 24-126.
- Pennington, Kermit M., and R. D. Swanson. Walk-in stairwell closet. 3,100,915, 8-20-63, Cl. 20-5.
- Pennington, Richard E. and G. L. Combination window sash lock and lift. 3,083,419, 4-2-63, Cl. 20-52.2.
- Pennington, Wilfrid A., R. C. Harris, and G. F. Sharples, to The English Electric Co. Ltd. Air intakes for air aspirating aircraft engines. 3,104,522, 9-24-63, Cl. 60-35.6.
- Pennino, Charles J., to The B. F. Goodrich Co. Process for producing thermosetting polymer of unsaturated acid/ester interpolymer with alkylene oxide. 3,116,270, 12-31-63, Cl. 260-86.1.
- Pennow, Collette C.: *See*—  
Pennow, Willis A., and Loch. 3,113,726.
- Pennow, Willis A., deceased (C. C. Pennow, executrix), and C. H. Loch, to Westinghouse Electric Corp. Runway lighting unit. 3,113,726, 12-10-63, Cl. 240-1.2.
- Pennsalt Chemicals Corp.: *See*—  
Barth-Wehrenalp, Gerhard, and Gardner. 3,113,895.
- Braid, Milton, and Lawlor. 3,088,896.
- Bruce, Everett C. 3,094,380.
- Capron, Nicholas J., and Alkis. 3,111,426.
- Carroll, James W. 3,083,165.
- Gardner, David M., and Eitelman. 3,084,025.
- Gardner, David M., and Oesterling. 3,112,327.
- Hauptschein, Murray, and Braid. 3,089,911.
- Hauptschein, Murray, and Braid. 3,091,648.
- Hauptschein, Murray, and Braid. 3,102,915.
- Hauptschein, Murray, and Braid. 3,106,589.
- Hauptschein, Murray, and Braid. 3,116,337.
- Hauptschein, Murray, Braid, and Lawlor. 3,083,238.
- Hauptschein, Murray, Braid, and Lawlor. 3,100,228.
- Hauptschein, Murray, and Fainberg. 3,087,974.
- Hauptschein, Murray, and Fainberg. 3,087,975.
- Hauptschein, Murray, and Fainberg. 3,087,976.
- Inman, Charles E., Oesterling, and Tyczkowski. 3,076,853.
- La Lande, William A., Jr. 3,086,842.
- Lawlor, Francis E., and Braid. 3,102,139.
- Mandell, H. C., Jr. 3,071,438.
- Mandell, Harry C., Jr. 3,088,808.
- Mockrin, Isadore, and Kowalski. 3,098,752.
- Mockrin, Isadore, and Kowalski. 3,112,207.
- Popoff, Ivan C., and Albert. 3,113,124.
- Schuster, Ludwig K., and Baldi. 3,094,435.
- Schuster, Ludwig K., and Baldi. 3,112,231.
- Scott, Francis L., and Netsch. 3,071,554.
- Scott, Francis L., and Smith. 3,101,335.
- Smith, Herbert Q., and Scott. 3,100,751.
- Smolens, Harry G., Sprout, and Lane. 3,077,372.
- Pennstrom, Robert G., to Union Carbide Corp. Balanced valve and seal construction. 3,095,897, 7-2-63, Cl. 137-454.2.
- Pennsylvania Engineering Corp.: *See*—  
McFeaters, Harry L., and Lakin. 3,093,253.
- McFeaters, Harry L., and Lakin. 3,107,797.
- Pennsylvania Sewing Research Corp.: *See*—  
Bonarrigo, Paul J., and Ginsburg. 3,105,698.
- Penn-Union Electric Corp.: *See*—  
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- Pennwood Numechron Co.: *See*—  
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- Penny, Robert N., and C. S. King, to The Rover Co. Ltd. Gas turbine engine fuel system. 3,085,619, 4-16-63, Cl. 158-36.4.
- Penny, Troy A.: *See*—  
Ziegler, Clarence J., and Penny. 3,072,193.
- Pennywise Investment Association: *See*—  
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- Penote, Vincent S., to The Cleveland Trench Co. Excavating machine. 3,108,387, 10-29-63, Cl. 37-90.
- Penote, Vincent S., and F. J. Fetzner, to The Cleveland Trencher Co. Excavating machine. 3,081,566, 3-19-63, Cl. 37-97.
- Penote, Vincent S., and H. L. Meyer, to The Cleveland Trencher Co. Digger tooth. 3,091,044, 5-28-63, Cl. 37-142.
- Penoyer, Ralph F., to International Business Machines Corp. Resonant logic circuits employing tunnel diodes. 3,109,935, 11-5-63, Cl. 307-88.
- Penoza, Frank J.: *See*—  
Little, Ernest L., Jr., McCauley, and Penoza. 3,110,091.
- Penrod, William R.: *See*—  
Lorenz, Clermont H., and Penrod. 3,101,914.
- Penso, Giuseppe: *See*—  
Von Lorch, Littoria, Negri, Penso, and Savi. 3,098,744.
- Penta Laboratories, Inc.: *See*—  
Norton, Robert L. 3,106,463.
- Penta, Michael G. Encapsulated mailbox. 3,107,848, 10-22-63, Cl. 232-17.
- Pention Electronics Corp.: *See*—  
Minick, Lee E. 3,102,286.
- Pentland, William: *See*—  
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- Pentsch Bamac Aktiengesellschaft: *See*—  
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- Peoples, Graydon, to Lennox Industries, Inc. Heat generator and exchanger, and expansion joint therefor. 3,111,939, 11-26-63, Cl. 126-104.
- Peoples, Graydon, to Lennox Industries, Inc. Dual blower and burner for furnaces. 3,111,978, 11-26-63, Cl. 158-1.
- Peoples, Graydon, to Lennox Industries, Inc. Dual fuel burner construction. 3,111,979, 11-26-63, Cl. 158-11.
- Peoples, Graydon, and H. G. Koerber, to Lennox Industries, Inc. Oil-fired furnace. 3,084,682, 4-9-63, Cl. 126-116.
- Peoples, Virgil H., to The O. M. Scott & Sons. Wheel and hub cap. 3,101,975, 8-27-63, Cl. 301-37.
- Pepe, Enrico J., to Union Carbide Corp. Chlorocycanoalkyl silanes and siloxanes. Re. 25,371, 4-16-63, Cl. 260-448.8.
- Peper, Jan, to North American Philips Co., Inc. Mass spectrometer for gases at low pressures. 3,086,111, 4-16-63, Cl. 250-41.9.
- Pepinsky, Raymond: *See*—  
Jarmotz, Paul, and Pepinsky. 3,072,863.
- Peplin, Stephen C., to Lakewood Mfg. Co. Ball wheel with reinforced resilient insert. 3,101,945, 8-27-63, Cl. 273-49.
- Peppard, Donald F., E. P. Horwitz, and G. W. Mason, to United States of America, Atomic Energy Commission. Separation of europium from other lanthanide rare earths by solvent extraction. 3,077,378, 2-12-63, Cl. 23-23.
- Peppard, Donald F., and G. W. Mason, to United States of America, Atomic Energy Commission. Process for separating yttrium from the rare earths by solvent extraction. 3,110,556, 1-11-63, Cl. 23-23.
- Pepperell Mfg. Co.: *See*—  
Hilt, Eugene W., and Whalon. 3,107,397.
- Peppiatt, Harry J., to General Electric Co. Low noise crystal diode mixer. 3,092,774, 6-4-63, Cl. 325-445.
- Pepworth, Frederick J., to Associated Electrical Industries Ltd. Electric brush gear for holding and lifting. 3,075,110, 1-22-63, Cl. 310-240.
- Pequignot, Michel. Device for the extreme purification of water or other liquid. 3,091,577, 5-28-63, Cl. 202-189.
- Per Corp.: *See*—  
Hobson, Russell B., Jr. 3,100,190.
- Pera, Pohn D.: *See*—  
Buckman, Stanley J., Pera, and Funderburk. 3,085,893.
- Péras, Lucien: *See*—  
Bunodiére, André, and Péras. 3,078,391.
- Péras, Lucien, to Regie Nationale des Usines Renault. Door checks, notably for automobile doors. 3,070,829, 1-1-63, Cl. 16-85.
- Péras, Lucien, to Regie Nationale des Usines Renault. Disk brakes. 3,072,221, 1-8-63, Cl. 188-73.
- Péras, Lucien, to Regie Nationale des Usines Renault. Front axle suspension of vehicles. 3,074,737, 1-22-63, Cl. 280-96.2.
- Péras, Lucien, to Regie Nationale des Usines Renault. Door assembly for a vehicle. 3,074,755, 1-22-63, Cl. 296-44.
- Péras, Lucien, to Regie Nationale des Usines Renault. Conveyors. 3,083,650, 4-2-63, Cl. 104-172.
- Péras, Lucien, to Regie Nationale des Usines Renault. Devices for ensuring the fluid-tightness of hydraulic cooling systems of engines. 3,083,701, 4-2-63, Cl. 123-41.54.
- Péras, Lucien, to Regie Nationale des Usines Renault. Braking power distributors. 3,084,002, 4-2-63, Cl. 303-22.
- Péras, Lucien, to Regie Nationale des Usines Renault. Wind-screen wiper. 3,086,239, 4-23-63, Cl. 15-250.29.
- Péras, Lucien, to Regie Nationale des Usines Renault. Air line lubricator. 3,086,615, 4-23-63, Cl. 184-55.
- Péras, Lucien, to Regie Nationale des Usines Renault. Epicyclic gearboxes for transmission mechanisms. 3,091,981, 6-4-63, Cl. 74-759.
- Pefas, Lucien, to Regie Nationale des Usines Renault. Auxiliary apparatus for automatic line welding, notably fuel tanks. 3,092,712, 6-4-63, Cl. 219-81.



- Péras, Lucien, to Regie Nationale des Usines Renault. Foundry machines. 3,095,620, 7-2-63, Cl. 22-64.
- Péras, Lucien, to Regie Nationale des Usines Renault. Change-speed gears for engine and transmission mechanism units. 3,095,764, 7-2-63, Cl. 74-763.
- Péras, Lucien, to Regie Nationale des Usines Renault. Safety device for the guiding wheel of a vehicle. 3,099,491, 7-30-63, Cl. 301-126.
- Péras, Lucien, to Regie Nationale des Usines Renault. Methods of manufacturing hydrodynamic torque transmitters. 3,101,672, 8-27-63, Cl. 103-115.
- Péras, Lucien, to Regie Nationale des Usines Renault. Overhead-camshaft rocker-arm. 3,102,626, 8-27-63, Cl. 74-559.
- Péras, Lucien, to Regie Nationale des Usines Renault. Multi-channel spectral analyzer with internal standard control of light integration period. 3,102,921, 9-3-63, Cl. 88-14.
- Péras, Lucien, to Regie Nationale des Usines Renault. Hydraulic lifting devices for tractors. 3,103,147, 9-10-63, Cl. 91-48.
- Péras, Lucien, to Regie Nationale des Usines Renault. Front axle and steering assembly of automobile vehicle. 3,105,699, 10-1-63, Cl. 280-96.2.
- Péras, Lucien, to Regie Nationale des Usines Renault. Method and apparatus for the preparation of ferrous oxide. 3,105,757, 10-1-63, Cl. 75-1.
- Péras, Lucien, to Regie Nationale des Usines Renault. Automatic chain tensioning device. 3,111,039, 11-19-63, Cl. 74-242.11.
- Péras, Lucien, to Regie Nationale des Usines Renault. Gear change control device for mounting under the steering wheel or on the instrument panel. 3,111,041, 11-19-63, Cl. 74-484.
- Péras, Lucien, to Regie Nationale des Usines Renault. Means for controlling hydraulic cylinders and like actuators. 3,111,062, 11-19-63, Cl. 92-13.
- Péras, Lucien, to Regie Nationale des Usines Renault. Upholstery of seats and seat-backs, in particular for the seats of automobile vehicles. 3,111,345, 11-19-63, Cl. 297-455.
- Péras, Lucien, to Regie Nationale des Usines Renault. Rotors of rotary engines. 3,111,884, 11-26-63, Cl. 91-56.
- Péras, Lucien, to Regie Nationale des Usines Renault. Waste conveyors. 3,112,025, 11-26-63, Cl. 198-174.
- Péras, Lucien, to Regie Nationale des Usines Renault. Flexible bearings. 3,112,141, 11-26-63, Cl. 308-184.
- Péras, Lucien, to Regie Nationale des Usines Renault. Devices for gradually establishing an electric current, notably for controlling electromagnetic clutches. 3,112,418, 11-26-63, Cl. 310-95.
- Péras, Lucien, to Regie Nationale des Usines Renault. Valve tappets of internal combustion engines. 3,112,739, 12-3-63, Cl. 123-90.
- Péras, Lucien, to Regie Nationale des Usines Renault. Link-mounted disc brakes. 3,115,953, 12-31-63, Cl. 188-73.
- Percifield, Edward K.: *See—*
- Carrieo, Ralph T., Ford, Halbrooks, Beyersdorfer, and Percifield. 3,111,860.
- Percival, Joseph W., and R. W. Cook, to Westinghouse Electric Corp. Stereophonic receiving apparatus. 3,099,714, 7-30-63, Cl. 179-15.
- Percival, William, to J. Goddard & Sons Ltd. Intermittent fountain feed polish applicator with composite head. 3,090,060, 5-21-63, Cl. 15-131.
- Percival, Worth H.: *See—*
- Flynn, Gregory, Jr., and Percival. 3,080,706.
- Perconti, Tina. Restraining device. 3,084,686, 4-9-63, Cl. 128-133.
- Percy, Allan W., and W. J. Zollinger, to The Pure Oil Co. Fuel oil and method of operating fuel oil furnaces. 3,112,789, 12-3-63, Cl. 158-117.5.
- Percy, James W. Metallurgical process control. 3,080,755, 3-12-63, Cl. 73-355.
- Perdigao, Manuel F.: *See—*
- Williams, Frank R., Perdigao, and Boonstra. 3,104,985.
- Perdijk, Hendrik J. R.: *See—*
- Hovingh, Albertus R., and Perdijk. 3,102,764.
- Perdijk, Hendrik J. R., and J. J. N. Stouten, to North American Philips Co., Inc. Method of manufacturing a non-evaporating getter and getter made by this method. 3,082,174, 3-19-63, Cl. 252-181.6.
- Perdue, Jack, to Electro-Hydraulics Ltd. Shock absorbers. 3,083,000, 3-26-63, Cl. 267-64.
- Perdue, Jack, and C. B. Vere-Nelson, to Electro-Hydraulics Ltd. Aircraft undercarriage. 3,096,051, 7-2-63, Cl. 244-100.
- Perelman, Melvin, and E. Farkas, to Eli Lilly and Co. 19-nor-4, 9(10)-steroids and process. 3,086,027, 4-16-63, Cl. 260-397.3.
- Pereny, Louis, E. G. Gibbs, and C. O. Pyron, to Protective Treatments, Inc. Liquid adhesive compositions. 3,090,694, 5-21-63, Cl. 106-177.
- Perez Del Valle, Alfonso, to Lumineon, S.L. Load fall-off circuit breaker. 3,088,009, 4-30-63, Cl. 200-102.
- Perez, Guillermo, to Sperry Rand Corp. Selective platform tensioning mechanism. 3,094,218, 6-18-63, Cl. 211-51.
- Perfect Circle Corp.: *See—*
- Marie, Robert. 3,086,608.
- Teotor, Ralph R. 3,090,460.
- Vanderbilt, Vern C., Jr. 3,099,154.
- Perfect Equipment Corp.: *See—*
- Sunday, Richard K., Van Dolsen, Moore, and Jennings. 3,078,526.
- Perfecting Service Co.: *See—*
- Bass, John E., Jr. 3,085,219.
- Poetzsch, Paul H., and Lowe. 3,110,537.
- Williamson, John G., Jr. 3,089,302.
- Perfection Automotive Products Corp.: *See—*
- Osterhoudt, Harry. 3,074,253.
- Osterhoudt, Harry. 3,096,084.
- Osterhoudt, Harry. 3,105,368.
- Perfection Pipe Nipple Co.: *See—*
- Jacobson, Irvin D. 3,093,161.
- Perfex Corp.: *See—*
- Panthofer, Ernest H. 3,093,189.
- Perger, Ernst. Gear hobbing machines. 3,103,143, 9-10-63, Cl. 90-4.
- Perhacs, Leslie. Live center. 3,078,884, 2-26-63, Cl. 142-53.
- Peri, Cesare A., G. Rossi, and G. Michieli, to Montecatini Società Generale per l'Industria Mineraria e Chimica. Alpha-dialkylthio-(dithio)-phosphoryl alpha - phenylacetic esters of cyano-hydrin, and parasitocidal composition containing said esters. 3,080,277, 3-5-63, Cl. 167-30.
- Periard, John N.: *See—*
- Waldron, George W., and Periard. 3,080,215.
- Périat, Robert: *See—*
- Kircher, René, and Périat. 3,095,267.
- Périères, René: *See—*
- Paris, René A., and Périères. 3,092,455.
- Perilhau, Jean R.: *See—*
- Bansard, Pierre M. P., Dujols, and Perilhau. 3,091,683.
- Perilloux, Charles J., to Texaco Inc. Method and apparatus for taking fluid samples from a flowing line. 3,084,554, 4-9-63, Cl. 73-422.
- Perilstein, Louis. Reinforced frame member of elastomeric material. 3,092,877, 6-11-63, Cl. 20-56.4.
- Perini, Anthony R. Collapsible book rack. 3,095,974, 7-2-63, Cl. 211-43.
- Perini Electronic Corp.: *See—*
- Kilburg, James. 3,081,047.
- Perino, Dominic A., and J. D. Andrews, to Milprint, Inc. Opener for commodity container. 3,088,654, 5-7-63, Cl. 229-85.
- Perino, Peter R., to Statham Instrument, Inc. Linear electrical compensation circuits. 3,085,193, 4-9-63, Cl. 323-69.
- Perkerson, Olivia. Hair straightening device. 3,074,416, 1-22-63, Cl. 132-40.
- Perkin-Elmer Corp., The: *See—*
- McLaughlin, Robert D., Landsman, and Borden. 3,093,736.
- Mehr, Morton H. 3,109,984.
- Parker, Leslie K. 3,113,264.
- Saperstein, Sol. 3,079,835.
- Scott, Larkin B. 3,071,320.
- Woodcock, Eugene L., Dueker, and Golay. 3,094,001.
- Perkins, Arthur F.: *See—*
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- Atkins, John H. C. 3,115,237.
- Perkins, Carl C., Jr.: *See—*
- Mathews, William K., and Perkins. 3,072,967.
- Perkins, Charles H., to Robertshaw-Fulton Controls Co. Thermally responsive device. 3,082,626, 3-26-63, Cl. 73-368.4.
- Perkins, Charles M., to Eaton Mfg. Co. Automotive device. 3,105,395, 10-1-63, Cl. 74-745.
- Perkins, Donald W., to General Electric Co. Spherical coordinate proportional control device. 3,116,468, 12-31-63, Cl. 336-30.
- Perkins, Fred D., Jr., to Kimberly-Clark Corp. Consistency responsive device. 3,071,962, 1-8-63, Cl. 73-59.
- Perkins, Frederick M., Jr.: *See—*
- Gaskell, Merwin H., Lindley, and Perkins. 3,083,764.
- Gaskell, Merwin H., Lindley, and Perkins. 3,104,702.
- Perkins, Glenn H., to Oxford Paper Co. Stabilized methyloated polyacrylamide aqueous solutions and process for preparing same. 3,072,587, 1-8-63, Cl. 260-29.4.
- Perkins, J. Carter, Jr.: *See—*
- Brune, William L., A. F. Perkins, and J. C. Perkins, Jr. 3,105,937.
- Scott, Richard, Brightman, and Perkins. 3,111,557.
- Perkins, Kenneth, to The Cincinnati Butchers' Supply Co. Cam type spacing feeder. 3,081,713, 3-19-63, Cl. 104-250.
- Perkins, Merlyn H.: *See—*
- Behrnt, Marianne E., Giedd, Perkins, and Weed. 3,091,566.
- Perkins Pipe Linings Inc.: *See—*
- Perkins, Warren E. 3,105,282.
- Perkins, Richard E., to Sylvania Electric Products Inc. Wire fastening method. 3,100,254, 8-6-63, Cl. 219-58.
- Perkins, Robert L., and J. G. Wilson, to Sperry Rand Corp. Pneumatically positioned record member. 3,108,259, 10-22-63, Cl. 340-174.1.
- Perkins, Warren E., to Union Carbide Corp. Thermally insulated bulk storage containers. 3,088,787, 5-7-63, Cl. 312-214.
- Perkins, Warren E., to Perkins Pipe Linings Inc. Trowel for pipe lining material. 3,105,282, 10-1-63, Cl. 25-38.
- Perkins, Wilder E., and E. J. Justus, 1/2 to Raybestos-Manhattan, Inc., and 1/2 to Beloit Iron Works. Suction box belt. 3,077,925, 2-19-63, Cl. 162-367.



- Perkins, William C., and E. A. Van Der Wal, to Collins Radio Co. Fast switching bistable thyatron control circuit. 3,113,240, 12-3-63, Cl. 315-84.5.
- Perkovich, Mark J., to General Foods Corp. Scouring pad. 3,097,387, 7-16-63, Cl. 15-209.
- Perkovich, Mark J., C. R. Wardwell, and E. H. Wolfe, to General Foods Corp. Scouring pads. 3,104,915, 9-24-63, Cl. 300-21.
- Perkow, Werner, 1/2 to Norddeutsche Affinerie and 1/2 to C. F. Spiess & Sohn. Herbicidal method employing 1-phenyl-2,3-dimethyl-4-chloro-pyrazolone and salts thereof. 3,092,483, 6-4-63, Cl. 71-2.5.
- Perk-Pak Packing Inc.: See—  
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- Perl, Albert H. F., to Joseph Billingham, Ltd. Can openers. 3,088,203, 5-7-63, Cl. 30-23.
- Perl, Alexander I., to Foster Wheeler Corp. Pressure vessel closure. 3,112,842, 12-3-63, Cl. 220-46.
- Perl, Richard L., to The Tappan Co. Forced vented cooking top and oven. 3,089,479, 5-14-63, Cl. 126-21.
- Perl, Richard L., to The Tappan Co. Liquid detergent dispenser. 3,107,824, 10-22-63, Cl. 222-207.
- Perla, Martin R., to The Singer Mfg. Co. Two speed drive for sewing machines. 3,095,765, 7-2-63, Cl. 74-78.5.
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- Perla, Martin R., to The Singer Co. Pattern cam selecting mechanism for zigzag sewing machines. 3,113,538, 12-10-63, Cl. 112-158.
- Perlick Co., Inc.: See—  
Perlick, Hilbert R. 3,077,202.
- Perlick, Hilbert R., to The Perlick Co., Inc. Beer keg tap. 3,077,202, 2-12-63, Cl. 137-324.
- Perlini, Robert S., to International Business Machines Corp. Tape reel. 3,088,689, 5-7-63, Cl. 242-71.8.
- Perlman, David, to Olin Mathieson Chemical Corp. Synthesis of cobamides. 3,093,552, 6-11-63, Cl. 195-114.
- Perlman, Harry S., and J. Levin. Means for dispensing toilet paper in wet or dry condition. 3,084,664, 4-9-63, Cl. 118-235.
- Perlman, Moses. Semi-automatic slider mount for zipper assembly. 3,110,414, 11-12-63, Cl. 221-22.
- Perlman, Preston L., to Schering Corp. Steroid-amino acid compositions for preventing negative nitrogen balance. 3,105,010, 9-24-63, Cl. 167-77.
- Perlman, Sidney H., to Temperature Engineering Corp. Glove assembly for controlled atmosphere enclosure. 3,103,016, 9-10-63, Cl. 2-270.
- Perlman, Sidney H., to Temperature Engineering Corp. Controlled atmosphere oven. 3,113,199, 12-3-63, Cl. 219-35.
- Perls, Thomas A., J. J. Hartog, and B. L. Mattes, to Lockheed Aircraft Corp. Pyroelectric squaring element. 3,088,670, 5-7-63, Cl. 235-193.
- Perlstein, Edward. Combination letter with message carrying unit and return mailing piece. 3,111,258, 11-19-63, Cl. 229-92.3.
- Permaglass, Inc.: See—  
Nitschke, Norman C., and McMaster. 3,087,316.
- Permail Ltd.: See—  
Douglas, Robert I. 3,071,325.
- Perma-Line Mfg. Corp. of America: See—  
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- Permalux Co., The: See—  
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- Permanent Filter Corp.: See—  
Smith, Paul A. 3,080,972.
- Permanente Cement Co.: See—  
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- Perma-Pur, Inc.: See—  
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- Perma Tubes Ltd.: See—  
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- Hunkeler, Jules W. 3,084,088.
- Perme, Rudolph J.: See—  
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- Permold Co., The: See—  
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- Permuta Closures Ltd.: See—  
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- Wood, Arthur G. 3,109,548.
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- Pernick, David. Machine for converting tubular fabric into a web of fabric. 3,105,283, 10-1-63, Cl. 26-1.
- Perner, Raymond F.: See—  
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- Pernetta, Charles. Rectilinearly guided members. 3,093,424, 6-11-63, Cl. 308-6.
- Perona, Giovanni: See—  
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- Perovich, Batris W. Trowler. 3,106,006, 10-8-63, Cl. 25-38.
- Perpetuum-Ebner, Fabrik fur Feinmechanik und Elektrotechnik Steidiner & Co., Kom.-Ges.: See—  
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- Perraut, Jean M., and H. Michel, to Compagnie de Saint-Gobain. Apparatus for automatically loading and changing bobbins. 3,075,714, 1-29-63, Cl. 242-18.
- Perreault, Donald A., to General Dynamics Corp. Blocking oscillator controlled electronic switch. 3,071,701, 1-1-63, Cl. 307-88.5.
- Perrella, Guido, to Clix Fastener Corp. Slide fastener tape joining device. 3,093,893, 6-18-63, Cl. 29-200.
- Perrelli, John, to Filper Corp. Method of removing pits from drupe halves. 3,113,602, 12-10-63, Cl. 146-28.
- Perrelli, Nicholas J. Untimed method of and apparatus for making cartons. 3,111,885, 11-26-63, Cl. 93-49.
- Perret, Jean. Apparatus for manufacturing a watch glass. 3,110,929, 11-19-63, Cl. 18-5.
- Perri, Andrew. Multiple purpose auto carrier and dump box. 3,103,290, 9-10-63, Cl. 214-450.
- Perri, Frank B.: See—  
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- Perri, Giovanni, and G. Tubiello, to Montecatini, Società Generale per l'Industria Mineraria e Chimica. Process for enriching of phosphoric anhydride phosphate minerals containing calcium carbonate. 3,113,838, 12-10-63, Cl. 23-165.
- Perri, Peter R.: See—  
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- Perriam, Leonard T.: See—  
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- Perrin, Bernard, to Molins Machine Co. Ltd. Reconstituting tobacco. 3,081,779, 3-19-63, Cl. 131-140.
- Perrin, Jack L.: See—  
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- Perrin, Jack L., to Towlsaver, Inc. Method of automatically dismounting rolled web material. 3,089,659, 5-14-63, Cl. 242-55.2.
- Perrinjacquet, Roger P. Tooth brush actuating mechanism. 3,104,405, 9-24-63, Cl. 15-22.
- Perrins, Allen R., to The Superior Electric Co. Voltage surge protection network. 3,099,789, 7-30-63, Cl. 323-9.
- Perrochat, Jean, to A. Raymond. Molding fastener. 3,110,068, 11-12-63, Cl. 24-73.
- Perron, Robert R., and B. C. Wiggins, to Advanced Instruments, Inc. Spectrometry apparatus. 3,074,308, 1-22-63, Cl. 88-14.
- Perron, Yvon G., and L. C. Cheney. Alpha-alkoxy, alpha, alpha-dialkyl-methyl penicillins. 3,082,204, 3-19-63, Cl. 260-239.1.
- Perron, Yvon G., and W. F. Minor, to Bristol-Myers Co. 3-(3-indolyl)pyrrolidines. 3,109,844, 11-5-63, Cl. 260-247.2.
- Perrone, Arrigo, and A. Salvi. Spacer for twin and multiple conductors of high voltage aerial transmission lines. 3,107,272, 10-15-63, Cl. 174-40.
- Perrot, André: See—  
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- Perrotto, Joseph, to International Air-Springs, Inc. Auxiliary safety brake mechanism for motor vehicles. 3,114,440, 12-17-63, Cl. 188-152.
- Perrus, Roger, to Esso Standard Societe Anonyme Francaise. Acetate greases. 3,083,163, 3-26-63, Cl. 252-42.
- Perry, Arthur J. Foldable barricade and sign frame. 3,094,802, 6-25-63, Cl. 40-125.
- Perry, Charles I., Jr. Machine for forming highway markers in situ. 3,086,431, 4-23-63, Cl. 94-39.
- Perry, Clarence H.: See—  
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- Perry, D. Cameron, to Armco Steel Corp. Methods of producing extreme flatness in heat treated stainless steel and the like. 3,094,442, 6-18-63, Cl. 148-12.
- Perry, Dan E., to Phillips Petroleum Co. Method and apparatus for molding hollow plastic articles. 3,100,317, 8-13-63, Cl. 18-5.
- Perry, Daniel E.: See—  
Doyle, Robert, and Perry. 3,112,522.
- Perry, Donald D.: See—  
Mann, David J., Perry, and Dudak. 3,083,235.
- Schaeffer, Paul F., and Perry. 3,086,895.
- Perry, Edward G., to Texas Instruments Inc. Apparatus for recording geophysical signals on a depth basis. 3,085,845, 4-16-63, Cl. 346-33.
- Perry, Edward G., and A. L. Wade, to Texas Instruments Inc. Method and apparatus for effecting corrections on records. 3,080,545, 3-5-63, Cl. 340-15.5.
- Perry, Frank L., Jr.: See—  
Kleeberg, Gunther K. E., and Perry. 3,083,346.
- Perry, Franklin W.: See—  
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- Perry, Frederick G., to Texas Instruments Inc. Miniaturized printed circuit electrical switching device. 3,095,486, 6-25-63, Cl. 200-122.
- Perry, Frederick G., A. J. Grenier, and J. J. Wilson, III, to Texas Instruments Inc. Electrical control device. 3,099,732, 7-30-63, Cl. 200-122.
- Perry, Gerald H., and E. W. Shallow, to National Research Development Corp. Electronic storage and switching arrangements. 3,087,070, 4-23-63, Cl. 307-88.
- Perry, Gerald H., and E. W. Shallow, to International Business Machines Corp. Electronic circuits. 3,113,296, 12-3-63, Cl. 340-174.
- Perry, Henry: See—  
Dawson, Fred, Perry, and Peterson. 3,110,989.
- Peterson, Evald O., Rodes, and Perry. 3,090,055.



- Perry, Holt R., to Continental Carbon Co. Apparatus for carbon black manufacture. 3,102,790, 9-3-63, Cl. 23-259.5.
- Perry, John C., and M. G. Kunec. Three-dimensional display system. 3,079,585, 2-26-63, Cl. 340-23.
- Perry, Joseph A., Jr., to Cherry-Burrell Corp. Mounting for force measuring device. 3,072,209, 1-8-63, Cl. 177-179.
- Perry, Joseph A., Jr., to Cherry-Burrell Corp. Temperature error compensator. 3,099,156, 7-30-63, Cl. 73-141.
- Perry, Joseph J., Sr.: *See*—  
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- Perry, Kenneth R., to Pye Ltd. Control and indicating arrangement. 3,072,327, 1-8-63, Cl. 235-61.
- Perry, Kenneth R., and M. C. W. Andrews, to Pye Ltd. Electronic time cycled respirator. 3,101,708, 8-27-63, Cl. 128-29.
- Perry, Lindsey R., and W. E. Rowe, to Columbia Broadcasting System, Inc. Process for photographically forming color screens. 3,080,231, 3-5-63, Cl. 96-35.
- Perry, Robert H., Jr., to Esso Research and Engineering Co. 1,3-cyclododecadiene and method of preparation. 3,093,693, 6-11-63, Cl. 260-666.
- Perry, Robert O., and D. R. Holbert, to Sinclair Research, Inc. Method for polymerizing liquid resin-forming materials. 3,114,419, 12-17-63, Cl. 166-33.
- Perry Rubber Co.: *See*—  
Adelman, Edward A. 3,107,786.
- Perry, Thomas E.: *See*—  
Garmy, Robert J., and Perry. 3,108,151.
- Perry, Wallace: *See*—  
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- Perry, Willard P., deceased; The Philadelphia National Bank, executor. Steam generating apparatus. 3,101,588, 8-27-63, Cl. 60-31.
- Perry, William A., to Ingersoll-Rand Co. Engine control. 3,099,984, 8-6-63, Cl. 123-148.
- Perry, William M., to General Aniline & Film Corp. Non-alcoholic aerosol film forming compositions. 3,100,179, 8-6-63, Cl. 167-87.1.
- Persidsky, Maxim D. Vacuum sealed rotary glass valve. 3,111,136, 11-19-63, Cl. 137-315.
- Persinger, Laverne O. and M. L., to Big Boy Mfg. Co., a division of Seidelhuber Steel Rolling Mill Corp. Barbecue equipment. 3,085,562, 4-16-63, Cl. 126-25.
- Persinger, Merle L.: *See*—  
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- Person, Ernest H., to Allied Thermal Corp. Air diffuser. 3,107,597, 10-22-63, Cl. 98-40.
- Person, Herman R., to Dale Electronics, Inc. Miniature multiple surge arrester. 3,112,429, 11-26-63, Cl. 317-74.
- Personal Products Corp.: *See*—  
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- Persson, Karl G. A., to LKB-Produkter Fabrisaktiebolag. Microtome with illumination and observation means. 3,103,844, 9-17-63, Cl. 83-167.
- Persson, Karl R., to Ahlen & Akerlund Forpackning, AB. Foldable blanks, and cartons, boxes, trays or packing cases made therefrom. 3,112,854, 12-3-63, Cl. 229-39.
- Persson, Per-Oskar. Air conditioning apparatus. 3,092,477, 6-4-63, Cl. 55-196.
- Persson, Per W. S., to Svenska Rotor Maskiner Aktiebolag. Regenerative heat exchangers. 3,072,182, 1-8-63, Cl. 165-9.
- Perthen, Johannes F., and H. K. Steudel; said Steudel assor. to said Perthen. Linear dimension gauge. 3,088,591, 5-7-63, Cl. 209-88.
- Pertrix-Union G.m.b.H.: *See*—  
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- Perucca, Pietro. Machine for the preparation of coffee infusion. 3,098,424, 7-23-63, Cl. 99-302.
- Perusse, Walter L. Clip for securing an article to a table. 3,089,211, 5-14-63, Cl. 24-259.
- Pervier, Charles F., to Amot Controls Corp. Vibration responsive trip valve assembly. 3,109,441, 11-5-63, Cl. 137-46.
- Perzyk, Conrad J., to Ford Motor Co. Dynamoelectric machine. 3,089,047, 5-7-63, Cl. 310-239.
- Pesarek, Walter: *See*—  
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- Pesce, Gabriel V., to American Brake Shoe Co. Hydraulic pumps. 3,108,544, 10-29-63, Cl. 103-162.
- Pesch, Anthony W., to International Paper Co. Process for preparation of fibers having differing characteristics. 3,085,927, 4-16-63, Cl. 162-55.
- Pesch, Willem: *See*—  
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- Pesel, Harry F.: *See*—  
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- Pesenti, Pierre, to Commissariat a l'Energie Atomique. Head for remote manipulators. 3,111,230, 11-19-63, Cl. 214-1.
- Peshel, Robert L., and L. M. Hoffman, to Precision Instrument Co. Low power tape drive mechanism. 3,114,512, 12-17-63, Cl. 242-55.12.
- Pesola, Raymond H., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,081,968, 3-19-63, Cl. 244-76.
- Pesson, Marcel. Triazole (4-3,b) pyridazines. 3,079,392, 2-26-63, Cl. 260-250.
- Pestronk, Saul M., and E. Mauro, to Post Mfg. Co. Headgear. 3,107,356, 10-22-63, Cl. 2-3.
- Pet Milk Co.: *See*—  
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- Peter, Julius: *See*—  
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- Peter, Julius, K.-L. Schmidt, and E. Müller, 1/2 to Farbenfabriken Bayer Aktiengesellschaft, and 1/2 to Mobay Chemical Co. Polyurethane plastics. 3,085,993, 4-16-63, Cl. 260-75.
- Peter Paul Electronics Co.: *See*—  
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- Petering, Harold G., and H. H. Fall, to The Upjohn Co. Isoalloxazines. 3,077,474, 2-12-63, Cl. 260-251.5.
- Peterkin, Melvin E., and S. S. Kurtz, Jr., to Sun Oil Co. Artificial board and process for preparing same. 3,096,297, 7-2-63, Cl. 260-9.
- Petermann, Johannes H. and N. A., to Olympia Werke AG. Magnetic data recording apparatus. 3,096,521, 7-2-63, Cl. 346-74.
- Petermann, Nora A.: *See*—  
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- Petermeier, Edwin F. Bale loading apparatus. 3,102,625, 9-3-63, Cl. 198-7.
- Peters, Adolph T., and R. G. La Valley, to The Dow Chemical Co. Preparation of foundry cores. 3,108,340, 10-29-63, Cl. 22-193.
- Peters, Beldon A.: *See*—  
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- Peters, Beldon A., L. A. Carlton, E. Rich, and H. M. Buck, to Jersey Production Research Co. Subsurface parker infating pump. 3,083,774, 4-2-63, Cl. 166-187.
- Peters, Bruce A.: *See*—  
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- Peters, Carl W. Door and window water shield. 3,096,816, 7-9-63, Cl. 160-215.
- Peters, Charles J., to Sylvania Electric Products Inc. Magnetic tape transducer. 3,084,227, 4-2-63, Cl. 179-100.2.
- Peters, Clifford M.: *See*—  
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- Peters Co., The: *See*—  
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- Peters, Don L.: *See*—  
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- Peters, Donald L., to Phillips Petroleum Co. Injection molding of plastic materials. 3,077,636, 2-19-63, Cl. 18-30.
- Peters, Donald L., and J. N. Scott, Jr., to Phillips Petroleum Co. Injection molding of plastic materials. 3,093,865, 6-18-63, Cl. 18-42.
- Peters, Edwin F., and B. L. Evering, to Standard Oil Co. Polymerization process. 3,082,195, 3-19-63, Cl. 260-93.7.
- Peters, Erhardt N. Arrow and projector therefor. 3,085,560, 4-16-63, Cl. 124-23.
- Peters, Ernest J., to United States of America, Atomic Energy Commission. Method of manufacture of metal encased core material. 3,091,847, 6-4-63, Cl. 29-471.5.
- Peters, Frank J.: *See*—  
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- Peters, Grace A.: *See*—  
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- Peters, George T.: *See*—  
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- Peters, Harold P., to Whirlpool Corp. Home appliance. 3,096,885, 7-9-63, Cl. 248-240.
- Peters, Henry, to Bell Telephone Laboratories, Inc. Method of bonding polymers and articles produced. 3,111,451, 11-19-63, Cl. 161-216.
- Peters, Henry F., to Lukens Steel Co. Radiation shielding plastic clad. 3,114,839, 12-17-63, Cl. 250-108.
- Peters, Irma F.: *See*—  
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- Peters, John. Stand-off ladder bracket. 3,072,218, 1-8-63, Cl. 182-214.
- Peters, John G.: *See*—  
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Cantrell, Troy L., Peters, and Smith. 3,072,572.
- Peters, John H., 3d, to United Aircraft Corp. Method of making hollow articles. 3,097,620, 7-16-63, Cl. 113-52.
- Peters, Kurt. Separation of lithium isotopes. 3,085,852, 4-16-63, Cl. 23-32.
- Peters Machinery Co.: *See*—  
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- Peters, Martin C., to Babcock & Wilcox Ltd. Finned tubes. 3,073,885, 1-15-63, Cl. 165-181.
- Peters, Melville F., 50%, to J. J. Mascuch. High pressure valve assembly. 3,088,487, 5-7-63, Cl. 137-505.35.
- Peters, Melville F., 50% to J. J. Mascuch. High pressure high temperature valve assemblies. 3,097,662, 7-16-63, Cl. 137-338.
- Peters, Melville F., 50% to J. J. Mascuch. Flexible rotary seals and bellows assemblies. 3,106,414, 10-8-63, Cl. 285-226.
- Peters, Oliver O. Hot water heater. 3,105,465, 10-1-63, Cl. 122-37.



- Peters, Ralph D., 8% to S. F. and/or J. Booker. Signature identification device. 3,113,461, 12-10-63, Cl. 73—432.
- Peters, Robert I.: *See—*  
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- Peters, Russell W.: *See—*  
Groe, Irwin J., Ritchey, and Peters. 3,098,711.
- Peters & Russell, Inc.: *See—*  
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Russell, Linus E. 3,079,657.  
Russell, Linus E. 3,096,704.
- Peters, Theodore F., to General Motors Corp. Circuit controlling switch apparatus. 3,105,127, 9-24-63, Cl. 200—83.
- Peters, Theodore J., J. F. Collins, and A. Gathman, to Esso Research and Engineering Co. Instrument lubricating oil. 3,090,752, 5-21-63, Cl. 252—33.4.
- Peters, Walter E., and L. Mills, to The English Electric Co. Ltd. Feed water heaters. 3,101,595, 8-27-63, Cl. 60—67.
- Petersen, Conrad W., and H. A. Heide, to Baker Perkins Inc. Depanning apparatus. 3,099,360, 7-30-63, Cl. 214—309.
- Petersen, Conrad W., W. W. Wittenberger, and J. M. St. John, to Baker Perkins Inc. Bread handling apparatus. 3,101,475, 8-20-63, Cl. 198—84.
- Petersen, Flemming H. Pickle syringe. 3,082,681, 3-26-63, Cl. 99—257.
- Petersen, Gerald A. M.: *See—*  
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- Petersen, Gunnar G., and J. J. Verstappen, to Shell Oil Co. Production of graphite from petroleum. 3,112,181, 11-26-63, Cl. 23—209.1.
- Petersen, Harlie O. Irrigation systems. 3,099,395, 7-30-63, Cl. 239—562.
- Petersen, Poul A. S., to Chr. Olsen, Akts. Writing instrument with a holder containing a shiftable writing unit. 3,093,921, 6-18-63, Cl. 40—334.
- Petersen, Povl V., N. O. Lassen, and T. O. Holm, to Kefalas, A/S. 9-(propene-3-ylidene-1), and 9-[3'-(N-hydroxyalkyl-piperazino-N)-propylidene], xanthenes and thioxanthenes, and processes for their preparation. 3,116,291, 12-31-63, Cl. 260—240.
- Petersen, Siegfried: *See—*  
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- Tietze, Ernst, Petersen, and Hoffmeister. 3,075,982.
- Petersen, Siegfried, K. Swinicki, and W. Wirth, to Farbenfabriken Bayer Aktiengesellschaft. Tris-pyridyl hydrazone derivatives of triaminoguanidine. 3,097,203, 7-9-63, Cl. 260—240.
- Petersen, Thorvald, to Reed Mfg. Co. Pipe cutter. 3,098,296, 7-23-63, Cl. 30—9.5.
- Petersen, Thorvald K., to Douglas Aircraft Co., Inc. Sectional air cushion cargo floor. 3,108,698, 10-29-63, Cl. 214—1.
- Petersen, Willy. Folding trailers. 3,081,125, 3-12-63, Cl. 296—27.
- Peterson, Adolphe C. Yieldable support means for land and air vehicles. 3,085,771, 4-16-63, Cl. 244—104.
- Peterson, Adolphe C. Apparatus and hoist means for construction. 3,085,785, 4-16-63, Cl. 254—89.
- Peterson, Adolphe C. Vehicle resilient suspension means. 3,096,974, 7-9-63, Cl. 267—65.
- Peterson, Adolphe C. Rotor sustentation and propulsion means of jet type. 3,111,992, 11-26-63, Cl. 170—135.4.
- Peterson, Albert L.: *See—*  
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- Peterson, Alge T., Jr., and O. R. Potter, to Midwest Conveyor Co., Inc. Combination trolley and switch. 3,073,259, 1-15-63, Cl. 104—104.
- Peterson, Archie A. Apparatus for loading a coach body into a pick-up truck. Re. 25,443, 9-10-63, Cl. 214—515.
- Peterson, Archie A. Apparatus for loading a coach body into a pick-up truck. 3,074,576, 1-22-63, Cl. 214—515.
- Peterson, Axel F. Bag closing apparatus. 3,115,736, 12-31-63, Cl. 53—371.
- Peterson, C. Lynn, to Peterson Filters and Engineering Co. Contour scraper for disc filters. 3,080,597, 3-12-63, Cl. 15—256.5.
- Peterson, Charles J., to United Aircraft Corp. Turbine nozzle vane mounting means. 3,075,744, 1-29-63, Cl. 253—78.
- Peterson, Dale S., to Longview Fibre Co. Divisible case. 3,101,880, 8-27-63, Cl. 229—15.
- Peterson, Dana. Shower attachment. 3,092,334, 6-4-63, Cl. 239—516.
- Peterson, Dean M., to Eastman Kodak Co. Film winding mechanism. 3,106,142, 10-8-63, Cl. 95—31.
- Peterson, Dean M., and C. G. Vroom, to Eastman Kodak Co. Camera. 3,106,144, 10-8-63, Cl. 95—64.
- Peterson, Don L.: *See—*  
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- Peterson, Donald A.: *See—*  
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- Peterson, Donald H. Internal building partition structures. 3,093,218, 6-11-63, Cl. 189—34.
- Peterson, Edward C., to Birdsboro Corp. Figure eight shear. 3,083,603, 4-2-63, Cl. 83—530.
- Peterson, Edward C., to Whirlpool Corp. Surface tension measuring device. 3,096,642, 7-9-63, Cl. 73—53.
- Peterson, Edwin F. Core box seal strip. 3,074,129, 1-22-63, Cl. 22—13.
- Peterson, Edwin F. Vibrator housing. 3,076,346, 2-5-63, Cl. 74—87.
- Peterson, Edwin F. Vibration-inducing apparatus. 3,097,537, 7-16-63, Cl. 74—61.
- Peterson, Edwin F. Method and means for sealing adjacent coating closure surfaces of cavity contouring structures. non-transmissive apparatus. 3,098,890, 7-23-63, Cl. 174—5.
- Peterson, Edwin F. Core box sealing strip and method of attachment. 3,102,309, 9-3-63, Cl. 22—13.
- Peterson, Edwin F. Blow tube and method of making same. 3,104,432, 9-24-63, Cl. 22—13.
- Peterson, Edwin F. Vibrator mounting. 3,107,889, 10-22-63, Cl. 248—14.
- Peterson, Edwin F. Mounting blocks for vibratory mechanisms. 3,112,016, 11-26-63, Cl. 189—36.
- Peterson, Elmer J., to American Monarch Corp. Threshold circuit. 3,105,924, 10-1-63, Cl. 317—148.5.
- Peterson, Eric O., and R. C. Cole, to General Electric Co. Tube socket. 3,087,136, 4-23-63, Cl. 339—193.
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- Peterson, Evald O., to Compo Shoe Machinery Corp. Toe lasting of shoes. 3,101,495, 8-27-63, Cl. 12—12.4.
- Peterson, Evald O., J. A. Rodas, and H. Perry, to Compo Shoe Machinery Corp. Splitting machine. 3,090,055, 5-21-63, Cl. 12—16.5.
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- Peterson, Floyd V. Liquid transmissive and electric current 3,095,619, 7-2-63, Cl. 22—10.
- Peterson, Gerald H. Kinetic energy absorber. 3,097,725, 7-16-63, Cl. 138—94.
- Peterson, Glen, to Well Surveys, Inc. Multiplex radioactivity well logging system. 3,091,695, 5-28-63, Cl. 250—83.6.
- Peterson, Harold B. Folding and swinging hydraulic boom. 3,094,228, 6-18-63, Cl. 214—133.
- Peterson, Henry F. Balancing machine. 3,096,655, 7-9-63, Cl. 73—483.
- Peterson, Herbert L. Time base A.M. detector. 3,100,875, 8-13-63, Cl. 329—145.
- Peterson, Herbert R. Air screen producing mechanism. 3,112,686, 12-3-63, Cl. 98—36.
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- Peterson, Jack A., and H. J. Wagner, to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,082,630, 3-26-63, Cl. 74—5.12.
- Peterson, James A.: *See—*  
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Adams, Ernest C., Jr., and Peterson. 3,092,464.
- Peterson, James H.: *See—*  
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- Peterson, Joel D., to The Bendix Corp. Force measuring device. 3,071,974, 1-8-63, Cl. 73—497.
- Peterson, John B.: *See—*  
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- Peterson, John G., to Peterson Filters and Engineering Co. Filter medium guide. 3,077,990, 2-19-63, Cl. 210—401.
- Peterson, John H., E. D. Foggini, and E. J. O'Donnell, to United States Gypsum Co. Precreased paper tape for wall-board joint. 3,086,328, 4-23-63, Cl. 50—202.
- Peterson, Jürgen F., Sommer, W. Lehmann, and W. Cordt, to Siemens & Halske Aktiengesellschaft. Coordinate switch. 3,114,008, 12-10-63, Cl. 179—27.54.
- Peterson, Kenneth L., to United Shoe Machinery Corp. Fastener separating and distributing mechanisms. 3,095,999, 7-2-63, Cl. 221—233.
- Peterson, Leslie D., and G. E. Hirt. Ballistic rotary actuator. 3,096,957, 7-9-63, Cl. 244—122.
- Peterson, Lowell E.: *See—*  
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Trautner, Wagn, and Armacost. 3,114,508.
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- Peterson, Norman L., to Cutler-Hammer, Inc. Magnetic core structure. 3,082,390, 3-19-63, Cl. 336—210.
- Peterson, Oscar A., to Scientific Design Co., Inc. Distillation apparatus. 3,094,575, 6-18-63, Cl. 261—114.
- Peterson, Peter A. Toy games. 3,071,378, 1-1-63, Cl. 273—101.
- Peterson, Peter A., to H. Peterson. Ball game. 3,108,808, 10-29-63, Cl. 273—101.
- Peterson, Peter A. Spinning toy game device. 3,108,809, 10-29-63, Cl. 273—110.
- Peterson, Richard H. Electronic musical instrument. 3,097,253, 7-9-63, Cl. 84—1.22.
- Peterson, Robert A., to Caterpillar Tractor Co. Large capacity earthmoving scraper. 3,077,681, 2-19-63, Cl. 37—129.
- Peterson, Robert A., to Caterpillar Tractor Co. Multiple actuating lever. 3,088,328, 5-7-63, Cl. 74—471.
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- Peterson, Ruben O., to The Osborn Mfg. Co. Brush construction. 3,076,219, 2-5-63, Cl. 15-179.
- Peterson, Ruben O., to The Osborn Mfg. Co. Rotary abrading tool. 3,078,624, 2-26-63, Cl. 51-193.5.
- Peterson, Ruben O., to The Osborn Mfg. Co. Surface finishing and cleaning apparatus and method. 3,102,056, 8-27-63, Cl. 134-9.
- Peterson, Ruben O., to The Osborn Mfg. Co. Brush construction. 3,105,988, 10-8-63, Cl. 15-179.
- Peterson, Russell E. Guard for a circular table saw. 3,105,530, 10-1-63, Cl. 143-159.
- Peterson, Russell M., and S. B. Reiersen, to Fire Engineers Inc. Incinerator charging door. 3,111,098, 11-19-63, Cl. 110-18.
- Peterson, Soren E. Seed potato cutting machine. 3,082,806, 3-26-63, Cl. 146-98.
- Peterson, Stanley A., to American Can Co. Ham canning method. 3,114,644, 12-17-63, Cl. 99-177.
- Peterson, Stanley O., to Preway Inc. Fastening device. 3,090,587, 5-21-63, Cl. 248-27.
- Peterson, Stanley W.,  $\frac{1}{4}$  to A. C. Cottons and  $\frac{1}{4}$  to A. F. Skover. Rack for paper bags or the like. 3,094,217, 6-18-63, Cl. 211-49.
- Peterson, Thomas, and A. C. Uttin, to Simms Motor Units Ltd. Apparatus comprising rotatable shafts or the like. 3,074,625, 1-22-63, Cl. 230-206.
- Peterson, Thomas F. Conduit with preformed elements. 3,086,557, 4-23-63, Cl. 138-133.
- Peterson, Victor E., to Pacific Natural Gas Exploration Co. Method and apparatus for fracturing underground earth formations. 3,108,636, 10-29-63, Cl. 166-42.
- Peterson, Walter R.: *See*—  
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- Peterson, Willard D., and R. W. Fabian, to Thomas J. Moran's Sons, Inc. Photographic reliefs made by means of transfer intermediates which produce gas upon irradiation. 3,093,478, 6-11-63, Cl. 96-35.
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- Peterson, William J., to Bostitch, Inc. Nail assembly. 3,083,369, 4-2-63, Cl. 1-56.
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- Pethrick, Samuel R., and T. R. Welch, to The British Petroleum Co. Ltd. Lubricating oil compositions and the operation of internal combustion engines. 3,089,853, 5-14-63, Cl. 252-37.
- Petit, Jean: *See*—  
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- Petkowitz, Carl F., to General Motors Corp. Refrigeration. 3,078,688, 2-26-63, Cl. 62-159.
- Petnel, Joseph A. Metal tape. 3,093,886, 6-18-63, Cl. 29-155.
- Peto, Howard B., and M. Ayala, 16% to Troeles Udsen. Harvesting apparatus. 3,070,944, 1-1-63, Cl. 56-327.
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- Petrea, James C., to Sperry Rand Corp. Large volume weigher. 3,098,537, 7-23-63, Cl. 177-98.
- Petri, Albert L., and H. Lewin, to Petri Cigar Co. Cigar making machine. 3,105,497, 10-1-63, Cl. 131-35.
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- Petricola, Michael, and J. F. Marchaterre, to United States of America, Atomic Energy Commission. Boiling slurry reactor and method of control. 3,088,895, 5-7-63, Cl. 204-154.2.
- Petricola, Anthony J.: *See*—  
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- Petrie, Adolore F., to General Electric Co. Loudspeaker cone suspension. 3,072,213, 1-8-63, Cl. 181-32.
- Petrie, James A., and K. E. G. Bracey, to Rolls-Royce Ltd. Fluid coupling and friction clutches. 3,088,563, 5-7-63, Cl. 192-3.2.
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- Petrilla, Anthony D., and W. E. Sentell, to Philco Corp. Bandpass waveguide filter having iris and posts for resonating fundamental and vanes for absorbing harmonics. 3,088,082, 4-30-63, Cl. 333-73.
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- Petrow, Vladimir, O. Stephenson, and A. J. Thomas, to The British Drug Houses Ltd. 1-ortho-tolyloxyethyl-4-phenyl-piperidine and acid addition salts thereof. 3,091,616, 5-28-63, Cl. 260-294.
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- Petry, Robert K., to Congoleum-Nairn Inc. Method for smoothing and glossing vinyl plastic sheets. 3,074,114, 1-22-63, Cl. 18—48.
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- Pettit, Lewis F., Jr., and J. F. Miller, to Westinghouse Electric Corp. Polarity switch. 3,078,354, 2-19-63, Cl. 200—6.
- Petts, George E., III, and R. E. Evans, to United States of America, Navy. "N" output transmission line and transformer hybrid. 3,109,998, 11-5-63, Cl. 333—11.
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- Greer, Albert H. 3,086,060.
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- Pfefferkorn, Otto T., to North American Aviation, Inc. Method of fusion joining employing stop-off material. 3,110,102, 11-12-63, Cl. 29—490.
- Pfeifferle, William C., to Engelhard Industries, Inc. Trace gas analyzer. 3,087,112, 4-23-63, Cl. 324—33.
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- Pfister, Stanley A., T. A. Turner, and H. R. Uhtenwoldt, to The Cincinnati Milling Machine Co. Torque transmitting connecting mechanism. 3,116,068, 12-31-63, Cl. 279—72.
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- Bell, William E., Buckley, and Gordon. 3,093,659.
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- Seto, Thomas A. 3,092,620.
- Sobin, Ben A., Celmer, and Koe. 3,113,074.
- Stepens, Charles R., Jr., and Blackwood. 3,081,346.
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- Phelan, Milton V., to Muffler Corp. of America. Exhaust muffler. 3,109,510, 11-5-63, Cl. 181—35.
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- Phelps, Edwin H., to American Cast Iron Pipe Co. Refractory lined centrifugal casting molds. 3,110,944, 11-19-63, Cl. 22—192.
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- Phillippe, Howard L., to Imperial-Eastman Corp. Flush valve. 3,085,779, 4-16-63, Cl. 251-21.
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- Phillips, Benjamin, and F. C. Frostick, Jr., to Union Carbide Corp. 4,5-epoxyphenyl 4,5-epoxypentanoate and process for its preparation. 3,074,973, 1-22-63, Cl. 260-348.
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- Phillips, Bernard C., to The Tillotson Mfg. Co. Charge forming method and apparatus. 3,072,390, 1-8-63, Cl. 261-35.
- Phillips, Bernard C., to The Tillotson Mfg. Co. Charge forming apparatus. 3,085,791, 4-16-63, Cl. 261-35.
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- Phillips, Donald D., to Shell Oil Co. Halogenated oxo spiro insecticidal compounds. 3,106,580, 10-8-63, Cl. 260-586.
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- Phillips, Harry L., and L. S. Fain, to Floseal Corp. Mold for use in making die for forming cardboard blanks. 3,108,327, 10-29-63, Cl. 18-36.
- Phillips, Harry L., and L. S. Fain, to Floseal Corp. Method of making mold for blank forming dies. 3,112,164, 11-26-63, Cl. 18-59.
- Phillips, James H., and R. H. Booth, to Electric & Musical Industries Ltd. Automatic position motor control device using inductive balance network. 3,111,614, 11-19-63, Cl. 318-30.
- Phillips, Leonard R., to Anemostat Corp. of America. Air diffuser. 3,072,038, 1-8-63, Cl. 98-40.
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 Austin, Oliver K. 3,071,803.  
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 Axe, William N., and Montgomery. 3,077,733.  
 Ayers, Buell O. 3,111,025.  
 Bailey, Ernest J. 3,084,134.  
 Banks, Robert L. 3,075,026.  
 Barton, Hugh M., Jr., and Bregg. 3,078,756.  
 Benedict, Bruce C. 3,093,572.  
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 Bolen, Kenneth E. 3,096,380.  
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 Bracken, Robert C. 3,092,127.  
 Branscum, Tony E. 3,111,714.  
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 Britton, Sylvester C., and Schirmer. 3,101,593.  
 Broerman, Arthur B. 3,102,512.  
 Broerman, Arthur B. 3,103,807.  
 Broerman, Arthur B. 3,106,096.  
 Broerman, Arthur B. 3,111,849.  
 Bunn, George F., and Hartmann. 3,083,669.  
 Burk, Marvin C. 3,077,770.  
 Burk, Marvin C. 3,094,862.  
 Cabbage, John T. 3,084,119.  
 Canterino, Peter J. 3,110,709.  
 Canterino, Peter J., and Martinovich. 3,086,958.  
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 Cardwell, Charles G. 3,112,963.  
 Carr, Donald E. 3,071,924.  
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 Carr, Donald E. 3,108,039.  
 Carter, Randall W. 3,086,957.  
 Cassatt, Wayne A., Jr., and Bradley. 3,078,220.  
 Cines, Martin R. 3,072,626.  
 Cines, Martin R. 3,093,626.  
 Clark, Edgar W., Jr., Reynolds, and Root. 3,095,042.  
 Coale, Harold D. 3,096,146.  
 Coale, Harold D. 3,113,831.  
 Cobb, Raymond L., Hudson, and Mayfield. 3,109,761.  
 Cobb, Raymond L., and Marana. 3,099,639.  
 Collins, Russell F. 3,113,263.  
 Constantikes, George J. 3,081,823.  
 Cottle, John E. 3,081,290.  
 Cottle, John E. 3,106,462.  
 Cox, Clyde M. 3,096,647.  
 Coyner, Herbert N. 3,108,148.  
 Crain, Donald L., and Hartzfeld. 3,076,855.  
 Crawford, Francis W. 3,076,506.  
 Crouch, Willie W. 3,105,856.  
 Dale, Glenn H. 3,097,248.  
 Davis, Charles L., and Alexander. 3,112,186.  
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 De Haven, Clark G. 3,078,512.  
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 Dixon, Henry O. 3,098,754.  
 Doyle, Robert. 3,084,389.  
 Doyle, Robert. 3,097,915.  
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 Dye, Robert F. 3,099,648.  
 Dye, Robert F. 3,102,005.  
 Dye, Robert F. 3,103,809.  
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 Eddy, William R., and Moss. 3,087,645.  
 Edmonds, James T., Jr. 3,081,288.  
 Edmonds, James T., Jr. 3,101,328.  
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 Edwards, Harold L. 3,087,198.  
 Engel, John H. 3,105,811.  
 Favre, John A. 3,097,519.  
 Fetkovich, Michael J., and Sargent. 3,077,929.  
 Findlay, Robert A. 3,076,776.  
 Fisher, Henry B. 3,102,588.  
 Fluegel, Dale A. 3,094,875.  
 Fluegel, Dale A. 3,115,603.  
 Fox, Homer M. 3,083,527.  
 Fox, Homer M. 3,115,007.  
 Franzus, Boris, and Wickliffe. 3,073,873.  
 Gardner, Lloyd E., and Hogan. 3,099,618.  
 Goard, Howard W. 3,091,335.  
 Goins, Robert R. 3,089,194.  
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 Greenfield, Bill E. 3,101,499.  
 Gregory, Charles W. 3,098,656.  
 Griffith, William T. 3,105,467.  
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 Hann, Paul D. 3,078,177.  
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 Harper, Ernest A. 3,099,619.  
 Harper, Kenneth A. 3,094,478.  
 Harrison, Roy C. 3,074,808.  
 Hart, James L. 3,105,734.  
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 Herring, Liles G. 3,079,355.  
 Hill, Oliver W., and Thomas. 3,093,597.  
 Hillyer, John C., and Hart. 3,081,148.  
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 Hitzman, Donald O. 3,096,254.  
 Hitzman, Donald O., and Mills. 3,084,106.  
 Hix, Marvin C. 3,107,684.  
 Hoch, Robert S. 3,086,592.  
 Hogan, John P. 3,098,062.  
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 Holm, Vernon C. P. 3,072,627.  
 Hsieh, Henry L. 3,091,606.  
 Hudson, Paul S. 3,083,526.  
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 Johnson, Marvin M., and Pitchford. 3,097,156.  
 Johnson, Marvin M., Ray, and Smith. 3,081,257.  
 Johnson, Marvin M., and Streets. 3,103,781.  
 Johnson, Paul H. 3,073,878.  
 Jones, Robert L. 3,116,235.  
 Keene, William A. 3,072,314.  
 Kindred, Raymond L. 3,106,087.  
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 King, William R. 3,101,909.  
 Kinney, Patrick J., and Kahre. 3,097,924.  
 Kleiss, Louis D. 3,085,050.  
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 Kline, Marvin E., and Reilly. 3,095,888.  
 Koble, Robert A. 3,078,141.  
 Koble, Robert A. 3,081,147.  
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 Kolner, Samuel J. 3,083,193.  
 Kraft, Donald L., and Beason. 3,083,757.  
 Kraus, Gerard. 3,093,561.  
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 Krejci, Joseph C. 3,103,418.  
 Kron, Carl M. 3,104,266.  
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 Kuerston, Richard D. 3,095,293.  
 Kuntz, Louis E. 3,101,613.  
 Kuntz, Louis E. 3,107,526.  
 Larkin, Mark E. 3,077,989.  
 Lawson, Shelby D. 3,071,538.  
 Legatski, Harold R. 3,080,220.  
 Legatski, Harold R. 3,096,625.  
 Legatski, Theodore W. 3,091,225.  
 Levy, Dale F., and Gagle. 3,093,595.  
 Lewis, Clifford J. 3,098,707.  
 Loewen, Bruno F. 3,101,936.  
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 Louthan, Rector P. 3,084,116.  
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 Lupfer, Dale E. 3,085,000.  
 Lupfer, Dale E. 3,095,887.  
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 Lyons, Harold D. 3,101,327.  
 MacSporrnan, Charles. 3,072,189.  
 Mader, George E., Jr. 3,101,898.  
 Mahan, John E. 3,082,598.  
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 Martinovich, Robert J., and Marsh. 3,074,616.  
 Marx, John W. 3,095,925.  
 Marx, John W. 3,105,754.  
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 McGlamery, Roger M. 3,083,410.  
 McMahon, Martin E. 3,084,107.  
 Meade, Leonard P. 3,114,344.  
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 Mellow, Ernest W. 3,074,919.  
 Mertz, Clyde W. 3,073,808.  
 Mertz, Clyde W. 3,116,242.  
 Miller, Alvin J. 3,116,130.  
 Mills, Kenneth R., Franzus, and Ganterino. 3,102,870.  
 Mitacek, Bill, and Graham. 3,112,270.  
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 Moon, John J. 3,080,354.  
 Morgan, Lyman W. 3,085,153.  
 Morgan, Lyman W. 3,108,094.  
 Myers, John W. 3,109,038.  
 Naifeh, Sam C. 3,095,272.  
 Nave, Thomas J., and Havelly. 3,103,036.  
 Naylor, Floyd E., and Ettling. 3,116,273.  
 Needham, Donald G., and Windle. 3,079,642.  
 Nowlin, Gene, and Lyons. 3,082,232.  
 Oglesby, Minor W., Jr., and Brashear. 3,088,664.  
 Orr, Harold W. 3,111,460.  
 Osburn, Carl L., and Marsh. 3,116,119.  
 Overfield, Gerald H. 3,111,023.  
 Palmer, Everett S., Jr. 3,096,274.  
 Parker, Harry W. 3,072,184.  
 Parker, Harry W. 3,072,186.  
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 Perry, Dan E. 3,100,317.  
 Peters, Donald L. 3,077,636.  
 Peters, Donald L., and Scott. 3,093,865.  
 Pitchford, Armin C. 3,089,846.  
 Pitchford, Armin C. 3,096,191.  
 Pitchford, Armin C. 3,096,192.  
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 Polk, Walter B. 3,084,110.  
 Pollock, Lyle W. 3,112,880.  
 Prentiss, Spencer S. 3,106,246.  
 Pritchard, James E. 3,086,275.  
 Pritchard, James E. 3,087,843.  
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 Pryor, Robert C. 3,076,505.  
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 Rains, Cloral O. 3,071,249.  
 Ratje, John D., and Tompkins. 3,093,649.  
 Ray, Charles A., Jr. 3,083,231.  
 Reed, Edwin E. 3,101,874.  
 Reed, Edwin E. 3,105,358.  
 Reed, Edwin E., Hale, and Hamlin. 3,097,516.  
 Reichle, Alfred D. 3,072,190.  
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 Reilly, Robert C. 3,099,366.  
 Reinecke, Marvin E. 3,077,766.  
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 Remke, Marvin A. 3,087,036.  
 Reynolds, William B. 3,074,917.  
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 Rush, Elton E. 3,092,673.  
 Rush, Robert L. 3,112,160.  
 Sailors, Howard R. 3,080,438.  
 Schechter, Alfred. 3,079,037.  
 Schechter, Alfred. 3,115,245.  
 Schellenberg, Walter O., and Engel. 3,109,292.  
 Schirmer, Robert M. 3,099,910.  
 Scofield, Raymond C., and Stoller. 3,080,437.  
 Scoggin, Jack S. 3,087,917.  
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 Scott, John N., Jr. 3,095,606.  
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 Seefuth, Charles L. 3,084,489.  
 Sher, Fred T. 3,073,877.  
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 Smith, Lon T. 3,100,200.  
 Sney, Loy D., and Pritchard. 3,102,865.  
 Solomon, Paul W. 3,086,982.  
 Spainhour, James D. 3,095,414.  
 Stacy, Carl J. 3,115,564.  
 Stark, Christopher P. 3,085,973.  
 Stevens, James I., and Cottle. 3,084,149.  
 Stoller, Frederick L. 3,108,944.  
 Stoops, Charles E. 3,105,802.  
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 Stratton, Charles A. 3,089,842.  
 Thomas, John C., and Morgan. 3,083,569.  
 Tolin, Ernest D. 3,107,293.  
 Tolin, Ernest D., and Berger. 3,108,929.  
 Tolin, Ernest D., and Fluegel. 3,105,896.  
 Toren, Paul E. 3,106,592.  
 Uraneck, Carl A., and Buck. 3,083,191.  
 Usher, Francis C. 3,105,493.  
 Van Pool, Joe, and Hann. 3,078,321.  
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 Vineyard, Henry B. 3,094,482.  
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 Wiley, Bruce F. 3,076,334.  
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 Worth, Daniel P. 3,102,601.  
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- Phillips, Richard A.: *See*—  
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- Phillips, Robert, B. B. Levine, G. A. Centrella, and T. A. Underwood, to Redi-Knot Tie Clip Corp. Bow necktie clip. 3,071,776, 1-8-63, Cl. 2-154.
- Phillips, Robert A., and J. W. Lee, to The Dow Chemical Co. Corrective shampoos containing cadmium sulfide. 3,071,514, 1-1-63, Cl. 167-87.
- Phillips, Robert K., to International Business Machines Corp. Pulse stretcher utilizing saturable reactor with series inductor in regenerative feedback circuit of transistor. 3,073,967, 1-15-63, Cl. 307-88.5.
- Phillips Screw Co.: *See*—  
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- Phillips, Stanley D., to United States of America, Navy. Double acting spring device. 3,098,644, 7-23-63, Cl. 267-1.
- Phillips, Thomas, and N. L. Somerson, to Merck & Co., Inc. Production of glutamic acid. 3,080,297, 3-5-63, Cl. 195-47.
- Phillips, Wallace G., W. O. Hall, and H. H. Overstreet. Method of producing container handle construction. 3,084,641, 4-9-63, Cl. 112-10.
- Phillips, Walter J., Sr. Rotary mower blade. 3,087,298, 4-30-63, Cl. 56-295.
- Phillips, Wayne E., to Beckman Instruments, Inc. Drive for recorder chart paper. 3,113,823, 12-10-63, Cl. 346-136.
- Phillips, William A.: *See*—  
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- Phillips, William H., to United States of America, National Aeronautics and Space Administration. Variable-geometry winged reentry vehicle. 3,104,079, 9-17-63, Cl. 244-1.
- Phillips, William H. Dual control circuit. 3,104,769, 9-24-63, Cl. 214-75.
- Phillips, William H., Jr., to American Carbide Co. Die assemblies. 3,109,663, 11-5-63, Cl. 279-41.
- Phillipson, Phillip W., to Phillipson Rod & Tackle Co. Ski pole wrist straps. 3,113,786, 12-10-63, Cl. 280-11.37.
- Phillipson Rod & Tackle Co.: *See*—  
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- Philmon Laboratories, Inc.: *See*—  
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- Phinley, Robert B., and B. D. Menkin, to P.S.P. Engineering Co. Rotary electromagnetic actuator. 3,073,995, 1-15-63, Cl. 317-192.
- Phinney, Frederick G., to Ford Motor Co. Latch mechanism. 3,110,513, 11-12-63, Cl. 292-226.
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- Phippo, Russell A., to Dennison Mfg. Co. Transfer labeling machine. 3,113,904, 12-10-63, Cl. 156-541.
- Phister, Montgomery, Jr., C. G. Laspe, and T. M. Stout, to Thompson-Ramo Wooldridge Inc. Process and control apparatus for improving operating efficiency. 3,079,079, 2-26-63, Cl. 235-151.
- Phlaum, Edward G., to A. O. Smith Corp. Cross lighter for a gas burner assembly. 3,092,168, 6-4-63, Cl. 158-115.
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- Phoenix-Rheinrohr Aktiengesellschaft Vereinigte Hutten-und Rohrenwerke: *See*—  
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- Phonex Instrument Co., Inc.: *See*—  
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- Photogrammetry, Inc.: *See*—  
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- Phyl, Joseph, and R. G. Streuber, to Research-Cottrell, Inc. Mechanical dust collector. 3,074,219, 1-22-63, Cl. 55-348.
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- Phythian, Thomas E., to R. W. Crabtree & Sons Ltd. Clamping mechanism for the plates of printing machines. 3,083,643, 4-2-63, Cl. 101-378.
- Pianowski, Leon J.: *See*—  
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- Pianowski, Leon J., to The Udyllite Corp. Skip and delayed dip mechanism for conveying apparatus. 3,088,610, 5-7-63, Cl. 214-89.
- Pianowski, Leon J., to The Udyllite Corp. Drain mechanism for barrel type conveying apparatus. 3,099,275, 7-30-63, Cl. 134-46.
- Piasecki Aircraft Corp.: *See*—  
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- Piasecki, Frank N., to Piasecki Aircraft Corp. Convertible aircraft. 3,083,935, 4-2-63, Cl. 244-12.
- Platti, Sanzio P. V. Universal joints. 3,103,798, 9-17-63, Cl. 64-17.



- Piazolo, Ludwig W. Multi-story garage construction. 3,105,999, 10-8-63, Cl. 20-1-13.
- Piazza, Giuseppe. Carrier wing unit for a craft with a constant predetermined lift, and self variable incidence. 3,104,642, 9-24-63, Cl. 114-66.5.
- Piazza, Thomas E., to Continental Can Co., Inc. Apparatus for punching holes or cutouts in thermoplastic sheet materials. 3,075,573, 1-29-63, Cl. 156-513.
- Piazza, Thomas E., to Continental Can Co., Inc. Vacuum pack bag and sealing package therefor. 3,086,693, 4-23-63, Cl. 229-62.5.
- Picard, Etienne, to Commissariat a l'Energie Atomique. Devices for the automatic monitoring of the variations of a physical magnitude at a multiplicity of distinct points and in particular for detecting can leaks in the channels of a heterogeneous nuclear reactor. 3,109,929, 11-5-63, Cl. 235-151.
- Picard, Fred A. Sightseeing car. 3,093,210, 6-11-63, Cl. 187-9.
- Picard, Pierre C., to Faurot, Inc. Obtaining prints or impressions to be transferred onto a receptive medium. 3,089,459, 5-14-63, Cl. 118-31.5.
- Picca, Giacomo, to RIV Officine di Villar Perosa Societa per Azioni. Method of making a ball joint. 3,084,417, 4-9-63, Cl. 29-149.5.
- Piccard, Donald L.: See—
- Schjeldahl, Gilmore T., Piccard, and Carlsen. 3,109,440.
- Piccinini, Arnaldo. Radio receiving set for motor cars. 3,099,797, 7-30-63, Cl. 325-312.
- Piccone, Edythe V., to Alfred Angelo, Inc. Garment having concealed slide fastener. 3,078,468, 2-26-63, Cl. 2-265.
- Pichard, Frederick J.: See—
- Freeman, Ardee H., and Pichard. 3,097,450.
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- Freeman, Ardee H., and Pichard. 3,103,766.
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- Zimmerley, Stuart R., Back, Beck, and Pick. 3,096,172.
- Pick, William J. Means for analyzing involute gear profiles. 3,095,652, 7-2-63, Cl. 33-179.5.
- Pickard, Edgar C., W. R. Jackson, and G. A. Grappo, to Fordees Corp. Hydraulically operated portable scaffold. 3,091,305, 5-28-63, Cl. 182-141.
- Pickard, Paul: See—
- Chanaryn, Victor, Jeavons, and Pickard. 3,073,638.
- Pickard, William J., Jr. Heater. 3,093,129, 6-11-63, Cl. 126-65.
- Pickels, Edward G., to Beckman Instruments, Inc. Continuous flow ultracentrifuge apparatus and rotary fluid connection. 3,103,489, 9-10-63, Cl. 233-21.
- Pickels, Edward G., and R. C. Stallman, to Beckman Instruments, Inc. Continuous flow centrifuge apparatus and rotor therefor. 3,073,517, 1-15-63, Cl. 233-32.
- Pickener, Walter H., to The Fellows Gear Shaper Co. Mechanism for crowning gears. 3,071,897, 1-8-63, Cl. 51-95.
- Pickens, Gerald F.: See—
- Stimson, Allen G., and Pickens. 3,071,055.
- Pickens, Gerald F., to Eastman Kodak Co. Manual override for photoelectric exposure control in camera. 3,110,240, 11-12-63, Cl. 95-64.
- Picker X-Ray Corp.: See—
- Furnas, Thomas C., Jr. 3,113,214.
- Picker X-Ray Corp., Waite Mfg. Division, Inc.: See—
- Graves, Edward B. 3,079,526.
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- Pickering & West Ltd.: See—
- Frost, James. 3,082,916.
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- Matsch, Ladislav C., Wang, Rabo, Pickert, and Cheung. 3,108,706.
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- Picket, Harold, to The Glidden Co. Honeycomb panel. 3,103,460, 9-10-63, Cl. 161-69.
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- Pickles, Joseph, to Ferro Stamping Co. Power seat adjuster. 3,089,676, 5-14-63, Cl. 248-394.
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- Pickles, Joseph, and O. R. Iding, to Ferro Stamping Co. Memory type automatic seat adjuster. 3,105,668, 10-1-63, Cl. 248-394.
- Pickles, Sidney. Self-supporting dipole antenna with balanced-to-unbalanced transformer. 3,074,064, 1-15-63, Cl. 343-807.
- Pickrell, Hugh E., Jr., to R.P.T.Z. Patco Inc. Shallow-draft cargo vessel with captive air spaces. 3,091,204, 5-28-63, Cl. 114-26.
- Pickrell, John W. Frontal means for cotton picking machines. 3,081,590, 3-19-63, Cl. 56-11.
- Pickren, James H. Wood preservative. 3,094,459, 6-18-63, Cl. 167-38.5.
- Pickup, Arnold. Weft spreading machine. 3,094,760, 6-25-63, Cl. 26-54.
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- Piekarski, Stanley J. Door and frame assembly. 3,111,724, 11-26-63, Cl. 20-11.
- Piel, Alfred J. Air propelled electricity generator for moving vehicles. 3,076,510, 2-5-63, Cl. 170-40.
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- Pierson, Norman A., to Naturizer Co. Cardboard disintegrating apparatus. 3,111,248, 11-19-63, Cl. 225-93.
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- Pietri, Georges, to North American Philips Co., Inc. Photoelectric tube. 3,082,342, 3-19-63, Cl. 313-95.
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Raacke, Bernhard, Kohler, and Pietsch. 3,073,804.
- Pietsch, Helmut, and W. Clas, to Henkel & Cie G.m.b.H. Resinous composition comprising hard rubber dust and a diester of a benzene dicarboxylic acid and an epoxy alcohol. 3,086,948, 4-23-63, Cl. 260-3.
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- Pietsch, Joseph A., to General Electric Co. Thermoelectric air conditioning apparatus. 3,077,080, 2-12-63, Cl. 62-3.
- Piette, Ruth E. Shower curtain rod attachment. 3,104,014, 9-17-63, Cl. 211-123.
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- Pigman, George L., to United States of America, Navy. Spin-induced dispersal bomb. 3,093,072, 6-11-63, Cl. 102-7.2.
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- Pigott, Kenneth A., to Mobay Chemical Co. Polyester-urethane castings. 3,114,735, 12-17-63, Cl. 260-75.
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- Pike, Jesse A., and E. L. Enliss, to Alamance Industries, Inc. Yarn cutting and clamping means for knitting machines. 3,097,513, 7-16-63, Cl. 66-145.
- Pike, John E.: *See*—  
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- Pike, Roscoe A., to Union Carbide Corp. Process for producing cyclic diorganosiloxanes from diorganodihalosilanes and alkali and alkali earth metal oxides and carbonates. 3,110,720, 11-12-63, Cl. 260-448.2.
- Pike, Roscoe A., to Union Carbide Corp. Cyanoalkylsilane-diols. 3,112,332, 11-26-63, Cl. 260-448.2.
- Pike, Roscoe A., and W. T. Black, to Union Carbide Corp. Preparation of carboalkoxy alkyl silanes from silanes containing silanic hydrogen and acrylic acid esters. 3,109,011, 10-29-63, Cl. 260-448.2.
- Pike, Sele S., and R. K. Hansen, to Skywriting Corp. of America. Production of smoke signs in the air. 3,114,214, 12-17-63, Cl. 40-213.
- Pikl, Josef, to E. I. du Pont de Nemours and Co. Process for purifying triphenyl methane dyes. 3,098,081, 7-16-63, Cl. 260-393.
- Pilbone, Pierre M., 1/2 to Societe Lefort & Cie. Fence post and tie means. 3,080,149, 3-5-63, Cl. 256-57.
- Pilch, Chester W. Stock feeding device. 3,085,552, 4-16-63, Cl. 119-57.
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- Piller, Lawrence. Moving and storage container and strengthening frame therefor. 3,096,923, 7-9-63, Cl. 229-49.
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- Pilloton, Roger L., to Union Carbide Corp. Preparation of ammonium paratungstate. 3,077,379, 2-12-63, Cl. 23-51.
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- Piloty, Robert, to International Standard Electric Corp. Arrangement for the storing of binary informations, arriving in series or series-parallel, in a storage chain or a storage matrix. 3,101,468, 8-20-63, Cl. 340-174.
- Piltingsrud, Dale R. Adjustable scaffolding. 3,071,204, 1-1-63, Cl. 182-27.



- Pimbley, George H., and G. A. Yager, to Purex Corp., Ltd. Process and composition for producing aluminum surface conversion coatings. 3,113,051, 12-3-63, Cl. 148-62.
- Pimentel, Demetrio. Rodent exterminator. 3,075,316, 1-29-63, Cl. 43-67.
- Pinaumont, Franco, to Montecatini Società Generale per l'Industria Mineraria e Chimica. High-stability insecticide compositions, emulsifiable or soluble in water, of N-monomethylamide of O,O-dimethylthiophosphorylacetic acid. 3,090,719, 5-21-63, Cl. 167-22.
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- Pine, Wilbur M., to Thermovent Products Corp. Ventilated building. 3,086,323, 4-23-63, Cl. 50-16.
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- Ping, Samuel, Jr., to Schwitzer Corp. Turbocharger oil seal. 3,077,296, 2-12-63, Cl. 230-132.
- Pingon, Pierre J. Rotary tower crane. 3,106,299, 10-8-63, Cl. 212-46.
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- Pingry, Harry J., to Union Carbide Corp. Expendable pattern bonding agent. 3,105,277, 10-1-63, Cl. 22-195.
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- Pinkerton, Richard C., to Ethyl Corp. High energy batteries. 3,073,884, 1-15-63, Cl. 136-100.
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- Pinkston, Herbert C., L. W. Gilbert, and W. B. Lloyd, to Westinghouse Electric Corp. Fluid drive. 3,102,454, 9-3-63, Cl. 91-414.
- Pinkwart, Dieter, R. Schneider, W. Strittmatter, and E. Gruber, to Farbenfabriken Bayer Aktiengesellschaft. Construction and arrangement of wipers in thin-film evaporators. 3,090,732, 5-21-63, Cl. 202-236.
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- Pintell, Robert H., to Intron International, Inc. Controllable alternating-current generator. 3,088,075, 4-30-63, Cl. 328-72.
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- Piot, Paul, and J. Barassin, to Compagnie de Saint Gobain. Process and apparatus for producing perforations of very small cross-section. 3,098,148, 7-16-63, Cl. 219-69.
- Pipe, Edward W., D. S. Little, and F. C. Melchior. Airborne electro-mechanical pressure sensory and telemetry system. 3,091,122, 5-28-63, Cl. 73-398.
- Pipe Machinery Co., The: See—  
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- Piper, Glenn T., to The Hoover Co. Process of bonding metals. 3,099,869, 8-6-63, Cl. 22-204.
- Piper, Iver L., D. E., and F. N. Router guide for steps and shelves. 3,104,689, 9-24-63, Cl. 144-136.
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- Piper, Raymond C., to Youngstown Ornamental, Inc. Solar screen construction. 3,113,356, 12-10-63, Cl. 20-63.
- Piper, Robert T. Scale mounting device. 3,083,466, 4-2-63, Cl. 33-79.
- Piper, Roger D., and R. F. Leifield, to United States of America, Atomic Energy Commission. Double-baked, self-channelling electrode. 3,081,237, 3-12-63, Cl. 204-15.
- Pipes, George R., to Eaton Mfg. Co. Deformable closure device. 3,081,904, 3-19-63, Cl. 220-60.
- Pipkin, Royace H. Paper clip dispenser. 3,100,932, 8-20-63, Cl. 29-212.
- Pippert, Aaron J., and E. B. Heathcott, to Universal Packing & Gasket Co. Seal ring. 3,094,337, 6-18-63, Cl. 277-188.
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- Pippin Construction Equipment, Inc.: See—  
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- Piquette, Horace E. Method of constructing bituminous aggregate surfaces. 3,103,860, 9-17-63, Cl. 94-23.
- Pirc, Anthony J., to United States Steel Corp. Die assembly for making T-head nails. 3,109,187, 11-5-63, Cl. 10-43.
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- Pirhonen, Eino. Shoe sole construction. 3,077,886, 2-19-63, Cl. 128-607.
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- Pirooz, Perry P., to Owens-Illinois Glass Co. Sealing glass. 3,088,833, 5-7-63, Cl. 106-53.
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- Pisano, Frank T., and L. L. Pitney. Aircraft occupant protecting and ejecting system. 3,093,353, 6-11-63, Cl. 244-122.
- Pisano, Michael A., A. I. Fleischman, and S. E. Vaccaro, to St. John's University. Thrombocytin-fibrinolytic substance. 3,109,780, 11-5-63, Cl. 195-101.
- Pischinger, Franz, to H. List. Device for measuring the consumption of liquid fuels. 3,105,565, 10-1-63, Cl. 177-190.
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- Pistole, Harry, and P. D. Weiner, to Jersey Production Research Co. Pipe coupling having holding means responsive to high internal fluid pressure. 3,100,657, 8-13-63, Cl. 285-107.
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- Pita, Federico Fernandez: *See*—  
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- Pittman, Clarence E., and J. W. Hilverink. Automatic marking machine. 3,112,697, 12-3-63, Cl. 101-292.
- Pittman, Edgar H., to Deering Milliken Research Corp. Methods and apparatus for producing intermittently elasticized yarns. 3,095,630, 7-2-63, Cl. 28-1.
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- Pitts, William A. Apparatus for handling elongated articles. 3,076,562, 2-5-63, Cl. 214-1.
- Pitts, William A., to Jersey Production Research Co. Positive volume fluid meter. 3,083,571, 4-2-63, Cl. 73-224.
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Fix, Earl L. 3,113,034.  
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- Pizzi, Albert L., and S. Zolner, to Western Electric Co., Inc. Apparatus for assembling articles. 3,098,291, 7-23-63, Cl. 29-203.
- Pizzi, Joseph P. Golf ball washer. 3,114,163, 12-17-63, Cl. 15-21.
- Pizzino, Michael A., and F. J. Randino. Method of making inlaid circuits. 3,085,295, 4-16-63, Cl. 18-61.
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- Placek, Raymond L., T. A. Danner, and J. C. Arthur, to Arvin Industries, Inc. Ceramic coated muffler and method of making it. 3,107,748, 10-22-63, Cl. 181-61.
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- Plasser, Franz, and J. Theurer. Machine for treating ballast in a railroad bed. 3,096,829, 7-9-63, Cl. 171-16.
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- Plassman, Herbert A., 20% to H. A. Kirk. Universal vehicle lift. 3,111,196, 11-19-63, Cl. 187-8.41.
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- Platt, Clark I., and E. B. Ruble, to Whirlpool Corp. Cage type washer. 3,103,113, 9-10-63, Cl. 68-23.
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- Platzer, Peter J. Sectional grain sampling probe. 3,091,968, 6-4-63, Cl. 73—425.2.
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- Broad, Michael J. 3,110,321.
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- Plisk, Leonard N., to Bausch & Lomb Inc. Gun telescope mounting. 3,101,549, 8-27-63, Cl. 33—50.
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- Polzin, Lester A., to Western Metal Specialty Division, Western Industries Inc. Flush-type door lock. 3,096,113, 7-2-63, Cl. 292—147.
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- Pomot, Jean L. E., E. J. F. Luzarreta, and G. G. J. Cousserans, to Office National Industriel de L'Azote. Production of carbamic esters. 3,086,987, 4-23-63, Cl. 260—482.
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- Pomper, Boris, to The British Petroleum Co. Ltd. Plate columns. 3,095,462, 6-25-63, Cl. 261—113.
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- Pond, Robert B., to Marvalaud, Inc. Method for forming bicrystalline specimens. 3,116,175, 12-31-63, Cl. 148—1.6.
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- Pons, Walter A., Jr., J. C. Kuck, and V. L. Frampton, to United States of America, Agriculture. Process for bleaching refined cottonseed oil. 3,087,946, 4-30-63, Cl. 260—424.
- Ponsa, Carlos S. Apparatus for treating feed-water by the zeolite process. 3,071,250, 1-1-63, Cl. 210—190.
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- Pool, William O., to McGaw Laboratories, Inc. Process for purifying protein hydrolysate solutions. 3,100,201, 8-6-63, Cl. 260—112.
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- Poole, Arnold L., to International Business Machines Corp. Information retrieval system. 3,107,343, 10-15-63, Cl. 340—172.5.
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Process for the preparation of piperazine. 3,095,417, 6-25-63, Cl. 260-268.
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- Popper, Otto.  
Chains and marine apparatus moored or anchored by chains to the sea bed. 3,086,368, 4-23-63, Cl. 61-46.5.
- Poradun, Daniel P.  
Vent pipe support holder. 3,105,664, 10-1-63, Cl. 248-56.
- Porambo, Francis E., to Franchetti's Krueblers, Inc.  
Automatic cruller machine. 3,106,151, 10-8-63, Cl. 99-353.
- Porcara, Peter J., to The Givaudan Corp.  
Gel spot remover. 3,093,592, 6-11-63, Cl. 252-163.
- Porcelli, John C., to Polymold Plastics, Inc.  
Apparatus for closing a nozzle or spout with a captive cap. 3,102,332, 9-3-63, Cl. 29-208.
- Porck, Alfred J.: *See*—  
Osborn, Robert O., and Porck. 3,102,881.
- Pore, Glen L.  
Flushing tank actuator. 3,088,122, 5-7-63, Cl. 4-67.
- Porges, Frederick B., to Flexibloc Ltd.  
Mechanical seals for rotating parts. 3,072,414, 1-8-63, Cl. 277-93.
- Poris, Harry.  
Display box. 3,079,039, 2-26-63, Cl. 220-97.
- Portland, Kjeld, to Danfoss ved ingenior Mads Clausen.  
Mixing valve for hot and cold water installations. 3,116,015, 12-31-63, Cl. 236-12.
- Portland, Kjeld, and C. Sorensen, to Danfoss ved ingenior Mads Clausen.  
Regulating valve with cylindrical valve body. 3,071,156, 1-1-63, Cl. 137-625.4.
- Porret, Daniel, W. Fisch, H. Batzer, and O. Ernst, to Ciba Ltd.  
Diepoxides of ether acetals of 1,1-bis (hydroxymethyl)-cyclohexene. 3,072,678, 1-8-63, Cl. 260-340.7.
- Porsch, Friedrich, to Dragoco Spezialfabrik Konz. Riech- und Aromastoffe Gerberding & Co., G.m.b.H.  
Process of preparing 1-(4-hydroxy phenyl)-butanone-(3). 3,098,874, 7-23-63, Cl. 260-590.
- Porsche, Dr. Ing., h.c.F., KG. Firma: *See*—  
Hoenick, Hans. 3,078,958.  
Hoenick, Hans H. 3,098,472.  
Komenda, Erwin. 3,074,754.  
Komenda, Erwin. 3,088,781.  
Schmid, Leopold F., and Honick. 3,077,870.  
Von Rucker, Nikolaus. 3,090,468.
- Portable Electric Tools, Inc.: *See*—  
Dobslaw, Gerhard A. 3,092,154.  
Dobslaw, Gerhard A. 3,112,419.
- Portal, Pierre.  
Reinforced spool. 3,099,417, 7-30-63, Cl. 242-118.62.
- Portal, Pierre.  
Spool. 3,104,851, 9-24-63, Cl. 242-118.62.
- Porta-Panel Products, Inc.: *See*—  
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- Porteous, John A., to United States Rubber Co.  
Polyurethane coated fabric filled with isocyanate free elastomer and method of making same. 3,085,027, 4-9-63, Cl. 117-68.
- Porter, Allan W. H., to Hobourn-F.N.F. Ltd.  
Warp knitting machines. 3,097,511, 7-16-63, Cl. 66-86.
- Porter, Ann L.  
Apparatus for restraining animals. 3,094,101, 6-18-63, Cl. 119-103.
- Porter-Cable Machine Co., The: *See*—  
Stelljes, Charles R., Frostad, and Leach. 3,095,748.
- Porter, Clarence W., to Square D Co.  
Control circuit. 3,071,712, 1-1-63, Cl. 317-142.
- Porter, Clarence W., to Square D Co.  
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- Porter, David J., to FMC Corp.  
Combined catalytic and non-catalytic process of producing hydrogen sulfide and carbon disulfide. 3,087,788, 4-30-63, Cl. 23-181.
- Porter, Donald H.: *See*—  
Jenney, Theodore M., and Porter. 3,073,680.  
Jenney, Theodore M., Porter, and Zdrojewski. 3,112,278.
- Porter, Donald K., to The B. F. Goodrich Co.  
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- Porter, Edward.  
Internal bore measuring apparatus. 3,114,978, 12-24-63, Cl. 33-174.
- Porter, Forrest V., to Dresser Industries, Inc.  
Sidewall sampler. 3,080,005, 3-5-63, Cl. 175-2.
- Porter, Frank E., to Quality Pearl Products Corp.  
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- Porter, Frank W., to Productive Equipment Corp.  
Vibrating equipment. 3,071,901, 1-8-63, Cl. 51-163.
- Porter, Frederick W.: *See*—  
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- Porter, Frederick W. B., and P. T. White, to The British Petroleum Co. Ltd.  
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- Porter, Frederick W. B., and P. T. White, to The British Petroleum Co. Ltd. Catalytic reforming of petroleum hydrocarbons. 3,071,539, 1-1-63, Cl. 208-135.
- Porter, Glenn M., to National Distillers and Chemical Corp. Adjustable angle travelling saw. 3,090,269, 5-21-63, Cl. 83-473.
- Porter, H. K., Co. (Delaware): *See*—  
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- Porter, H. K., Co., Inc.: *See*—  
Betz, Clarence G. 3,087,251.  
Connor, Richard E., and Kitching. 3,112,772.  
Hill, Rowland E. 3,084,432.  
Porter, Thomas M. 3,074,164.  
Richardson, Joseph W., Jr. 3,084,734.  
Richardson, Joseph W., Jr. 3,104,364.  
Rittenhouse, Godfrey J. 3,073,353.  
Rittenhouse, Godfrey J. 3,100,659.  
Roudabush, Ned W. 3,086,330.  
Shaback, Andrew J. 3,096,392.  
Smith, Norman L. 3,090,112.  
Springs, Donald G. 3,098,894.  
Springs, Donald G. 3,114,441.  
Teepie, Frank A., Jr. 3,115,056.
- Porter, Henry H., S. Karrer, R. D. Mindlin, and J. A. Van Allen. Rugged vacuum tube. 3,113,235, 12-3-63, Cl. 313-285.
- Porter, Hubert T., A. K. Renshaw, and P. T. White, to The British Petroleum Co. Ltd. Production of gas suitable for use as town gas. 3,104,957, 9-24-63, Cl. 48-197.
- Porter, James A., and L. A. Staskelunas, to General Motors Corp. Automatically reversible motor for domestic appliance. 3,090,900, 5-21-63, Cl. 318-207.
- Porter, Joe A., and A. L. Kohl, to The Fluor Corp. Ltd. Apparatus and method for promoting biological oxidation of organic material. 3,112,261, 11-26-63, Cl. 210-17.
- Porter, Joe M., to Northrop Corp. Disengaging tool. 3,087,235, 4-30-63, Cl. 29-206.
- Porter, John H., to Crestmont Consolidated Corp. Apparatus for simulating pulse signals generated by a PAM/PDM commutator. 3,080,526, 3-5-63, Cl. 328-187.
- Porter, Lee M., to Shell Oil Co. Polymerizing diolefins with alkyl lithium catalyst in tetrahydrofuran solvent. 3,105,828, 10-1-63, Cl. 260-83.7.
- Porter, Louis E. Combined cigarette and match container. 3,113,669, 12-10-63, Cl. 206-48.
- Porter, Louis M., and F. T. Speck, to Fike Metal Products Corp. Rupture disc unit. 3,109,554, 11-5-63, Cl. 220-89.
- Porter, Noel E., to Hewlett-Packard Co. Electrical apparatus. 3,084,308, 4-2-63, Cl. 317-14.
- Porter, Norman, to Ametek, Inc. Instrument casing. 3,108,477, 10-29-63, Cl. 73-431.
- Porter Precision Products: *See*—  
Porter, Walter G., and Wickemeier. 3,103,845.
- Porter, Robert D. Method of installing furnace, and furnace for easy installation. 3,103,924, 9-17-63, Cl. 126-116.
- Porter, Roger S., and G. H. Cady, to United States of America, Navy. Preparation of perfluorodimethyl peroxide. 3,100,803, 8-13-63, Cl. 260-610.
- Porter, Thomas M., to H. K. Porter, Inc. Multiple lever tool. 3,074,164, 1-22-63, Cl. 50-193.
- Porter, Walter G., and B. W. Wickemeier, to Porter Precision Products. Demountable retainer for punch and die sets. 3,103,845, 9-17-63, Cl. 83-698.
- Porter, Walter J., Jr.: *See*—  
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- Porterfield, Cecil P., and R. W. Drushel, to Elox Corp. of Michigan. High repetition rate spark machining apparatus. 3,089,059, 5-7-63, Cl. 315-180.
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- Portland Zementwerke Heidelberg AG.: *See*—  
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- Portnoy, Allen J., to Blair Displays, Inc. Leg and brace assembly. 3,103,374, 9-10-63, Cl. 287-56.
- Portnoy, Allen J., to Blair Displays, Inc. Moving shelf display case. 3,103,396, 9-10-63, Cl. 312-126.
- Porto, Mr., Inc.: *See*—  
Russo, Michael T. 3,114,472.
- Portz, William E., to True Temper Corp. Reel mounting means for fishing rods. 3,098,313, 7-23-63, Cl. 43-22.
- Portzer, Harry J.: *See*—  
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- Portzer, Harry J., H. B. Sargent, M. L. Kasbohm, and E. A. Bohner, Jr., to Union Carbide Corp. Acetylene transport system. 3,108,445, 10-29-63, Cl. 62-48.
- Porwancher, Samuel R., to Michigan Oven Co. Fluid flow responsive switch apparatus. 3,113,189, 12-3-63, Cl. 200-81.9.
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- Poschenrieder, Werner, to Siemens & Halske Aktiengesellschaft. Electrostrictive flexing oscillator. 3,114,849, 12-17-63, Cl. 310-9.7.
- Posen, Boris S.: *See*—  
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- Posh, Raymond C., to American Metal Products Co. Accumulator. 3,115,162, 12-24-63, Cl. 138-30.
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- Posner, Bertha B. Toe cushion. 3,110,306, 11-12-63, Cl. 128-81.
- Posner, Woolf. Optical apparatus for producing changing designs. 3,100,418, 8-13-63, Cl. 88-15.
- Posniak, Benjamin, G. A. McCoubrey, and E. Babiarz, to Kaman Aircraft Corp. Rotor for a helicopter. 3,106,963, 10-15-63, Cl. 170-160.12.
- Pospisil, Richard E.: *See*—  
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- Possati, Mario. Comparator micrometer, particularly suited for external and internal measurements. 3,110,968, 11-19-63, Cl. 33-147.
- Possell, Clarence R.: *See*—  
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- Possis Machine Corp.: *See*—  
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- Possis, Zinon C., W. E. Johnson, M. J. Straub, and M. H. Franke, to Possis Machine Corp. Automatic taping apparatus for applying adhesive tape strips about a wire coil. 3,108,922, 10-29-63, Cl. 156-468.
- Post, Charles B. Disconnect coupling. 3,083,992, 4-2-63, Cl. 287-119.
- Post, Frederick L., to International Business Machines Corp. Magnetic core device. 3,099,821, 7-30-63, Cl. 340-174.
- Post, Herbert G., and W. L. Carroll. Controlled feed mechanism for yarn. 3,073,139, 1-15-63, Cl. 66-132.
- Post, Herman D. Tape splicer. 3,077,808, 2-19-63, Cl. 83-581.
- Post, Herman D. Tape splicer with turnable cutter. 3,110,210, 11-12-63, Cl. 83-550.
- Post, Irene: *See*—  
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- Post, James D., deceased, by I. Post, administratrix, to Republic Foil, Inc. Multi-layer laminating machine. 3,104,073, 9-17-63, Cl. 242-67.2.
- Post, Leo B.: *See*—  
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Klein, George I., Newby, and Post. 3,100,693.
- Post Mfg. Co.: *See*—  
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- Post, Paul J., and E. F. Moynihan. Apparatus for winding toroidal cores. 3,104,840, 9-24-63, Cl. 242-4.
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- Post, Richard F. Expandable vapor noisemaker. 3,094,968, 6-25-63, Cl. 116-27.
- Post, Richard F., to United States of America, Atomic Energy Commission. Magnetic end closures for plasma confining and heating devices. 3,101,310, 8-20-63, Cl. 204-193.2.
- Post, Richard F., and C. E. Taylor, to United States of America, Atomic Energy Commission. Cryogenic magnets. 3,090,894, 5-21-63, Cl. 317-158.
- Post, Richard F., and C. E. Taylor, to United States of America, Atomic Energy Commission. Method for reducing the impurity resistivity of sodium. 3,100,730, 8-13-63, Cl. 148-13.
- Post, Roy G., to United States of America, Atomic Energy Commission. Nuclear reactor. 3,088,904, 5-7-63, Cl. 204-193.2.
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Taylor, Frederick J. D. 3,089,511.
- Poston, Irvin E.: *See*—  
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- Potapenko, Gennady, to R. Robbins. Apparatus for sterilizing air. 3,105,733, 10-1-63, Cl. 21-74.



- Potapenko, Gennady, to R. Robbins. Air directing isolation apparatus. 3,107,863, 10-22-63, Cl. 240-1.4.
- Potapenko, Gennady, to R. Robbins. Method and system for the prevention of the spread of infectious disease by airborne microorganisms. 3,107,974, 10-22-63, Cl. 21-53.
- Potasse et Engrais Chimiques: See—  
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- Potechina, Lidia A.: See—  
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- Potenza, Joseph, 60% to R. Williams. Fluid motivated abrading and washing device. 3,088,149, 5-7-63, Cl. 15-29.
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- Potlatch Forests, Inc.: See—  
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- Potocki, Stanley J., to Admiral Corp. Automatic fluxing machine. 3,112,723, 12-3-63, Cl. 113-95.
- Potrafke, Werner. Cashier's station for self-service stores. 3,076,528, 2-5-63, Cl. 186-1.
- Potrafke, Werner. Cashier's table for self-service stores. 3,094,191, 6-18-63, Cl. 186-1.
- Potschka Enterprises Ltd.: See—  
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- Potschka, Joseph W., to Potschka Enterprises Ltd. Vehicle load indicator. 3,092,818, 6-4-63, Cl. 340-198.
- Pottash, Herbert. Gasoline tank fill. 3,104,777, 9-24-63, Cl. 220-86.
- Pottenger, Carl H., to Koppers Co., Inc. Storable stable expandable polymeric composition containing expandable polymeric particles and two different blowing agents and method of making same. 3,089,857, 5-14-63, Cl. 260-2.5.
- Potter, Allen G., Jr., to American Cyanamid Co. Diphenylamine process. 3,079,439, 2-26-63, Cl. 260-576.
- Potter, Barrie V., to Esso Research and Engineering Co. Method of cleaning engine exhaust gases. 3,100,376, 8-13-63, Cl. 60-30.
- Potter, Charles, to Engelhard Industries, Inc. Noise suppressor. 3,075,609, 1-29-63, Cl. 181-44.
- Potter, David S.: See—  
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- Potter, David V., to American Motors Corp. Engine lubricating apparatus. 3,087,582, 4-30-63, Cl. 184-6.
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- Potter, Frank J., to General Dynamics Corp. Test circuit for determining dynamic transistor characteristics. 3,094,660, 6-18-63, Cl. 324-158.
- Potter, Frederick M., to The Bendix Corp. A.C. generator negative slip ring construction. 3,073,979, 1-15-63, Cl. 310-231.
- Potter, Frederick M., to The Bendix Corp. Dynamoelectric machine. 3,074,002, 1-15-63, Cl. 322-25.
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- Comstock, George E., 3d. 3,090,299.
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- Potter, John T., Comstock, and Sekyra. 3,110,431.
- Schoeneman, Robert E. 3,091,408.
- Potter, John A. Roof ventilator. 3,080,808, 3-12-63, Cl. 98-42.
- Potter, John T., G. E. Comstock, and E. Sekyra, to Potter Instrument Co., Inc. Tape loop handler with air support. 3,110,431, 11-12-63, Cl. 226-95.
- Potter, Omer R.: See—  
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- Potthoff, William C.: See—  
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- Pottle, Ralph K., to American Can Co. Cutter spacing device. 3,094,026, 6-18-63, Cl. 82-46.
- Pottle, Ralph K., to American Can Co. Tube stuffing machine. 3,113,410, 12-10-63, Cl. 53-119.
- Potts, Edward E.: See—  
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- Potts, James H., Jr., to United States of America, Navy. Parachute pack opening mechanism. 3,087,695, 4-30-63, Cl. 244-147.
- Potts, James H., Jr., to United States of America, Navy. Parachute pack and pack opener. 3,087,697, 4-30-63, Cl. 244-149.
- Potts, James H., Jr., and J. L. Baldwin, Jr., to United States of America, Navy. Parachute pack opener. 3,092,358, 6-4-63, Cl. 244-147.
- Potts, John, and E. Cairelli, to Wilson-Jones Co. Loose leaf binder. 3,080,562, 3-5-63, Cl. 129-41.
- Potts, Thomas J., Jr., and E. F. Grant, to National Co., Inc. Pulse power resolving system. 3,115,611, 12-24-63, Cl. 331-183.
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- Pouilloux, Jacques, and J. R. Saint Paul, to Pneumatiques et Caoutchouc Manufacture Kleber-Colombes. Tire building and shaping drum. 3,111,445, 11-19-63, Cl. 156-416.
- Poujade, Anne M. L.: See—  
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- Poujade, Jules C. J.: See—  
Hadancourt, Alain C., and Poujade. 3,089,983.
- Poulin, Allan R., to National Twist Drill & Tool Co. Drill construction. 3,089,359, 5-14-63, Cl. 77-69.
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- Poulter, Thomas C. 1/2 to Borg-Warner Corp., and 1/2 to Halliburton Co. Shaped charge and method of firing the same. 3,100,445, 8-13-63, Cl. 102-24.
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- Pounds, Lewis C.: See—  
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- Poux, Roland J., to Talon, Inc. Method of making fastener elements for slide fasteners. 3,091,024, 5-28-63, Cl. 29-410.
- Povlacs, Lawrence, to The Akwell Corp. Apparatus for packaging compressible disc-like articles. 3,076,297, 2-5-63, Cl. 53-24.
- Powell, Benjamin L. Pipe handling apparatus. 3,071,237, 1-1-63, Cl. 198-91.
- Powell, David B.: See—  
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- Powell, David B., to General Electric Co. Mounted electrical connector. 3,076,952, 2-5-63, Cl. 339-150.
- Powell, David B., to General Electric Co. Circuit breaker with auxiliary switch. 3,104,297, 9-17-63, Cl. 200-116.
- Powell, Earl A. Portable work counter. 3,089,742, 5-14-63, Cl. 312-223.
- Powell, Edward J. E. Machines for forming cartons. 3,079,845, 3-5-63, Cl. 93-44.1.
- Powell, Edward J. E. Cartons. 3,082,926, 3-26-63, Cl. 229-7.
- Powell, Edward J. E. Method and apparatus for forming and filling cartons. 3,085,374, 4-16-63, Cl. 53-29.
- Powell, George W., to Pangborn Corp. Air separator. 3,087,615, 4-30-63, Cl. 209-134.
- Powell, George W., and M. E. Fahrney, to Pangborn Corp. Abrasive blasting apparatus. 3,081,580, 3-19-63, Cl. 51-13.
- Powell, Gordon F. W.: See—  
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- Powell, Gordon F. W., to Molins Machine Co. Ltd. Tobacco-manipulating machines. 3,111,026, 11-19-63, Cl. 73-38.



- Powell, Gordon F. W., to Molins Machine Co. Ltd. Balanced pulsed pneumatic bridge type detector of cigarette presence and packing density. 3,116,478, 12-31-63, Cl. 340—282.
- Powell, Howard H.: *See—*  
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- Powell, Jonathan S., Jr. Method of connecting service lines to mains. 3,104,456, 9-24-63, Cl. 29—157.
- Powell Knitting Co., The: *See—*  
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- Powell, Leo S., to Carter Products, Inc. Method of manufacturing N-substituted 2,2-disubstituted-1,3-propanediol dicarbamate. 3,092,656, 6-4-63, Cl. 260—482.
- Powell, Milton W., 40% to L. J. McConnell, and 20% to P. H. Mansfield. Lantern mounting bracket for boats. 3,096,961, 7-9-63, Cl. 248—229.
- Powell, Ralph C.: *See—*  
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- Powell, Robert J., and J. E. Champion, to Continental Motors Corp. Engine controls. 3,094,836, 6-25-63, Cl. 60—13.
- Powell, Stanley F.,  $\frac{1}{2}$  to S. L. Selko. Toilet tissue holder. 3,086,724, 4-23-63, Cl. 242—55.53.
- Powell, Vernon, to Joseph Bradbury & Sons Ltd. Roll-on-to-free-wheel convertible vehicle lift. 3,078,961, 2-26-63, Cl. 187—8.54.
- Powell, Wesley, to Texas Gulf Tank Co. Treater for well fluids. 3,105,751, 10-1-63, Cl. 55—175.
- Powell, William M.: *See—*  
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- Powell, William N. Air filter and humidifier. 3,090,179, 5-21-63, Cl. 55—233.
- Powelson, Roger V. N., to Sun Oil Co. Heat sealable polypropylene films. 3,110,611, 11-12-63, Cl. 117—62.2.
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- Power Jets (Research and Development) Ltd.: *See—*  
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- Powered Staplers, Inc.: *See—*  
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- Powers, Augustin J., Jr., and A. K. Anander, to Powers Chemco, Inc. Film signaling means. 3,112,683, 12-3-63, Cl. 95—31.
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- Powers, Chester H., to Otis Elevator Co. Industrial lift truck. 3,092,268, 6-4-63, Cl. 214—75.
- Powers, Donald H., and M. M. Rieger, to Warner-Lambert Pharmaceutical Co. Iodine preparation and method of disinfecting the skin. 3,081,232, 3-12-63, Cl. 167—70.
- Powers, Dwight W. Combustion control with combustion air and draft diversion air control system. 3,092,320, 6-4-63, Cl. 236—9.
- Powers, Ernest M.: *See—*  
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- Powers, Frank C. Method of packaging an angel food cake. 3,082,096, 3-19-63, Cl. 99—172.
- Powers, Frank C. Flavor pocket cake. 3,108,003, 10-22-63, Cl. 99—92.
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- Powers, Howard A., to W. H. Brady Co. Tape dispenser. 3,098,782, 7-23-63, Cl. 156—577.
- Powers, Lawrence G., to Whittlesey Powers, Inc. Water ski. 3,089,158, 5-14-63, Cl. 9—310.
- Powers, Milton A., to Skuttile Mfg Co. Humidifiers. 3,087,485, 4-30-63, Cl. 126—113.
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- Powers, Richard E., to Powers Wire Products Co., Inc. Air operated tool and piston therefor. 3,107,584, 10-22-63, Cl. 92—85.
- Powers, Richard E., and C. W. Weis, to Powers Wire Products Co., Inc. Self returning drive piston and valve therefor. 3,094,043, 6-18-63, Cl. 91—416.
- Powers, Richard M., to Sylvania Electric Products Inc. Apparatus for determining radioactive material ratios. 3,086,116, 4-16-63, Cl. 250—83.
- Powers, Robert E., to Bell Telephone Laboratories, Inc. Transmission regulator utilizing passive variable-losser which is controlled, via circuit having expansion network, by signal level. 3,086,179, 4-16-63, Cl. 333—14.
- Powers, Walter H.: *See—*  
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- Powers, Walter H., to Walker Mfg. Co. Muffler. 3,082,841, 3-26-63, Cl. 181—54.
- Powers, Walter H., to Walker Mfg. Co. Silencer. 3,092,204, 6-4-63, Cl. 181—36.
- Powers, Walter H., and B. D. Jacokes, to Walker Mfg. Co. Muffler. 3,087,580, 4-30-63, Cl. 181—61.
- Powers, Wesley G. Game apparatus. 3,104,107, 9-17-63, Cl. 273—138.
- Powers, William J., Jr.: *See—*  
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- Poyer, David. Convertible camper's cupboard. 3,094,361, 6-18-63, Cl. 312—6.
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- Poznik, William A., to Siegler Corp. Hydraulic jack. 3,086,751, 4-23-63, Cl. 254—8.
- Prace, Harvey D., and A. Wharton, to General Dynamics Corp. Switching keys with cam follower means. 3,076,063, 1-29-63, Cl. 200—1.
- Praglin, Julius, to Keithley Instruments, Inc. Logarithmic circuit element. 3,111,627, 11-19-63, Cl. 328—145.
- Prahl, Walter H., S. J. Lederman, and E. I. Lichtblau, to Hooker Chemical Corp. Production and purification of diphenylolalkanes. 3,073,863, 1-15-63, Cl. 260—619.
- Prakash, Prem. Method of and means for conversion of torque from prime movers. 3,110,197, 11-12-63, Cl. 74—677.
- Prakla Gesellschaft für praktische Lagerstättenforschung G.m.b.H.: *See—*  
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- Prange, Charles J., to Flexible Sewertool Corp. Reel feed mechanism for feeding and rotating sewer cleaning tool drive rod. 3,071,794, 1-8-63, Cl. 15—104.3.
- Prange, Charles J., to Flexible Sewertool Corp. Reciprocatve mechanism for feeding sewer cleaner drive rod. 3,083,391, 4-2-63, Cl. 15—104.3.
- Prater, Arthur N., and T. M. Lukes, to Consolidated Foods Corp. Method of preparing toasted dehydrated onions. 3,098,750, 7-23-63, Cl. 99—204.
- Prater, Arthur N., and A. P. Vosti, to Gentry Division, Consolidated Foods Corp. Method of dehydrating union fragments. 3,113,875, 12-10-63, Cl. 99—204.
- Prater, Charles E., to P.A.B.B. Inc. Vehicle land clearing attachment. 3,081,564, 3-19-63, Cl. 37—2.
- Prater, Charles E., to P.A.B.B. Inc. Harvester. 3,111,777, 11-26-63, Cl. 37—2.
- Prater, Willis K.: *See—*  
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- Pratesi, Pietro, to Maggioni & C.S.p.A. N-beta-(dicyclohexylamino)-ethyl-n-alkyl-ammonium halides. 3,105,073, 9-24-63, Cl. 260—247.5.
- Prather, Edwin E., to The Bendix Corp. Servomotor with normally stationary valve structure. 3,075,499, 1-29-63, Cl. 121—38.
- Prather, Marvin E., to General Electric Co. Heating unit with collapsible terminals. 3,091,682, 5-28-63, Cl. 219—37.
- Pratley, George M. Cable gland. 3,101,204, 8-20-63, Cl. 285—149.
- Prats, Michael, and D. G. Russell, to Shell Oil Co. Method of heating underground formations. 3,105,545, 10-1-63, Cl. 166—39.
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- Pratt, James S.: *See*—  
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- Pratt, John M., and P. B. Anderson. Bale piling attachment for traveling baler. 3,080,071, 3-5-63, Cl. 214-9.
- Pratt, John N., to Iron Fireman-Webster, Inc. Air conditioning system. 3,095,799, 7-2-63, Cl. 98-37.
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- Pratt, Verneer E., to General Telephone Directory Co. Microfilm reader. 3,072,013, 1-8-63, Cl. 88-24.
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- Precision Welder and Flexopress Corp.: *See*—  
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- Preckel, Ralph F., to United States of America, Navy. Propellant and explosive composition. 3,078,200, 2-19-63, Cl. 149-96.
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- Precopio, Frank M., and A. R. Gilbert, to General Electric Co. Peroxide cured polyethylene. 3,079,370, 2-26-63, Cl. 260-94.9.
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- Preeman, Marvin B., to Standard Steel Corp. Asphalt mixing plant dust return system. 3,106,384, 10-8-63, Cl. 259-159.
- Preeman, Marvin B., to Standard Steel Corp. Mobile mixing plant. 3,116,051, 12-31-63, Cl. 259-153.
- Preformed Line Products Co., Inc.: *See*—  
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- Preikschat, Fritz K., to The Boeing Co. Phase comparator microwave energy direction finder. 3,113,315, 12-3-63, Cl. 343-113.
- Preis, Carl G., and L. K. Kuhn, to Eversharp, Inc. Safety razor blade having means for tiltably locking the same in the opened up head of a razor. 3,071,857, 1-8-63, Cl. 30-351.
- Preis, Carl O., to Hazeltine Research, Inc. Variable frequency vibration absorber. 3,085,657, 4-16-63, Cl. 188-1.
- Preiser, Aaron, to Esso Research and Engineering Co. Coalescing sulphuric acid-hydrocarbon emulsions. 3,098,108, 7-16-63, Cl. 260-683.62.
- Preiser, Herman S. Flexible trailing anode. 3,104,220, 9-17-63, Cl. 204-196.
- Preiser, Herman S., and F. E. Cook, to Chemionics Engineering Laboratories, Inc. Pipe plug anode. 3,081,252, 3-12-63, Cl. 204-196.
- Preiser, Herman S., F. E. Cook, and B. H. Tytell, to Chemionics Engineering Laboratories, Inc. Energized anode assembly. 3,101,311, 8-20-63, Cl. 204-196.
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- Prelog, Vladimir, to Ciba Corp. Aliphatic aldehydes. 3,076,847, 2-5-63, Cl. 260-593.
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- Premo, Ellis J., and R. J. Williams, to General Motors Corp. Vehicle closure. 3,078,119, 2-19-63, Cl. 296-44.
- Premo, Howard J. Ice auger. 3,093,199, 6-11-63, Cl. 175-18.
- Premo, John G.: *See*—  
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- Prendergast, John J., deceased; A. Prendergast, executrix, to Evans Products Co. Merchandise loader for railway freight cars. 3,082,707, 3-26-63, Cl. 105-369.
- Prener, Jerome S., to General Electric Co. Method of making silicon carbide. 3,085,863, 4-16-63, Cl. 23-208.
- Prentice, E. V., Co.: *See*—  
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- Prentice, G. E., Mfg. Co., The: *See*—  
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- Prentice, Russell E., to Hycon Mfg. Co. Shutter drive mechanism. 3,091,973, 6-4-63, Cl. 74-2.
- Prentice, William H., to Owens-Corning Fiberglass Corp. Devices and methods for applying strands. 3,111,440, 11-19-63, Cl. 156-71.
- Prentiss, Spencer S., to Phillips Petroleum Co. Means for supporting the walls of a well. 3,106,246, 10-8-63, Cl. 166-58.
- Prentki, Stefan. Dental articulator. 3,078,577, 2-26-63, Cl. 32-32.
- Prentky, Peter I.: *See*—  
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- Preotle, John J., and C. E. Rembold, to General Motors Corp. Refrigerating apparatus. 3,115,020, 12-24-63, Cl. 62-275.
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- Prescott, Francis J., and E. A. Wich, to General Aniline & Film Corp. Preparation of paint compositions containing a pyrrolidone compound. 3,088,837, 5-7-63, Cl. 106-262.
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- Prescott, Robert E., to Bell Telephone Laboratories, Inc. Alignment device. 3,116,365, 12-31-63, Cl. 178-5.6.
- Prescott, Thomas W., and F. H. Scrimshaw, to Minister of Aviation in Her Majesty's Government of the United Kingdom of Great Britain and Northern Ireland. Automatic blind landing systems for aircraft. 3,092,357, 6-4-63, Cl. 244-77.
- Presnell, Frank G. Flow proportioner. 3,113,581, 12-10-63, Cl. 137-101.
- Press Accessories Co.: *See*—  
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- Press, Irving D., to Resistoflex Corp. Reusable fitting with metallic sealing ring. 3,083,989, 4-2-63, Cl. 285-110.
- Presser, Leiser. Window cleaning device. 3,104,411, 9-24-63, Cl. 15-250.03.
- Pressler, Antone L. Speed jack. 3,094,005, 6-18-63, Cl. 74-15.2.
- Pressley, Robert C., Jr.: *See*—  
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- Pressman, Abraham I., to Radio Corp. of America. Transistor-negative resistance diode shifting and counting circuit. 3,102,209, 8-27-63, Cl. 307—88.5.
- Pressman, Abraham I., to Radio Corp. of America. Self-resetting tunnel diode-transistor hybrid pulse circuit. 3,114,846, 12-17-63, Cl. 307—88.5.
- Prestel, Karl: *See*—  
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- Prestia, Michael J. Ceiling tile with sound attenuating and visual effects. 3,087,577, 4-30-63, Cl. 181—33.
- Prestidge, Allen F.: *See*—  
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- Prestige Furniture Corp.: *See*—  
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- Prestige, Harry T., D. G. Eade, A. P. Hale, B. M. Lee, R. T. Lovelock, W. F. P. Smith, and V. Teacher to Belling & Lee Ltd. Securing inserts in sheet material. 3,093,887, 6-18-63, Cl. 29—155.55.
- Prestige, Inc.: *See*—  
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- Preston, Daniel S., to Hughes Aircraft Co. Flexible electrical cable and method of making the same. 3,086,071, 4-16-63, Cl. 174—117.
- Preston, Eyalyn: *See*—  
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- Preston, Glenn W., to Philco Corp. Cathode ray system. 3,080,500, 3-5-63, Cl. 315—16.
- Preston, Glenn W., to General Atronics Corp. Computing device. 3,100,943, 8-20-63, Cl. 35—30.
- Preston, James N. Super-charged fire jet torque and propulsion reaction engine. 3,092,967, 6-11-63, Cl. 60—39.35.
- Preston, James N. Super-charged jet torque and propulsion reverse reaction engine. 3,095,703, 7-2-63, Cl. 60—39.35.
- Preston, James N. High compression torque and propulsion jet reaction engine. 3,102,391, 9-3-63, Cl. 60—39.35.
- Preston, Jerome A., to The Ransom & Randolph Co. Dental stone. 3,083,110, 3-26-63, Cl. 106—38.35.
- Preston, John: *See*—  
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- Preston, Neil D., to General Railway Signal Co. Automatic CTC system. 3,079,494, 2-26-63, Cl. 246—5.
- Preston, Raymond: *See*—  
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- Preston, Robert W. G.: *See*—  
Walsh, William D., and Preston. 3,108,121.
- Preston-Thomas, Hugh: *See*—  
Dauphinee, Thomas McC., and Preston-Thomas. 3,087,337.
- Preston, William E.: *See*—  
Gibson, Fred M., and Preston. 3,073,474.
- Preteuille, Maurice A., to Lignes Telegraphiques & Telephoniques. Amplifier with regulated output level. 3,105,202, 9-24-63, Cl. 330—84.
- Preu, Helmut W., and W. J. Hohenstein, to The F. & M. Schaefer Brewing Co. Crowned bottle rejection pin for bottle pick up apparatus. 3,071,403, 1-1-63, Cl. 294—64.
- Preuss, Albert F., Jr., to Rohm & Haas Co. Removal of ferric chloride from iron-aluminum chloride solutions. 3,082,062, 3-19-63, Cl. 23—92.
- Preuss, Ernest A., to Aircraft Radio Corp. Course director. 3,104,390, 9-17-63, Cl. 343—107.
- Preuss, Frederick W., to Storkline Corp. Cabinet construction. 3,088,560, 5-7-63, Cl. 189—36.
- Preuss, Walter A., to Radio Corp. of America. Apparatus for feeding parts. 3,103,283, 9-10-63, Cl. 214—1.
- Preve, Jacques: *See*—  
Montarnal, Roger, and Preve. 3,110,653.
- Prevati, Augusto, to Pirelli S.p.A. Sealing device between a flexible tube and its rigid connector. 3,115,353, 12-24-63, Cl. 285—14.
- Previte, Dominick L., and A. D. Schultz, to Eaton Mfg. Co. Method of making a wheel. 3,080,644, 3-12-63, Cl. 29—159.
- Previte, Richard A.: *See*—  
Abbott, Henry H., Martin, Previte, and H. J. and J. G. Walsh. 3,087,025.
- Previti, Marte. Combination swimming pool and fallout shelter. 3,074,080, 1-22-63, Cl. 4—172.
- Prevost, Maurice E.: *See*—  
Kyser, Robert J., Prevost, and Beaudin. 3,086,226.
- Prevot, Francois, to Commissariat a l'Energie Atomique. Ion injection device for thermonuclear plasma apparatus. 3,093,765, 6-11-63, Cl. 313—63.
- Prevot, Pierre, and P. Guinet, to Societe des Usines Chimiques Rhone-Poulenc. Treatment of finely divided solids with organosilic derivatives. 3,085,905, 4-16-63, Cl. 117—100.
- Prew, Thomas B., to Stafford Tool and Die Co. Ltd. Machinery for cutting, embossing or marking materials. 3,099,596, 7-30-63, Cl. 156—380.
- Preway, Inc.: *See*—  
Allen, Joseph A. 3,090,374.  
Claywell, Jack W. 3,104,669.  
Claywell, Jack W. 3,111,941.  
Claywell, Jack W. 3,111,953.
- Preway, Inc.: *See*—Continued  
Jenson, Kenneth S. 3,077,825.  
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Paviak, Casimir J. 3,077,920.  
Peterson, Stanley O. 3,090,587.
- Prewitt Plastics Co.: *See*—  
Prewitt, Richard H., and Purcell. 3,078,911.
- Prewitt, Richard H., and T. H. Purcell, Jr., to Prewitt Plastics Co. Apparatus for the assembly of an airfoil. 3,078,911, 2-26-63, Cl. 156—581.
- Prewitt, Richard H., Jr., to Burroughs Corp. Centrifugal mercury switch. 3,104,294, 9-17-63, Cl. 200—80.
- Prewitt, Richard H., Jr., to Burroughs Corp. Centrifugal mercury switch. 3,114,017, 12-10-63, Cl. 200—80.
- Preziosi, Anthony. Scoop shovel. 3,094,348, 6-18-63, Cl. 294—55.5.
- Prezioso, Nicholas, Jr., 1/2 to E. P. Daugherty. Paint roller with detachable drip catcher. 3,112,729, 12-3-63, Cl. 15—230.
- Priaroggia, Paolo G.: *See*—  
Palandri, Giuseppe, and Priaroggia. 3,084,208.  
Palandri, Giuseppe, and Priaroggia. 3,115,542.
- Priaroggia, Paolo G., and W. Siegfried, to Pirelli Societa per Azioni. Apparatus for hot-sheathing electric cables with tubular metal sheaths. 3,073,441, 1-15-63, Cl. 207—4.
- Pribonic, John F., to General Motors Corp. Pressure relief valve. 3,101,739, 8-27-63, Cl. 137—529.
- Pribonic, John F., and J. E. Whelan, to General Motors Corp. Means for controlling the dampening of an elastically suspended rotating drum during centrifuging. 3,114,705, 12-17-63, Cl. 210—145.
- Pribyl, Edward J.: *See*—  
Yale, Harry L., Sowinski, and Pribyl. 3,079,400.
- Price, Albert E., to General American Transportation Corp. Loading and unloading systems for bodies of railway cars or the like. 3,102,496, 9-3-63, Cl. 104—98.
- Price, Alfred G. Cigarette pack dispensing carton. 3,101,884, 8-27-63, Cl. 229—51.
- Price, Anthony R.: *See*—  
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- Price, Bernard M. Windshield wiper. 3,078,494, 2-26-63, Cl. 15—250.17.
- Price, Berry G., E. A. Placke, and C. D. Stegall, to Tuboscope Co. Paper holder, drive take-up apparatus. 3,107,064, 10-15-63, Cl. 242—55.
- Price, Dennis T., and I. Gordon, to Hooker Chemical Corp. Production of phosphine. 3,109,787, 11-5-63, Cl. 204—101.
- Price, Earl R., to The Bendix Corp. Power actuated master cylinder. 3,100,379, 8-13-63, Cl. 60—54.6.
- Price, Earl R., to The Bendix Corp. Servomotor construction. 3,109,282, 11-5-63, Cl. 60—10.5.
- Price, Earl R., to The Bendix Corp. Reaction means for servomotors. 3,110,031, 11-5-63, Cl. 60—54.5.
- Price, Earl R., D. L. Hoover, R. R. Hager, and G. Pfeifer, to The Bendix Corp. Fluid pressure motor construction. 3,083,698, 4-2-63, Cl. 121—48.
- Price, Earl R., and E. E. Hupp, to The Bendix Corp. Low input braking system. 3,103,854, 9-17-63, Cl. 91—395.
- Price, Edison, and I. Goodbar. Lighting fixtures. 3,098,612, 7-23-63, Cl. 240—41.35.
- Price, Edmund T.: *See*—  
Cremer, George D., Long, Filippa, and Price. 3,072,225.
- Price, Edmund T., G. D. Cremer, F. J. Filippi, and J. V. Long, to Solar Aircraft Co. Method and apparatus for making brazed honeycomb. 3,071,853, 1-8-63, Cl. 29—471.1.
- Price, Edward P. Electric heating and/or cooling blanket. 3,080,723, 3-12-63, Cl. 62—3.
- Price, Frank B.: *See*—  
Steele, Clarence R., and Price. 3,100,462.
- Price, George C., to Oliver Electrical Mfg. Co. Aerial cable support spacer. 3,095,471, 6-25-63, Cl. 174—160.
- Price, Glenn R., E. N. Walsh, and J. T. Hallett, to Stauffer Chemical Co. Phosphorus-containing thioureas. 3,083,135, 3-26-63, Cl. 167—22.
- Price, Glenn R., E. N. Walsh, and J. T. Hallett, to Stauffer Chemical Co. Oxime and hydroxamic acid derivatives of phosphorothioic acids. 3,094,406, 6-18-63, Cl. 71—2.3.
- Price, Glenn R., E. N. Walsh, and J. T. Hallett, to Stauffer Chemical Co. Phosphoro carbamoyl disulfides. 3,094,548, 6-18-63, Cl. 260—461.
- Price, Glenn R., E. N. Walsh, and J. T. Hallett, to Stauffer Chemical Co. Dialkoxyposphinyl carbalkoxyalkyl disulfide pesticides. 3,109,770, 11-5-63, Cl. 167—22.
- Price, Glenn R., E. N. Walsh, and J. T. Hallett, to Stauffer Chemical Co. Thiophosphoric acid ester compounds having P-S-N-P linkage. 3,114,761, 12-17-63, Cl. 260—461.
- Price, H. Curtis, to Duracote Corp. Electro-magnetic wave reflecting laminate and method of making it. 3,112,221, 11-26-63, Cl. 117—217.
- Price, Harry N.: *See*—  
Biehl, Richard E., Price, and Sternberg. 3,097,766.
- Price, Harry N., and A. H. Raye, to Curtiss-Wright Corp. Intake port construction for rotary mechanisms. 3,103,208, 9-10-63, Cl. 123—8.
- Price, Herbert P., and W. J. Belanger, to Devol & Reynolds Co., Inc. Aliphatic modified epoxide resins. 3,071,562, 1-1-63, Cl. 260—47.
- Price, Hollas K. Rocket-propelled vehicle with propulsion assistant. 3,092,027, 6-4-63, Cl. 102—49.
- Price, Howard W., to Joy Mfg. Co. Gas sampling apparatus. 3,085,439, 4-16-63, Cl. 73—421.5.



- Price, James O., and F. T. Smith, to Goodyear Aircraft Corp. Method of plastic edge attachment. 3,093,526, 6-11-63, Cl. 156-85.
- Price, James R., and R. G. Cunningham, to Shell Oil Co. Lubricating compositions. 3,112,267, 11-26-63, Cl. 252-32.5.
- Price, John A., to American Viscose Corp. Polymeric compositions. 3,071,568, 1-1-63, Cl. 260-93.7.
- Price, Martin A. Aircraft auxiliary fuel tank. 3,098,633, 7-23-63, Cl. 244-135.
- Price, Martin A., to United States of America, Army. Combined vent and drain assembly. 3,100,507, 8-13-63, Cl. 137-588.
- Price, Martin A. Inflatable and deflatable external aircraft fuel tank. 3,101,921, 8-27-63, Cl. 244-135.
- Price, Marlin L., to Utah Radio Products Corp. Loud-speaker. 3,109,072, 10-29-63, Cl. 179-115.5.
- Price, Nathan C., to Lockheed Aircraft Corp. High velocity high altitude V.T.O.L. aircraft. 3,103,324, 9-10-63, Cl. 244-12.
- Price, Noble E. Process and apparatus for shaping and polishing gem stone particles. 3,094,818, 6-25-63, Cl. 51-164.
- Price, Peter R., and G. Buckle, to G. E. B. Abell, and H. T. Chadder. Apparatus for acting in turn on sheets in a pile thereof. 3,093,729, 6-11-63, Cl. 235-61.11.
- Price, Ralph E.: See—  
Balsiger, Harold E., and Price. 3,109,269.
- Price, Ralph E., to Landis Tool Co. Work handling mechanism for rotary grinder. 3,073,074, 1-15-63, Cl. 51-108.
- Price, Ralph E., to Landis Tool Co. Profile dresser with follower rigidly supported in one direction. 3,079,907, 3-5-63, Cl. 125-11.
- Price, Ralph E., to Landis Tool Co. Adjustable follower for crowning mechanisms. 3,104,501, 9-24-63, Cl. 51-94.
- Price, Ralph E., to Landis Tool Co. Work driver. 3,105,404, 10-1-63, Cl. 82-40.
- Price, Raymond M.: See—  
Rittenhouse, William E., Briggs, and Price. 3,096,300.
- Price, Richard T.: See—  
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- Price, Robert A., and L. E. Massing, to The Bendix Corp. Brake system for rail vehicles. 3,096,854, 7-9-63, Cl. 188-42.
- Price, Robert J. Precision variable delay pulse generator. 3,089,090, 5-7-63, Cl. 328-55.
- Price, Robert L., and K. C. Peer, to Ekco Products Co. Carbon-containing silicone resin coated metallic bake form. 3,078,006, 2-19-63, Cl. 220-64.
- Price, Robert W.: See—  
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- Price, Robert W., to The Dow Chemical Co. Slitting tool. 3,079,670, 3-5-63, Cl. 29-95.
- Price, Stanley J., Jr., to Consolidation Coal Co. Constant mesh transmission. 3,080,767, 3-12-63, Cl. 74-360.
- Price, Stanley J., Jr., to Consolidation Coal Co. Reversible vehicle steering mechanism. 3,103,985, 9-17-63, Cl. 180-45.
- Price, Stuart N., to Ford Motor Co. Seat spring retainer. 3,106,389, 10-8-63, Cl. 267-107.
- Price, Thomas C., to Burndy Corp. Terminal assembly. 3,086,194, 4-16-63, Cl. 339-272.
- Price, Vernard L., to Zenith Radio Corp. Coil winding machine. 3,086,562, 4-23-63, Cl. 140-92.2.
- Price, Warren H.: See—  
Heth, Sherman C., and Price. 3,112,598.  
Heth, Sherman C., Price, and Wridt. 3,112,597.
- Price, Warren H., to Jacobsen Mfg. Co. Rotary lawn mower hinged grass catching chute. 3,099,123, 7-30-63, Cl. 56-202.
- Price, Warren H., to Jacobsen Mfg. Co. Rotary mower cleaning means. 3,112,596, 12-3-63, Cl. 56-25.4.
- Price, William I. J., to Council for Scientific and Industrial Research. Snow ploughs. 3,105,312, 10-1-63, Cl. 37-47.
- Price, Wilson T.: See—  
Andrews, Zenas B., Brown, and Price. 3,089,389.
- Prieger, Wilbur D., to International Business Machines Corp. High speed memory. 3,114,135, 12-10-63, Cl. 340-173.
- Prichard, Evan S., to Challenge-Cook Bros., Inc. Truck-trailer transit mixer. 3,112,100, 11-26-63, Cl. 259-161.
- Prichard, John H.: See—  
Brown, Frank, and Prichard. 3,091,935.
- Prichard, Reno W.: See—  
Sullivan, Hubert C., and Prichard. 3,114,826.
- Pride Products Co.: See—  
Flam, Frederick H. 3,075,783.  
Myers, Dean W. 3,110,504.
- Pridgeon, Herbert, to F. Pratt & Co. Ltd. Mounting studs for machine tool chucks, face plates or the like. 3,085,811, 4-16-63, Cl. 279-1.
- Prielipp, Glenn E.: See—  
Scholten, Herman G., and Prielipp. 3,085,859.
- Friendnieks, Voldemars, and K. Werner, to Burroughs Corp. Keyboard training device. 3,100,351, 8-13-63, Cl. 35-6.
- Pries, Rinehard, and H. J. Moors, to The Gene Olsen Corp. Method of handling materials. 3,071,266, 1-1-63, Cl. 214-152.
- Priese, Werner K., to Hills-McCanna Co. Fluid actuated valve. 3,107,080, 10-15-63, Cl. 251-31.
- Priesemuth, Wolfgang H. Solenoid relay with pneumatic stroke retardation. 3,071,664, 1-1-63, Cl. 200-97.
- Priesmeyer, Charles, to Meyer & Wenthe, Inc. Egg marker. 3,094,920, 6-25-63, Cl. 101-41.
- Priesmeyer, Charles H., to The Powers Regulator Co. Check valve with removable filter. 3,097,660, 7-16-63, Cl. 137-316.
- Priest, Dwight E., deceased; by E. L. Priest, executrix, and J. F. Ewig, Jr. Tapered sabre saw blade. 3,111,970, 11-26-63, Cl. 143-133.
- Priest, Emmy L.: See—  
Priest, Dwight E., and Ewig. 3,111,970.
- Priest, Jefferson J. Control mechanism for motor vehicles. 3,089,560, 5-14-63, Cl. 180-77.
- Priest, William J., and J. S. Yudelson, to Eastman Kodak Co. Method of quick-setting protein containing coatings by fuming with a nitrogenous alkaline gas. 3,085,897, 4-16-63, Cl. 117-34.
- Priestley, Eric, to Elliott Brothers (London) Ltd. Automatic landing system for aircraft. 3,096,955, 7-9-63, Cl. 244-77.
- Priestley, Winfred K., and J. G. Stone, to Kaiser Aluminum & Chemical Corp. Cable hanger and spacer. 3,084,892, 4-9-63, Cl. 248-61.
- Prieto, Fernando G. Jet sustained and propelled aircraft. 3,096,042, 7-2-63, Cl. 244-12.2.
- Prietzschk, Arthur: See—  
Zygan, Hieronymus, Koch, Schnell, Prietzschk, and Romling. 3,114,929.
- Prigal, Samuel J. Emulsion composition. 3,096,249, 7-2-63, Cl. 167-82.
- Prigozy, Stephen, to Simonds Precision Products, Inc. Pick-off transformer for measuring dielectric material. 3,111,845, 11-26-63, Cl. 73-304.
- Prill, Erhard J.: See—  
Smith, Franklin D., Prill, Wygant, and Kosmin. 3,096,366.
- Stephens, John A., and Prill. 3,095,437.
- Prill, Erhard J., to Monsanto Chemical Co. Manufacture of diarylethanes. 3,096,381, 7-2-63, Cl. 260-668.
- Primack, Howard: See—  
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- Primas, Alex L.: See—  
Bitterlich, Gordon M., Primas, and Hahn. 3,088,812.
- Primas, Johann J., to Trüb, Täuber & Co. AG. Device for the generation of a static and homogeneous magnetic field. 3,105,176, 9-24-63, Cl. 317-158.
- Prime Mfg. Co., The: See—  
Morgan, James I. 3,077,761.  
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- Primeau, George H., and W. S. Wolfram, to General Motors Corp. Caster and camber adjustment means. 3,096,994, 7-9-63, Cl. 280-96.1.
- Primich, Theodore. Cutting tool. 3,079,842, 3-5-63, Cl. 90-12.
- Prince, Arthur E., to Otis Elevator Co. Electromagnetic relay. 3,080,460, 3-5-63, Cl. 200-104.
- Prince, F. H., & Co., Inc.: See—  
Krueger, Oscar E. 3,081,857.
- Prince, John S.: See—  
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- Prince, Philip E.: See—  
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- Prince, Richard. Truck frame and retractable truck bed. 3,074,574, 1-22-63, Cl. 214-505.
- Principe, Michael J.: See—  
Dickey, Donald K., and Principe. 3,081,115.
- Principe, Michael J., and J. C. Richardson, to General Motors Corp. Railway vehicle suspension and shock absorbing means. 3,101,679, 8-27-63, Cl. 105-368.
- Principe, Pacifico A.: See—  
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- Principe, Pacifico A., and P. A. Diassi, to Olin Mathieson Chemical Corp. Method of 9a-hydroxylating steroids. 3,080,298, 3-5-63, Cl. 195-51.
- Prindle, James H., to Minneapolis-Honeywell Regulator Co. Mass flowmeter. 3,102,423, 9-3-63, Cl. 73-194.
- Pringle, James M., to U.S. Industries Inc. Engineering Ltd. Rotary shaft sealing ring having removable metal annulus supported elastic seal. 3,106,405, 10-8-63, Cl. 277-153.
- Pringle, Ross A., and C. F. Wallace, Jr., to General Electric Co. Low electrical resistance composition and cable made therefrom. 3,098,893, 7-23-63, Cl. 174-102.
- Prins, Daniel A.: See—  
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- Printed Motors Inc.: See—  
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- Printing Arts Research Laboratories, Inc.: See—  
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- Printz, Hillard A. Gem cutter's dop. 3,109,268, 11-5-63, Cl. 51-229.
- Priolo, Charles R. Wind-proof clothes pin. 3,076,242, 2-5-63, Cl. 24-138.
- Prior, Walter L., to Nashua Corp. Non-curling gummed paper. 3,104,179, 9-17-63, Cl. 117-122.



- Priscu, John C., to Titanium Metals Corp. of America. Chlorination apparatus and process. 3,101,249, 8-20-63, Cl. 23-87.
- Prismo Safety Corp.: *See*—  
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- Pritchard, Hugh E.: *See*—  
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- Pritchard, J. F., & Co.: *See*—  
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- Pritchard, James E.: *See*—  
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- Pritchard, James E., to Phillips Petroleum Co. Method of treating filamentous articles of ethylene polymer and the resulting product. 3,086,275, 4-23-63, Cl. 28-76.
- Pritchard, James E., to Phillips Petroleum Co. Solid propellant compositions. 3,087,843, 4-30-63, Cl. 149-19.
- Pritchard, James E., and J. L. Reger, to Phillips Petroleum Co. Propellant compositions. 3,097,981, 7-16-63, Cl. 149-19.
- Pritchard, Paul B., to General Motors Corp. Friction engaging devices having a lever spring. 3,107,766, 10-22-63, Cl. 192-89.
- Pritchett, Ralph M., and O. H. Axtell, to Celanese Corp. of America. Recovery of isophthalic and terephthalic acids. 3,072,717, 1-8-63, Cl. 260-524.
- Pritsching, Ingo: *See*—  
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- Pro, George M., to Air Placement Equipment Co. Shut-off valve for cementitious pressure vessels. 3,090,593, 5-21-63, Cl. 251-87.
- Prober, Maurice, to General Electric Co. Hydrolyzable silyl thioethers. 3,078,292, 2-19-63, Cl. 260-448.2.
- Prober, Maurice, to General Electric Co. Addition of silicon hydrides to aliphatically unsaturated organic compounds. 3,099,670, 7-30-63, Cl. 260-448.2.
- Probst, Delbert C., to General Motors Corp. Window regulator mechanism. 3,093,404, 6-11-63, Cl. 296-44.
- Probst, Gerald W.: *See*—  
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- Probst, Otto: *See*—  
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- Probst, Otto, H. Fernholz, E. Mundlos, H. Oehme, and A. Orth, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the continuous manufacture of sorbic acid. 3,113,149, 12-3-63, Cl. 260-526.
- Probstl, Ernst: *See*—  
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- Proc, Wiatsheslaw, to Eico Electronic Instrument Co., Inc. Transistor regulated direct current power supply. 3,105,933, 10-1-63, Cl. 323-22.
- Process Engineers, Inc.: *See*—  
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- Prochaska, Robert J.: *See*—  
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- Prochnow, Claus: *See*—  
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- Prochnow, Claus, to Franke & Heidecke, Fabrik Photographischer Prazisions-Apparate. Photographic flash apparatus. 3,096,025, 7-2-63, Cl. 240-1.3.
- Procon Pump & Engineering Co.: *See*—  
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- Procopio, Ralph G., to Sperry Rand Corp. Method of encapsulating electrical stators. 3,084,418, 4-9-63, Cl. 29-155.5.
- Procopis, James: *See*—  
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- Procter, Edward C., to Sperry Rand Corp. Forage harvester. 3,100,369, 8-13-63, Cl. 56-16.
- Procter & Gamble Co., The: *See*—  
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Burt, Robert V., Gex, and Franz. 3,097,783.  
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- Procter & Gamble Co., The: *See*—Continued  
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Shepard, William W., Baude, and Moore. 3,103,468.  
Short, Robert J., Hammond, and Joyce. 3,108,853.  
Steer, David C., and Smith. 3,085,982.  
Torongo, Albert H., Jr., Frederickson, and Hood. 3,108,722.  
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- Procter, Barton A., to Procter Dictating Machine Corp. Magnetic sound reproduction. 3,111,282, 11-19-63, Cl. 242-55.13.
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Procter, Barton A. 3,111,282.
- Procter, Earle S.: *See*—  
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- Procter, Edward A. Wall hung shelves. 3,085,521, 4-16-63, Cl. 108-27.
- Procter Hydro-Set Company: *See*—  
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- Procter, James A.: *See*—  
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- Procter, Ronald R.: *See*—  
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- Procter & Schwartz, Inc.: *See*—  
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- Flaith, George D., and Westenberger. 3,105,266.
- Procter, Sidney E., to Hoy, Austen, and Co. Ltd. Cutter bit holder. 3,093,366, 6-11-63, Cl. 262-33.
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Clapp, Daniel E., and Eaton. 3,073,917.  
Clapp, Daniel E., and Eaton. 3,073,939.  
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Turner, Charles R. 3,071,062.  
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- Procter, William S.: *See*—  
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- Prod-O-Matic, Inc.: *See*—  
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- Producers Creamery Co.: *See*—  
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Reddick, Leonard L., Fort, Baldi, Harmon, and Ziegelbein. 3,113,046.
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- Product Development Associates, Ltd.: *See*—  
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- Product Development Corp.: *See*—  
Anonsen, Sheldon L. 3,086,236.
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- Proell, Wayne A.: *See*—  
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- Proell, Wayne A., to Standard Oil Co. Discharge pressure controlled gas generators. 3,102,386, 9-3-63, Cl. 60-35.6.
- Proesch, John F.: *See*—  
Holm, Roy F., and Proesch. 3,115,238.
- Profera, Joseph. Golf swing training device. 3,104,880, 9-24-63, Cl. 273-190.



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- Proffitt, Richard V., to General Electric Co. Broiling oven. 3,088,396, 5-7-63, Cl. 99-443.
- Profos, Paul, to Sulzer Freres, Societe Anonyme. Method of controlling a forced-circulation boiler operating at supercritical pressure. 3,081,750, 3-19-63, Cl. 122-448.
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- Progressive Table Co., Inc.: *See*—  
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- Prohaska, Hans: *See*—  
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- Projan, Richard J., to Bell Telephone Laboratories Inc. Regulated voltage converter circuit. 3,114,096, 12-10-63, Cl. 321-2.
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- Prokop, Joseph F., to Abbott Laboratories. Antimicrobial agent M-259 and method of preparation. 3,094,461, 6-18-63, Cl. 167-65.
- Proksa, Arthur J., to Everede Tool Co. Rotary head milling attachment. 3,079,843, 3-5-63, Cl. 90-15.
- Proler, Sam, and D. B. Bolding, to Proleride Transport Systems, Inc. Dump truck. 3,096,894, 7-9-63, Cl. 214-515.
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- Prophet, Charlotte M., and L. M. Herrera. Coiffure protector. 3,076,972, 2-12-63, Cl. 2-174.
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- Propper, Eric, to Revere Corp. of America. Columnar stress sensing member. 3,100,290, 8-6-63, Cl. 338-5.
- Propper Mfg. Co., Inc.: *See*—  
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- Schuman, Seymour. 3,114,349.
- Propst, Robert L., to Herman Miller, Inc. Connector. 3,088,178, 5-7-63, Cl. 20-92.
- Propst, Robert L., to Herman Miller, Inc. Connector. 3,095,625, 7-2-63, Cl. 24-217.
- Propst, Robert L., to Herman Miller, Inc. Litter. 3,110,912, 11-19-63, Cl. 5-82.
- Propst, Robert L., to Herman Miller, Inc. Seating. 3,114,577, 12-17-63, Cl. 297-445.
- Propster, Charles H., Jr., to General Electric Co. Automatic data accumulator. 3,093,730, 6-11-63, Cl. 235-151.
- Propster, Charles H., Jr., to General Electric Co. Display device having a retentive memory. 3,098,221, 7-16-63, Cl. 340-324.
- Prosen, Gildo J. Telephone index. 3,087,457, 4-30-63, Cl. 116-135.
- Prosen, Richard J.: *See*—  
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- Prosin, Louis, to Lockheed Aircraft Corp. Spindle. 3,083,927, 4-2-63, Cl. 242-68.3.
- Prosin, Louis, to Lockheed Aircraft Corp. Monorail track and switch. 3,106,898, 10-15-63, Cl. 104-130.
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- Prosser, Dwight M., to Shiloh Tool & Die Mfg. Co. Window structure. 3,091,797, 6-4-63, Cl. 16-197.
- Prosser, Harold L., to Aqua-Trac Corp. Land-water transportation vehicle. 3,108,564, 10-29-63, Cl. 115-1.
- Prosser, Herbert C. N-(2-thiazolyl)-2(5-nitro)furylacrylamide. 3,103,517, 9-10-63, Cl. 260-306.8.
- Prosser Packers, Inc.: *See*—  
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- Prosser, Rae A., and J. W. Luchsinger, to Union Carbide Corp. Intensifier high pressure valve and block assembly. 3,106,169, 10-8-63, Cl. 103-228.
- Prost, Maurice, to Societe Belge de l'Azote et de Produits Chimiques du Marly. Derivatives of 4-(2-propynyl)-4-piperidinol and their process of preparation. 3,081,309, 3-12-63, Cl. 260-293.4.
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Protat, Hugues R. 3,104,211.
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- Protective Treatments, Inc.: *See*—  
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- Protiva, Jifi: *See*—  
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- Proto, International Hygenic Food Co.: *See*—  
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- Protana Produktionsgesellschaft fuer elektroakustische Geræete m.b.H.: *See*—  
Herrmann, Gunter, and Goerlich. 3,085,758.
- Prototypes Inc.: *See*—  
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- Proulx, Romeo T. Sanding belt cleaner. 3,085,268, 4-16-63, Cl. 15-21.
- Prout, Wesley C., to A. J. Hosmer Corp. Prosthetic joint. 3,107,358, 10-22-63, Cl. 3-12.2.
- Prouty, Robert E.: *See*—  
Baker, Robert L., and Prouty. 3,108,166.
- Prouty, Robert E., and R. L. Baker, to Essex Wire Corp. Thermal timer switch. 3,108,167, 10-22-63, Cl. 200-122.
- Provenzano, Alex P., W. K. Ward, and H. C. Crosland, to Chicago Rawhide Mfg. Co. Extruder die. 3,090,075, 5-21-63, Cl. 18-12.
- Provi, Mike A., to The Bearley Co. Portable stand-up type bathroom scale. 3,097,966, 7-16-63, Cl. 177-239.
- Provost, Gerard H.: *See*—  
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- Proxmire, Harry J., to General Electric Co. Method for producing magnetic core and coil assemblies with gaps in the magnetic core. 3,114,196, 12-17-63, Cl. 29-155.58.
- Prucha, Richard V., to General Electric Co. Lubricating arrangement for compressors. 3,082,936, 3-26-63, Cl. 230-206.
- Pruden, David H., and J. W. Timko; said Pruden, assor. to Western Electric Co., Inc., and said Timko, assor. to Bell Telephone Laboratories, Inc. Servo-mechanism control circuit. 3,109,128, 10-29-63, Cl. 318-19.
- Pruess, Louis M., L. I. Feldman, and N. E. Rigler, to American Cyanamid Co. Microbiological 16 $\alpha$ -hydroxylation of steroids. 3,116,219, 12-31-63, Cl. 195-51.
- Pruett, Roy L.: *See*—  
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- Pruett, Roy L., J. E. Wyman, and L. Parts, to Union Carbide Corp. Process for preparing organo-metallic compounds. 3,091,624, 5-28-63, Cl. 260-429.
- Pruitt, Roland E.: *See*—  
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- Prumore Sales, Inc.: *See*—  
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- Prunkard, Franklin C. Magnetic toy. 3,097,448, 7-16-63, Cl. 46-241.
- Pruss, Hugo E., 15% to O. H. Milmore. Bulk-hauling dump vehicles. 3,103,288, 9-10-63, Cl. 214-44.
- Prussin, Samuel B., H. R. Shepherd, and J. Surks, to Aerosol Techniques, Inc. Spray apparatus. 3,101,904, 8-27-63, Cl. 239-337.
- Pryale, Harry M., to Baldwin-Montrose Chemical Co. Inc. (Baldwin Division). Torsion mounting. 3,113,769, 12-10-63, Cl. 267-57.1.
- Pryale, Harry M. Combination lid and seat. 3,114,574, 12-17-63, Cl. 297-193.
- Pryde, Everett H., and D. E. Anders, to United States of America, Agriculture. Unsaturated aldehyde oils and method for preparing the same. 3,112,329, 11-26-63, Cl. 260-406.
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- Pryor, Harry H.: *See*—  
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- Pryor, Robert C., to Phillips Petroleum Co. Process for initiation of in situ combustion. 3,076,505, 2-5-63, Cl. 166-11.
- Przekop, Stanley J. Lawn mower handle support. 3,089,301, 5-14-63, Cl. 56-249.
- Przybylowicz, Leo S. Dough cutting device. 3,089,238, 5-14-63, Cl. 30-130.
- Przybylski, Daniel F., to The Warner & Swasey Co. Material handling apparatus. 3,081,891, 3-19-63, Cl. 214-138.
- Ptertyl, Sidney V., and D. W. Davis, to Johns-Manville Corp. Fire retardant and control composition. 3,080,316, 3-5-63, Cl. 252-2.
- Publow, Richard H., to Essex Wire Corp. Resistance core ignition cable. 3,109,881, 11-5-63, Cl. 174-118.
- Pucel, Joseph, and T. J. Ryan. Book. 3,074,744, 1-22-63, Cl. 281-37.
- Puccinelli, Alfred R. Method of and apparatus for assuring the supply of fuel to an aircraft engine during flight. 3,107,072, 10-15-63, Cl. 244-135.
- Pucel, Edward L.: *See*—  
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- Puchaty, Robert J.: *See*—  
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- Puckett, James E.: *See*—  
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- Puckett, John,  $\frac{1}{2}$  to G. Courtney. Razor clam digger. 3,089,721, 5-14-63, Cl. 294-50.7.
- Puckett, Orville L. Chiropactic instrument. 3,111,944, 11-26-63, Cl. 128-69.
- Puckett, Prentiss S. Fish grappling and landing device. 3,095,662, 7-2-63, Cl. 43-5.
- Puckett, Robert A., to Phillips Petroleum Co. Alkali metal dispersions, their preparation and use as catalysts in the liquid phase polymerization of butadiene. 3,097,247, 7-9-63, Cl. 260-680.
- Puddington, Ira E., and A. F. Sirianni. Method and apparatus for the treatment of hydrocarbon oils. 3,109,805, 11-5-63, Cl. 208-179.
- Puechl, Karl H., to United States of America, Atomic Energy Commission. Pressurized water reactor core with plutonium burnup. 3,105,036, 9-24-63, Cl. 204-193.2.
- Puetz, Jordan F., to Square D Co. Three-way adjustable timing device. 3,081,845, 3-19-63, Cl. 188-87.
- Pufahl, Julius P. Portable electric drill press. 3,100,408, 8-13-63, Cl. 77-55.
- Puffett, Brian E.: *See*—  
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- Puget Sound Fabricators, Inc.: *See*—  
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- Puget Sound Pulp & Timber Co.: *See*—  
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King, Ellis G., and Adolphson. 3,109,742.
- Pugh, Duane W.: *See*—  
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- Pugh, Emerson W., to International Business Machines Corp. Magnetic memory. 3,071,756, 1-1-63, Cl. 340-174.
- Pugh, Harold: *See*—  
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- Pugh, Harry H., to Gillette Inhibitor Co. Aryl mercuric fungicidal compositions. 3,089,811, 5-14-63, Cl. 167-42.
- Pugh, James B. Well drilling guide. 3,109,501, 11-5-63, Cl. 175-325.
- Pugh, James O., and W. J. Kirkpatrick, to Nashville Electronics, Inc. Method of capacitor manufacture. 3,099,069, 7-30-63, Cl. 29-25.41.
- Pugh, Joseph M., and J. H. Edley, to J. & L. Engineering Co., Inc. Cane conveyor assembly for harvesters. 3,095,679, 7-2-63, Cl. 56-15.
- Pugh, Kenneth P.: *See*—  
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- Pugh, Merlin L., to Studebaker Corp. Refrigerator construction. 3,101,227, 8-20-63, Cl. 312-300.
- Pugh, William A. Milk carton with drinking straw. 3,071,303, 1-1-63, Cl. 229-7.
- Pugh, William A. Gable type beverage container with straw. 3,074,610, 1-22-63, Cl. 229-7.
- Pugh, William J. Turbine mounting means. 3,097,491, 7-18-63, Cl. 61-19.
- Pugin, Andre, to J. R. Geigy, A.-G. 3-imido-isoidolinones. 3,076,815, 2-5-63, Cl. 260-325.
- Pugin, Andre, and G. Schetty, to J. R. Geigy, A.-G. Dioxazine dyestuffs. 3,107,243, 10-15-63, Cl. 260-246.
- Puglis, James C.: *See*—  
Puglis, Joseph M. 3,084,871.
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- Pugsley, Lawrence E. Outing kit. 3,081,865, 3-19-63, Cl. 206-4.
- Pugsley, Lawrence E. Electrical multipurpose shop tool. 3,096,798, 7-9-63, Cl. 144-1.
- Pugsley, Lawrence E. Portable table or bench. 3,101,682, 8-27-63, Cl. 108-41.
- Pugsley, Lawrence E. Drill and guide therefor. 3,107,556, 10-22-63, Cl. 77-55.
- Pulaski, John W., to General Electric Co. Plastic foam insulated door structure including electrical hinge. 3,089,202, 5-14-63, Cl. 20-16.
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- Pullen, Dennis I., to The British Oxygen Co. Ltd. Powder dispensing apparatus. 3,094,249, 6-18-63, Cl. 222-193.
- Pullen, Joe W.: *See*—  
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Hopkins, Thomas R., and Pullen. 3,116,322.
- Pullen, Joseph A., to Pullen Molded Products, Inc. Cellulosic molded transplanter pot or other products containing bagasse components. 3,102,364, 9-3-63, Cl. 47-37.
- Pullen Molded Products, Inc.: *See*—  
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- Pullen, Orrin V.: *See*—  
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- Pullen, Wayne G. Combination soil loosening and vegetation chopping device. 3,115,193, 12-24-63, Cl. 172-177.
- Pulliam, Eugene H. Bridge comparing voltage indicating device. 3,102,981, 9-3-63, Cl. 324-98.
- Pulling, Michael, to Damic Controls Ltd. Valves. 3,085,783, 4-16-63, Cl. 251-175.
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Black, James J. 3,092,220.  
Black, James J. 3,095,215.  
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- Pullman-Standard Car Mfg. Co.: *See*—  
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- Pummer, Walter J., and L. A. Wall, to United States of America, Navy. Tris-[pentafluorophenyl]-phosphine and method of making the same. 3,075,018, 1-22-63, Cl. 260-606.5.
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- Pump, Marion S.: *See*—  
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- Pumpelly, Charles T., to The Dow Chemical Co. Thermal stabilization of haloalkyl phosphoric acid esters. 3,079,418, 2-26-63, Cl. 260-461.
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- Punke, John J. Adjustable dish holders. 3,094,258, 6-18-63, Cl. 224-45.
- Punnett, Frazer D.: *See*—  
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- Purcell, Howard M. Pump or motor. 3,079,869, 3-5-63, Cl. 103-162.
- Purcell, Howard M. Piston type accumulator with flexible cylinder wall. 3,084,717, 4-9-63, Cl. 138-31.
- Purcell, Thomas H., Jr.: *See*—  
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- Purdue Frederick Co., The: *See*—  
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- Purdue Research Foundation: *See*—  
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- Purdy, Chester A., to Ransburgh Electro-Coating Corp. Drill fixture. 3,108,501, 10-29-63, Cl. 77-63.
- Purdy, John F., to The Goodyear Tire & Rubber Co. Method and apparatus for making cord plies for tires. 3,081,216, 3-12-63, Cl. 156-196.
- Purdy, Ralph E.: *See*—  
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Dickison, Earl B., Graves, and Purdy. 3,107,432.
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Bernard, George G. 3,096,820.  
Bernard, George G. 3,098,700.  
Bernard, George G. 3,115,930.  
Bond, Donald C., and Holm. 3,072,185.  
Bond, Donald C., and O'Brien. 3,072,191.  
Braunwarth, John B., and Crosby. 3,116,300.  
Carr, Norman L. 3,108,974.  
Ellison, Lynn E., and Nuber. 3,105,379.  
Fierce, William L., and Sandner. 3,091,629.  
Fierce, William L., and Sandner. 3,116,313.  
Fierce, William L., and Sandner. 3,116,318.  
Fierce, William L., and Weichman. 3,095,275.  
Finnigan, Frederick T., and Pfeifer. 3,108,961.  
Folkins, Hillis O. 3,083,151.  
Folkins, Hillis O. 3,083,152.  
Garrity, Thomas A., Jr., and Proctor. 3,101,467.  
Geerts, Marcellus J., and O'Malley. 3,116,259.  
Holbrook, Orrin C., and Bernard. 3,070,991.  
Holbrook, Orrin C., and Holm. 3,102,587.  
Holm, Le Roy W. 3,075,918.  
Holm, Le Roy W. 3,101,782.  
Holm, Le Roy W., and Bernard. 3,082,822.  
Howie, Ray B. 3,116,241.  
Hunter, Wesley L. 3,101,619.  
Hutchings, Le Roi E., and Crosby. 3,076,841.



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- Klass, Donald L. 3,072,444.  
 Klass, Donald L. 3,092,672.  
 Klass, Donald L. 3,100,750.  
 Klass, Donald L. 3,116,257.  
 Klass, Donald L. 3,116,325.  
 Klass, Donald L., and Brozowski. 3,091,587.  
 Klass, Donald L., and Brozowski. 3,109,846.  
 Lindahl, Harold A. 3,083,245.  
 Marsh, Glenn A., and Schaschl. 3,098,801.  
 Marsh, Glenn A., and Schaschl. 3,116,117.  
 Millikan, Allen F. 3,073,846.  
 Millikan, Allen F. 3,089,829.  
 Millikan, Allen F., and Crosby. 3,073,857.  
 Millikan, Allen F., and Crosby. 3,098,824.  
 Millikan, Allen F., and Crosby. 3,102,130.  
 Millikan, Allen F., and Kramer. 3,112,167.  
 O'Brien, Leo J. 3,087,545.  
 O'Brien, Leo J. 3,103,248.  
 O'Brien, Leo J. 3,109,482.  
 Percy, Allan W., and Zollinger. 3,112,789.  
 Sandner, Walter J., and Fierce. 3,071,586.  
 Schaschl, Edward. 3,102,419.  
 Schaschl, Edward. 3,102,979.  
 Schaschl, Edward, and Littler. 3,101,413.  
 Schaschl, Edward, and Marsh. 3,073,154.  
 Willer, George J., Jr., and Callanen. 3,111,846.  
 Wolber, James E. 3,098,991.  
 Wright, Charles S. 3,083,223.
- Puretic, Mario J. Brailer apparatus for use with a fishing boat. 3,091,879, 6-4-63, Cl. 43-6.5.  
 Puretic, Mario J. Means for recovering fish from a net and transferring same onto a boat. 3,091,880, 6-4-63, Cl. 43-8.  
 Puretic, Mario J. Apparatus for transferring fish from a seine to the hold of a ship. 3,113,394, 12-10-63, Cl. 43-6.5.
- Purex Corp., Ltd.: *See*—  
 Arden, Benjamin. 3,095,380.  
 Atkins, Don C., Jr., and Edds. 3,079,352.  
 Brevik, Elmer L. 3,108,080.  
 Donnelly, William T. 3,114,932.  
 Ferris, Robert C. 3,093,590.  
 Holman, Emmette R. 3,101,839.  
 Newman, Kenneth W. 3,080,262.  
 Newman, Kenneth W. 3,080,323.  
 Pimbley, George H., and Yager. 3,113,051.  
 Rudolph, Martin. 3,115,673.  
 Thornbury, Sydney G. 3,108,187.
- Purifoy, George R., to Westinghouse Electric Corp. Motor generator set control system. 3,099,751, 7-30-63, Cl. 307-9.
- Purnell, John H., to The Foxboro Co. Method for preparing a chromatographic column support. 3,116,161, 12-31-63, Cl. 117-118.
- Purulator Products, Inc.: *See*—  
 Casaleggi, Charles J. 3,111,488.  
 Wilhelm, John R. 3,076,550.
- Purpahn, Fritz, to Continental Elektroindustrie A.G., Askanio-Werke. Device for mixing fluids flowing through conduits. 3,109,631, 11-5-63, Cl. 259-4.
- Purpura, August C. Ironing and pressing appliance. 3,084,462, 4-9-63, Cl. 33-36.
- Purrmann, Robert: *See*—  
 Schmitt, Werner, Purrmann, and Jochum. 3,107,427.
- Pursche, Harry A. Two way plow construction with means to limit rotation of carrier. 3,087,556, 4-30-63, Cl. 172-224.
- Pursell, Louise M. Sleeper protecting means for cribs and beds. 3,083,378, 4-2-63, Cl. 5-334.
- Purser, James A., Sr. Drill bit. 3,099,325, 7-30-63, Cl. 175-412.
- Pursglove, Laurence A., to The Dow Chemical Co. Phenylthiotolyl benzoates. 3,079,426, 2-26-63, Cl. 260-476.
- Purtell, Rufus J., to R. B. and J. B. Knight, and J. K. Jones, d.b.a. J. B. Knight Co. Irrigation pipe moving system. 3,072,268, 1-8-63, Cl. 214-1.
- Purtell, Rufus J., to R. B. and J. B. Knight, and J. K. Jones, d.b.a. J. B. Knight Co. Irrigation pipe moving system. 3,087,680, 4-30-63, Cl. 239-213.
- Purtell, Rufus J., to R. B. and J. B. Knight, and J. K. Jones, d.b.a. J. B. Knight Co. Irrigation system. 3,094,282, 6-18-63, Cl. 239-213.
- Puryear, David B., to The Bendix Corp. Floating port plate construction. 3,096,723, 7-9-63, Cl. 103-162.
- Purzycki, Alfred Z., and N. D. Sargent, to Teletype Corp. Tape holder for telegraphic tape. 3,103,279, 9-10-63, Cl. 211-45.
- Pusateri, Vincent P.: *See*—  
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- Puschhof, Siegfried: *See*—  
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- Pustelnik, Mike, to Bell Telephone Laboratories, Inc. Pulse modulation regenerative repeater with selectively suppressed timing wave. 3,110,768, 11-12-63, Cl. 178-70.
- Puster, Louis M., to Robertshaw-Fulton Controls Co. Safety control system for a prime mover. 3,075,537, 1-29-63, Cl. 137-16.
- Puster, Louis M., to Robertshaw-Fulton Controls Co. Control mechanism. 3,080,853, 12-6-63, Cl. 121-41.
- Puster, Louis M., and J. P. Wagner, to Robertshaw Controls Co. Temperature responsive snap-acting valve. 3,105,637, 10-1-63, Cl. 236-48.
- Puster, Louis M., and J. P. Wagner, to Robertshaw-Controls Co. Pneumatic relay. 3,107,693, 10-22-63, Cl. 137-625.66.
- Put, Elias: *See*—  
 Van der Burgt, Cornells M., and Put. 3,100,194.
- Puterbaugh, Charles R. License plate attachment. 3,087,214, 4-30-63, Cl. 24-81.
- Puth, George J. Method for reforming and reloading used shotgun shells. 3,113,483, 12-10-63, Cl. 86-23.
- Putman, John L., S. Jefferson, and R. B. Owens, to United Kingdom Atomic Energy Authority. Gamma ray thickness gauges. 3,076,894, 2-5-63, Cl. 250-71.5.
- Putman, Laurel E.: *See*—  
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- Putman, Laurel E., to Superior Air Products Co. Liquefied gas pump. 3,083,648, 4-2-63, Cl. 103-203.
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- Putnam Rolling Ladder Co., Inc.: *See*—  
 Gillman, Edward T. 3,085,649.  
 Gillman, Edward T., and Basile. 3,108,921.
- Putt, John W., and R. Thomann, Jr., to Specialties Development Corp. High temperature lubricated bearing surface and method of making the same. 3,115,395, 12-24-63, Cl. 29-183.
- Putter, Irving: *See*—  
 Miller, Brinton M., and Putter. 3,102,076.
- Puttroff, Glenn A., to ACF Industries, Inc. Valve packing composition. 3,109,744, 11-5-63, Cl. 106-199.
- Putz, Hans, R. Lehnartz, and E. Feldman, to Joh. Vaillant K.G. Thermoelectric ignition safety device. 3,099,994, 8-6-63, Cl. 137-66.
- Putzer, Murray, F. B. Sylvander, and R. J. Molnar, to The Bendix Corp. Monitor circuit for detecting failures in a data transmission system. 3,109,129, 10-29-63, Cl. 318-29.
- Putzer, Walter, to North American Phillips Co., Inc. Television receiver with ancillary apparatus for receiving further television transmissions in initially not present frequency bands. 3,092,775, 6-4-63, Cl. 325-461.
- Putzrath, Franz L., and T. B. Martin, to Radio Corp. of America. Information processing apparatus. 3,097,349, 7-9-63, Cl. 340-172.5.
- Puyear, Robert B., to Union Carbide Corp. Vapor diffusion coating process. 3,096,160, 7-2-63, Cl. 29-197.
- Puyear, Robert B., and J. R. Schley, to Union Carbide Corp. Vapor diffusion coating process. 3,079,276, 2-26-63, Cl. 117-107.
- Puyear, Wallace R. Method and apparatus for roll straightening forged, cast and machine round parts. 3,113,608, 12-10-63, Cl. 153-54.
- Pybus, Emmett J.: *See*—  
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- Pye, David J., to The Dow Chemical Co. Pre-shaving lotion and method. 3,072,536, 1-8-63, Cl. 167-85.
- Pye, David J., to The Dow Chemical Co. Method of applying acrylamide polymer flocculants. 3,087,890, 4-30-63, Cl. 210-53.
- Pye, Donald G.: *See*—  
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- Pye Ltd.: *See*—  
 Bauer, Peter. 3,108,527.  
 Bicknell, Charles E. 3,080,053.  
 Fisher, Keith L., and Grimm. 3,072,897.  
 Fuller, Dennis Q. 3,114,086.  
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 Jackson, Donald. 3,114,798.  
 Perry, Kenneth R. 3,072,327.  
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 Speakman, Frank P., and Williams. 3,104,320.  
 Waters, Ian M., and Barratt. 3,114,799.
- Pyke, Harold L. Protective device for swimming pools. 3,072,922, 1-15-63, Cl. 4-172.
- Pyle and Fisher: *See*—  
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- Pyle, John S.: *See*—  
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- Pyle-National Co., The: *See*—  
 Archer, Lee A. 3,101,038.  
 Feustel, George H., and Burton. 3,096,135.  
 Hawn, Walter M., Chann, Besal, and Vesely. 3,098,114.  
 Shearer, Jack F., and Nava. 3,097,905.
- Pyle, Oden F., and W. E. Nichols, to H. E. Fletcher Co. Method for stone splitting. 3,101,706, 8-27-63, Cl. 125-23.
- Pyle, Robert J., and G. L. Allen, to United States of America, Atomic Energy Commission. Coated carbon element for use in nuclear reactors and the process of making the element. 3,073,717, 1-15-63, Cl. 117-69.
- Pyle, William M., to Rhoanglo Mine Services Ltd. Automatic sampling machine. 3,102,428, 9-3-63, Cl. 73-421.
- Pyles Industries, Inc.: *See*—  
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- Pylon Co., Inc.: *See*—  
 Cooney, James S. 3,109,689.
- Pyne, William J., to Diamond Alkali Co. Tetrahydro-1,1-dioxo-3-thienyl carbanilates. 3,075,995, 1-29-63, Cl. 260-332.1.
- Pyne, William J., to Diamond Alkali Co. 1,4-bis(2-nitrovinyl) benzene and derivatives thereof as fungicides. 3,105,004, 9-24-63, Cl. 167-30.
- Pyne, William J., to Diamond Alkali Co. Phenolic pesticide. 3,108,927, 10-29-63, Cl. 167-31.



- Pyroil Co., Inc., The: *See*—  
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- Pyronics, Inc.: *See*—  
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- Q-Panel Corp.: *See*—  
Albee, Percy F., Jr. 3,077,056.
- Quaas, Joseph F.: *See*—  
Wasserman, Rene D., and Quaas. 3,084,074.
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- Quakenbush, Howard M.: *See*—  
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- Quakenbush, Howard M., to National Furniture Mfg. Co., Inc. Fabric assembly. 3,083,495, 4-2-63, Cl. 45-138.
- Quaker Chemical Corp.: *See*—  
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- Quaker Oats Co., The: *See*—  
Dunlop, Andrew P., and Sherman. 3,074,964.  
Dunlop, Andrew P., Sherman, and Madden. 3,115,500.  
Huffman, George W. 3,115,410.  
Shields, Harold L. 3,115,411.  
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- Qualitrol Corp.: *See*—  
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- Quality Pearl Products Corp.: *See*—  
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- Qualman, Jack W., to General Motors Corp. Brake system. 3,110,378, 11-12-63, Cl. 192-3.
- Quandt, Hans H.: *See*—  
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- Quandt, Herbert C.: *See*—  
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- Quarles, Charles C.: *See*—  
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- Quarles, Charles C., to E. I. du Pont de Nemours and Co. Preparation of hydrogen fluoride. 3,071,437, 1-1-63, Cl. 23-153.
- Quarles, Richard W., and L. H. Wartman, to Union Carbide Corp. Molten phase extraction of polymeric olefins. 3,088,936, 5-7-63, Cl. 260-80.5.
- Quarmby, Robert C.: *See*—  
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- Quarmby, Robert C., to United Shoe Machinery Corp. Auxiliary holddown for machine for operating on shoe parts. 3,070,820, 1-1-63, Cl. 12-17.
- Quartullo, Orpheus F., to American Beryllium Co., Inc. High speed forging apparatus. 3,115,676, 12-31-63, Cl. 18-16.
- Quartz & Silice S.A.: *See*—  
George, Henri J. C. 3,079,507.  
Holmberg, Karl E. O. 3,101,256.
- Quarve, Vernon K., to Rodgers Hydraulic Inc. Power operated wrench. 3,108,507, 10-29-63, Cl. 81-52.3.
- Quarve, Vernon K., and J. L. Rodgers, Jr., to Rodgers Hydraulic Inc. Track press having opposed rams and retractable jaw. 3,075,346, 1-29-63, Cl. 59-7.
- Quarzlampen Gesellschaft m.b.H.: *See*—  
Sturm, Walter. 3,110,815.
- Quase, Harold G. Underwater storage system. 3,114,384, 12-17-63, Cl. 137-236.
- Quase, Harold G., to Underwater Storage, Inc. Collapsible container. 3,114,468, 12-17-63, Cl. 220-8.
- Quate, Calvin F.: *See*—  
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- Quatinetz, Max: *See*—  
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- Quatse, Jesse T.: *See*—  
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- Quayle, George F., to The Yale & Towne Mfg. Co. Control valve for hydraulic lift truck. 3,082,788, 3-26-63, Cl. 137-522.
- Quayle, George F., to The Yale and Towne Mfg. Co. Longitudinal and transverse steering for industrial truck. 3,087,564, 4-30-63, Cl. 180-79.2.
- Quayle, George F., to The Yale and Towne Mfg. Co. Pallet handling device. 3,105,604, 10-1-63, Cl. 214-620.
- Queale, Lauritz A. Luminaire. 3,071,683, 1-1-63, Cl. 240-55.
- Quebec, The Province of, Department of Natural Resources: *See*—  
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Archambault, Maurice, Olivier, Lemay, and Savard. 3,112,170.  
Archambault, Maurice, Olivier, Panneton, and Fortier. 3,112,172.
- Quednow, Erwin, to Dr. C. Adox Fotowerke Schleussner G.m.b.H. Photographic camera control. 3,111,889, 11-26-63, Cl. 95-10.
- Queen, Delbert F. Flexible propeller shaft drive. 3,099,242, 7-30-63, Cl. 115-42.
- Queen, John C. Guide for trimming hair. 3,115,143, 12-24-63, Cl. 132-45.
- Queen Size Clothes, Inc.: *See*—  
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- Queen's University: *See*—  
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- Quehl, Henry E., Jr., to E. I. du Pont de Nemours and Co. Method of making shaped fiber reinforced rubber diaphragms. 3,080,271, 3-5-63, Cl. 162-108.
- Quelle, Gerrit, C. A. Redfarn, and R. Thompson, to Alim Corp. Non-aqueous fire retardant composition comprising a urea formaldehyde condensate. 3,077,458, 2-12-63, Cl. 260-2.5.
- Quenault, Maurice: *See*—  
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- Quenneville, Jean P. Bed covering. 3,072,776, 1-8-63, Cl. 219-46.
- Quenot & Cie Etablissements: *See*—  
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- Quenot, Michel, to Quenot & Cie Etablissements. Surveyors' chains and wind-in magazines therefor. 3,070,889, 1-1-63, Cl. 33-137.
- Quenzler, Henry H. W., to Boeing Airplane Co. Airplanes for vertical and/or short take-off and landing. 3,081,964, 3-19-63, Cl. 244-7.
- Quenzler, Henry H. W., to Boeing Airplane Co. Airplane having changeable thrust direction. 3,089,666, 5-14-63, Cl. 244-7.
- Quenzler, Henry H. W., and T. W. Schmidt, to The Boeing Co. Combined aircraft air intake scoop, foreign material ingestion inhibitor, and aerodynamic flap. 3,109,610, 11-5-63, Cl. 244-15.
- Queretti, Alessandro. Toy missile with automatic opening. 3,086,317, 4-23-63, Cl. 46-74.
- Querchfeld, Helmut: *See*—  
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- Quercia, Marcel, to Societe d'Etudes et de Recherches Techniques. Device for regulating a flow of gas. 3,072,151, 1-8-63, Cl. 138-45.
- Quercia, Marcel, to Societe d'Etudes et de Recherches Techniques. Automatic gas lighters. 3,081,610, 3-19-63, Cl. 67-7.1.
- Quercia, Marcel, to Societe d'Etudes et de Recherches Techniques. Container for fluids under pressure. 3,081,802, 3-19-63, Cl. 141-20.
- Quercia, Marcel, to Societe d'Etudes et de Recherches Techniques. Reservoir provided with a valve. 3,081,917, 3-19-63, Cl. 222-394.
- Querfurth, Wilhelm: *See*—  
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- Querfurth, Wilhelm H., to Deutsche Gold- und Silber-Scheidanstalt vormals Roessler. Polymerization of organic compounds with phosphonium catalysts. 3,080,351, 3-5-63, Cl. 260-89.5.
- Quermann, Thomas R., to United Aircraft Corp. Single degree of freedom gyroscope. 3,074,283, 1-22-63, Cl. 74-5.7.
- Quesinberry, Robert S.: *See*—  
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- Quest, James H.: *See*—  
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- Quest, Karl: *See*—  
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- Qvester, Wilh.: *See*—  
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- Qvester, Wilhelm W. K., to W. Qvester. Method for the controlled feeding of material to processing units. 3,098,572, 7-23-63, Cl. 214-152.
- Quianthy, John P. Safety device for power lawnmowers. 3,111,800, 11-26-63, Cl. 56-25.4.
- Quick, Clarence C., Jr. Vehicle chassis. 3,115,350, 12-24-63, Cl. 280-106.
- Quick, Desmond F. J., and D. J. Leech, to Normalair Ltd. Cooling systems for aircraft. 3,097,504, 7-16-63, Cl. 62-241.
- Quick, Thomas E. Method and apparatus for producing cuts within a bore hole. 3,081,828, 3-19-63, Cl. 175-67.
- Quick, William L. Egg washing machine. 3,086,539, 4-23-63, Cl. 134-165.
- Quier, Joseph R.: *See*—  
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- Quigley, Bernard T. Planetary gearing. 3,079,813, 3-5-63, Cl. 74-687.
- Quigley, Charles E., to United States of America, Navy. Gated clock circuit. 3,088,079, 4-30-63, Cl. 331-174.
- Quigley Co., Inc.: *See*—  
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- Quigley, Edwin B. Emergency signal. 3,111,782, 11-26-63, Cl. 40-128.
- Quikey Mfg. Co., Inc.: *See*—  
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- Quik-Riter Products, Inc.: *See*—  
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- Quin, Denis C.: *See*—  
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- Quin, James P., to Imperial Chemical Industries Ltd. Purification of hydrogen chloride gas containing fluoride impurity. 3,074,779, 1-22-63, Cl. 23-154.
- Quin, Murray L., to The Emerson Electric Mfg. Co. Area lighting and air exchange apparatus. 3,103,156, 9-10-63, Cl. 98-40.



- Quin, Murray L., to The Emerson Electric Mfg. Co. Lighting and air conducting apparatus. 3,103,157, 9-10-63, Cl. 98-40.
- Quinby, Thomas C., to United States of America, Atomic Energy Commission. Method of preparing radioactive cesium sources. 3,114,716, 12-17-63, Cl. 252-301.1.
- Quinche, Albert, to American Can Co. Telescoping of flexible tubular elements on to mandrel like supporting members. 3,101,550, 8-27-63, Cl. 214-1.
- Quinlan, Amos L.: See—  
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- Quinn, Clark E., to General Motors Corp. Highway informer keying system. 3,101,394, 8-20-63, Cl. 179-82.
- Quinn, Edward, to United Shoe Machinery Corp. Lasting apparatus. 3,097,380, 7-16-63, Cl. 12-107.
- Quinn, Edward, and E. F. Mitchell, to United Shoe Machinery Corp. Machines for lasting shoes. 3,102,283, 9-3-63, Cl. Quinn, Edwin J.: See—  
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- Quinn, Frederic R., to Zytron Industries, Inc. Snap acting flow control valve with venturi formed between the orifice and conical valve plug. 3,107,894, 10-22-63, Cl. 251-118. 12-11.2.
- Quinn, James L.: See—  
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- Quinn, James L., to Cummins-Chicago Corp. Control systems for cyclically operating machines. 3,074,525, 1-22-63, Cl. 192-127.
- Quinn, John N., 50% to Johnson Welding & Equipment Co., Inc. Portable crushing plant. 3,073,536, 1-15-63, Cl. 241-76.
- Quinn, Richard E. Apparatus for stripping hides from conveyors. 3,073,430, 1-15-63, Cl. 198-28.
- Quinn, Robert G., to Johns-Manville Corp. Method of preparing inorganic products. 3,096,200, 7-2-63, Cl. 117-54.
- Quinn, W. Avery: See—  
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- Quinones, Julio R., Jr. Toy hat. 3,077,051, 2-12-63, Cl. 46-93.
- Quintin, Albert A. J., to Compagnie des Metaux d'Overpelt-Lommel et de Corthalie S.A. Granulation of finely divided materials in a wet state, with a view to their subsequent combustion. 3,085,522, 4-16-63, Cl. 110-7.
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- Quiram, Ernest R., to Esso Research and Engineering Co. Upgrading of middle distillates with coordinated complexes. 3,109,867, 11-5-63, Cl. 260-674.
- Quirk, Robert F., to Sylvania Electric Products, Inc. Process of coating the exterior surface of a fluorescent lamp envelope with silicone resins. 3,102,049, 8-27-63, Cl. 117-94.
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- Raasch, Hans, to W. Reiners. Device for fixing the thread end on yarn coils. 3,110,450, 11-12-63, Cl. 242-18.
- Raasch, Maynard S., to E. I. du Pont de Nemours and Co. Ureido-substituted arylsulfur pentafluorides. 3,073,861, 1-15-63, Cl. 260-552.
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- Rabelow, Harold H., to Diagraph-Bradley Industries Inc. Applicator. 3,076,995, 2-12-63, Cl. 15-562.
- Rabenau, Albrecht K. H. T., to North American Phillips Co., Inc. Semi-conductor  $Tl_2$  Te and its method of preparation. 3,096,151, 7-2-63, Cl. 23-50.
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- Ralph, Edwin A., deceased, by M. Ralph, executrix, to H. W. Grosser. Nose positioning riser. 3,087,383, 4-30-63, Cl. 88—51.
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- Randall, Herbert T., to Champion Papers Inc. Method of coating paper. 3,115,438, 12-24-63, Cl. 162-184.



- Randall, James H.: *See*—  
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- Randall, Kenneth W., to Insley Mfg. Corp. Loading machine. 3,080,076, 3-5-63, Cl. 214-138.
- Randall, Max, to Ramco Equipment Corp. Degreaser. 3,100,105, 8-6-63, Cl. 259-103.
- Randall, Max. Flash still. 3,105,021, 9-24-63, Cl. 202-237.
- Randall, Pryor N., and J. B. Sodowsky, to Standard Oil Co. Compressor valve vibration absorber. 3,071,152, 1-1-63, Cl. 137-512.1.
- Randall, Ralph S. Stack aligning chute. 3,075,625, 1-29-63, Cl. 193-43.
- Randall, Wilbur W., and J. Rubenstein. Dual savings bank. 3,095,139, 6-25-63, Cl. 232-5.
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- Randino, Felix J.: *See*—  
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- Randles, Richard J., to International Business Machines Corp. Error detection circuit for instruction decoders. 3,091,752, 5-28-63, Cl. 340-146.1.
- Randmark, Eric E., to V. J. Randmark. Venetian blind mechanism. 3,100,012, 8-6-63, Cl. 160-168.
- Randmark, Victor J.: *See*—  
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- Randol, Glenn T. Booster-type servomotor for brake systems. 3,072,106, 1-8-63, Cl. 121-41.
- Randol, Glenn T. Booster-type servomotor for brake systems. 3,101,032, 8-20-63, Cl. 121-41.
- Randol, Glenn T. Razor blade dispenser. 3,108,683, 10-29-63, Cl. 206-16.
- Randolph, Donald S., to ACF Industries, Inc. Insulated container. 3,078,004, 2-19-63, Cl. 220-14.
- Randolph, Gerald, to Wallson Associates. Ignitron excitation control circuit. 3,089,984, 5-14-63, Cl. 315-168.
- Randolph, Roland F. Reel. 3,116,034, 12-31-63, Cl. 242-118.61.
- Randrup, Ben F. Buckle. 3,091,827, 6-4-63, Cl. 24-68.
- Rands, Robert D., Jr.: *See*—  
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- Rands, Robert D., Jr., to Mallinckrodt Chemical Works. Iso-phthaloylbis-amino acid compounds. 3,102,880, 9-3-63, Cl. 260-211.
- Raney, Robert M., and L. Zednik, Jr., to The Electric Storage Battery Co., and Chrysler Corp. Storage battery and hold-down means therefor. 3,105,566, 10-1-63, Cl. 180-68.5.
- Raney, Russell R., and T. Stott, to Ayco Corp. Corn harvester. 3,075,340, 1-29-63, Cl. 56-104.
- Rang, Hendrik J., to Stamcarbon N.V. Plastic valve bag and method of making same. 3,095,023, 6-25-63, Cl. 150-9.
- Range, Walter K., Jr.: *See*—  
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- Ranham, Ernst G. R., to Cellico, Aktiebolaget. Methods for discharging rotating streams of fluids containing contaminants. 3,080,121, 3-5-63, Cl. 239-11.
- Rank Precision Industries Ltd.: *See*—  
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- Rankin, Alexander B. C., to S. Smith & Sons (England) Ltd. Flaw detection system using sonic and ultrasonic waves. 3,077,769, 2-19-63, Cl. 73-67.8.
- Rankin, Alexander B. C. Ultra-sonic flaw detection. 3,090,224, 5-21-63, Cl. 73-67.9.
- Rankin, Arthur L., Jr.: *See*—  
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- Rankin, David: *See*—  
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- Rankin, John B.: *See*—  
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- Rankin, John C., C. R. Russell, and J. H. Samalik, Sr., to United States of America, Agriculture. Process for preparing improved sizing agents from cereal flours. 3,073,724, 1-15-63, Cl. 127-38.
- Rankin, Lawrence H., to Hartford Faience Co. Insulating bushing assembly with spring retaining means. 3,116,362, 12-31-63, Cl. 174-153.
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- Ranney, Boivin C. Revolving living room. 3,093,869, 6-18-63, Cl. 20-1.
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- Ransohoff, Jackson A. Nuclear reactor control rods. 3,103,479, 9-10-63, Cl. 204-193.2.
- Ransom, Frederick J., and C. K. Lovejoy, to Scripto, Inc. Cartridge fountain pen. 3,095,860, 7-2-63, Cl. 120-45.4.
- Ransom, James R.: *See*—  
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- Rantsch, Kurt, to M. Hensoldt & Sohne, Optische Werke Aktiengesellschaft. Circular scale. 3,108,378, 10-29-63, Cl. 33-1.
- Rantsch, Kurt, to M. Hensoldt & Sohne Optische Werke AG. Slide gauges, screw gauges, or the like. 3,114,976, 12-24-63, Cl. 33-143.
- Rantsch, Kurt, and E. Kühl, to M. Hensoldt & Sohne Optische Werke Aktiengesellschaft. Measuring scale. 3,075,425, 1-29-63, Cl. 88-1.
- Rantsch, Kurt, and H. Staaden, to M. Hensoldt & Sohne, Optische Werke Aktiengesellschaft. Reading device for scales. 3,109,048, 10-29-63, Cl. 88-1.
- Rao, Koppaka V., to Chas. Pfizer & Co., Inc. 3-[2-(5-acetoxy-2-hydroxy-3,5-dimethylcyclohexyl)-2-hydroxyethyl] glutarimide and derivatives thereof. 3,095,418, 6-25-63, Cl. 260-281.
- Rao, Koppaka V., W. S. Marsh, and D. W. Renn, to Chas. Pfizer & Co., Inc. Process for preparing toyocamycin. 3,116,222, 12-31-63, Cl. 195-80.
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- Rapaport, Gerald M., to American Toy and Furniture Co., Inc. Process of decorating a painting. 3,093,462, 6-11-63, Cl. 41-26.
- Rapaport, Robert M., to Food Products Corp., Inc. Glazed bakery product and method of making same. 3,088,829, 5-7-63, Cl. 99-139.
- Rapata, George M., to Illinois Tool Works, Inc. Electronic chassis mounting assembly. 3,084,211, 4-2-63, Cl. 174-158.
- Rapata, George M., to Illinois Tool Works Inc. Plastic drive fastener having a radially collapsible shoulder. 3,093,027, 6-11-63, Cl. 85-5.
- Rapata, George M., to Illinois Tool Works Inc. Fastener. 3,093,874, 6-18-63, Cl. 24-73.
- Rapata, George M., to Illinois Tool Works Inc. Fastener. 3,105,407, 10-1-63, Cl. 85-40.
- Rapata, George M., to Illinois Tool Works Inc. Plastic anchor member. 3,110,338, 11-12-63, Cl. 151-41.75.
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- Raper, Alan H., and A. R. Lockwood, to Glaxo Group Ltd. Unoriented particulate DEAE-cellulose ion exchange material. 3,102,113, 8-27-63, Cl. 260-231.
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- Rapisarda, Edward D., to Gilbert & Barker Mfg. Co. Blending type liquid dispensing unit. 3,077,289, 2-12-63, Cl. 222-26.
- Rapisarda, Edward D., to Gilbert & Barker Mfg. Co. Liquid dispensing unit with additive means for a second liquid. 3,084,832, 4-9-63, Cl. 222-28.
- Rapisarda, Edward D., to Gilbert & Barker Mfg. Co. Register means for liquid dispensing unit. 3,107,032, 10-15-63, Cl. 222-26.
- Rapoport, Lorence, and J. R. Stephens, to American Cyanamid Co. Process of increasing the tensile strength of cyanoethylated cotton textile fibers by soaking in specific chemicals and products produced thereby. 3,086,835, 4-23-63, Cl. 8-131.



- Rapp, Adolph K.: *See*—  
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- Rappaport, Bernardo: *See*—  
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- Rappaport, Maximiliano and B., and R. Szuehman. Method and equipment for restoring paper paste web in paper making machinery and similar foils in other machines. 3,096,233, 7-2-63, Cl. 162—193.
- Rappaport, Paul, to Radio Corp. of America. Radioactive batteries. 3,094,634, 6-18-63, Cl. 310—3.
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- Rapplean, Eugene L.: *See*—  
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- Rapplean, Eugene L., to ACF Industries, Inc. Fuel system for internal combustion engines. 3,086,756, 4-23-63, Cl. 261—23.
- Rapplean, Eugene L., and C. Du Bois, to Outboard Marine Corp. Fuel delivery system including an antisiphoning feature. 3,115,114, 12-24-63, Cl. 115—5.
- Rappleyea, Frederick A., and G. E. Morgan, Jr., to John T. Riddell, Inc. Method of making a metal reinforced resinous structure. 3,076,262, 2-5-63, Cl. 29—517.
- Rappleyea, Frederick A., and G. E. Morgan, Jr., to John T. Riddell, Inc. Method for making face guards. 3,082,515, 3-26-63, Cl. 29—422.
- Rappold, Armin, to International Standard Electric Corp. Means for effecting automatic contrast control in television receivers. 3,087,012, 4-23-63, Cl. 178—7.3.
- Rappold, Armin, and H. Hein, to Standard Elektrik Lorenz Aktiengesellschaft. Automatic frequency control arrangement. 3,076,154, 1-29-63, Cl. 331—177.
- Rappoldt, Menso P.: *See*—  
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- Rapuno, Robert A., to Raytheon Co. Traveling wave device modulation system. 3,096,490, 7-2-63, Cl. 331—82.
- Rasch, Leroy L. S., C. A. Woodcock, and S. B. Womack, to Stewart-Warner Corp. Timer. 3,071,208, 1-1-63, Cl. 184—7.
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- Raskin, Seymour H. Rails. 3,089,650, 5-14-63, Cl. 238—122.
- Raskin, Seymour H., to Railroad Machinery Development Corp. System and method of weighing coupled railroad cars in motion. 3,093,200, 6-11-63, Cl. 177—1.
- Raskin, Seymour H., to Railroad Machinery Development Corp. Weighing of moving objects. 3,101,800, 8-27-63, Cl. 177—1.
- Raskin, Walter. Portable ice skating rink apparatus. 3,108,454, 10-29-63, Cl. 62—235.
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- Rasmanis, Egons, and Rasmanis. 3,103,061.
- Rasmussen, Arne P., R. J. Berti, and A. I. Geyser, to Westinghouse Electric Corp. Multi-gimbal flight simulator. 3,085,354, 4-16-63, Cl. 35—12.
- Rasmussen, Donald E., to L. C. Baldwin and R. Crawford, d.b.a. Balford Mfg. Co. Game carrier. 3,096,010, 7-2-63, Cl. 224—7.
- Rasmussen, Edgar E. Paint roller coating apparatus. 3,079,625, 3-5-63, Cl. 15—257.06.
- Rasmussen, Ernest. Container. 3,115,269, 12-24-63, Cl. 220—55.
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- Rasmussen, Richard O., to Telecomputing Corp. Infrared pickoff device. 3,097,299, 7-9-63, Cl. 250—83.3.
- Rasmussen, Ross H. Means for installing concrete well casings. 3,095,041, 6-25-63, Cl. 166—235.
- Rasmussen, Sherrill K., to The Burdick Corp. Electrocardiograph. 3,082,970, 3-26-63, Cl. 242—55.53.
- Rasmussen, Svend A. Safety fence for motorways. 3,082,994, 3-26-63, Cl. 256—13.1.
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- Rasmussen, Marlin B., to Vitafreze Equipment, Inc. Carton blank. 3,088,651, 5-7-63, Cl. 229—35.
- Rasor, Ned S., and R. L. Hirsch, to United States of America, Atomic Energy Commission. Nuclear reactor and thermionic fuel element therefor. 3,113,091, 12-3-63, Cl. 204—193.2.
- Raspe, Gerhard, K. Kiesslich, E. Olivar, R. Miller, and B. Wagner, to Schering A.G. Method of producing 1,4-diene-3-ketosteroids. 3,102,080, 8-27-63, Cl. 195—51.
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- Rass, Hans A. Shock absorbing wheel mounting assembly. 3,084,950, 4-9-63, Cl. 280—80.
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- Rastgeldi, Selahaddin. Centrifuge apparatus. 3,090,549, 5-21-63, Cl. 233—26.
- Ratajski, Ziemowit R. S., to General Precision Inc. D.C. Motor fitted with hall generator. 3,083,314, 3-26-63, Cl. 310—219.
- Ratajski, Ziemowit R. S., and D. R. Simon, to General Precision Inc. Hall effect translating devices. 3,112,464, 11-26-63, Cl. 338—32.
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- Ratcliffe, Temple W., to The Babcock & Wilcox Co. Sintered refractory material. 3,094,424, 6-18-63, Cl. 206—59.
- Rateau, Alexis. Steering mechanism for truck. 3,077,354, 2-12-63, Cl. 280—99.
- Rath, Michael B., to The Standard Oil Co. Liquid fill assembly. 3,103,958, 9-17-63, Cl. 141—96.
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- Rath, Robert E., to The Peelle Co. Position sensing and control means. 3,098,992, 7-23-63, Cl. 340—1.
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- Rathbun, Ivan T. Light aiming device. 3,110,446, 11-12-63, Cl. 240—73.
- Rathbun, Sherrill S., Jr., to The Electric Auto-Lite Co. Injection device. 3,102,829, 9-3-63, Cl. 118—410.
- Rather, Roy L., and V. P. Goerland, to Commercial Engineering Corp. Marine tow chain. 3,086,491, 4-23-63, Cl. 114—235.
- Rathmann, Heinrich W., and J. C. Wolfe, to Vanadium Corp. of America. Production of medium carbon ferrochromium. 3,085,004, 4-9-63, Cl. 75—130.5.
- Rathmann, William G. Soaker. 3,080,124, 3-5-63, Cl. 239—450.
- Ratje, John D., and H. W. Tompkins, to Phillips Petroleum Co. Fractional crystallization process. 3,093,649, 6-11-63, Cl. 260—290.
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- Ratkowski, Thomas A., to American Brake Shoe Co. Power shovel dipper. 3,107,445, 10-22-63, Cl. 37—118.
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- Rattenborg, William K. Routeman's signal. 3,089,607, 5-14-63, Cl. 220—18.
- Rattenbury, Kenneth H., E. R. Levy, and A. H. Zakaryan, to Chemagro Corp. Preparation of 2-arylaminio-4,6-dichloro-s-triazines. 3,074,946, 1-22-63, Cl. 260—249.5.
- Rattner, Leonard C. Hollow container record keeper and advertising device. 3,084,844, 4-9-63, Cl. 229—22.



- Ratts, Kenneth W., to Monsanto Chemical Co. N-(2-tetrahydropyran-1-yl) and N-(2-tetrahydrofuran-1-yl) 2-aminoacetamides. 3,099,661, 7-30-63, Cl. 260-345.7.
- Rätz, Rudi F. W., to Olin Mathieson Chemical Corp. Trimeric isothiocyanate polyfluoroalkoxy phosphorus nitriles. 3,074,989, 1-22-63, Cl. 260-454.
- Rätz, Rudi F. W., to Olin Mathieson Chemical Corp. Phosphorus containing bifunctional isothiocyanates and process therefor. 3,090,800, 5-21-63, Cl. 260-461.
- Rätz, Rudi F. W., to Olin Mathieson Chemical Corp. Pentaaerythritol cyclic diphosphate dimethylsulfoxonium salt and process for preparation. 3,103,530, 9-10-63, Cl. 260-461.
- Rätz, Rudi F. W., to Olin Mathieson Chemical Corp. Polymeric ethyleneimido polyfluoroalkoxy phosphorus nitriles. 3,113,129, 12-3-63, Cl. 260-239.
- Rau, Gerald A.: *See*—  
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- Rau, Richard: *See*—  
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- Raub, Samuel H. S., E. S. Malkin, and W. J. Alton, to Union Carbide Corp. Corrosive resistant pump. 3,089,423, 5-14-63, Cl. 103-87.
- Rauch, Emil B., to General Aniline & Film Corp. Photographic silver halide emulsion sensitized with cyanine dyes containing the benzoxazole nucleus. 3,071,467, 1-1-63, Cl. 96-106.
- Rauch, Emil B., and C. R. Hance, to General Aniline & Film Corp. Cyan color formers. 3,079,259, 2-26-63, Cl. 96-100.
- Rauch, Emil B., and F. Dersch, to General Aniline & Film Corp. Fog reduction in photographic silver halide emulsions. 3,081,170, 3-12-63, Cl. 96-109.
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- Raue, Roderich, to Farbenfabriken Bayer Aktiengesellschaft. Brightening agents. 3,075,996, 1-29-63, Cl. 260-343.2.
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- Rauenbuehler, John A., to Cutler-Hammer, Inc. Kicker for newspapers. 3,089,394, 5-14-63, Cl. 93-93.
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- Raulins, George M., to Otis Engineering Corp. Remotely controlled latch for well tools. 3,071,188, 1-1-63, Cl. 166-66.5.
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- Raulins, George M., and D. M. Koons, to Otis Engineering Corp. Well tools for securing flow conductors in a tubular member. 3,087,547, 4-30-63, Cl. 166-89.
- Rault, Pierre A., to Compagnie Industrielle des Telephones. Device for measuring the temperature inside a nuclear reactor. 3,110,657, 11-12-63, Cl. 204-193.2.
- Raum, Alaric L. J., to The Distillers Co. Ltd. Polymerisation of ethylene with a catalyst aluminum, a halide of titanium or vanadium and a halogen. 3,091,607, 5-28-63, Cl. 260-94.9.
- Rauner, Frederick J., I. F. Rosati, and E. M. Robertson, to Eastman Kodak Co. Dry processed photothermographic printing plate and process. 3,100,702, 8-13-63, Cl. 96-33.
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- Rausch, Clarence W., to The O. M. Scott & Sons Co. Bag filling machine. 3,097,459, 7-16-63, Cl. 53-59.
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- Rausch, Marvin D., to Monsanto Chemical Co. Arylferrocenes and a process for preparing them. 3,098,864, 7-23-63, Cl. 260-439.
- Rauser, Erwin F., to Lewis Knitting Co. Undergarments. 3,083,710, 4-2-63, Cl. 128-159.
- Rausing, Anders R. Folding box sheet blank. 3,106,330, 10-8-63, Cl. 229-14.
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- Rautio, Laurie J., to Clayton & Lambert Mfg. Co. Swimming pools and like structures of the type having endless peripheral metal walls. 3,106,045, 10-8-63, Cl. 50-100.
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- Raver, Louis J., to General Motors Corp. Protective circuit for transistor regulators. 3,098,966, 7-23-63, Cl. 322-73.
- Raver, Louis J., and T. E. Kirk, to General Motors Corp. Variable resistance assembly. 3,089,111, 5-7-63, Cl. 338-260.
- Raviolo, Victor G., to Ford Motor Co. Levacar guidance system. 3,111,092, 11-19-63, Cl. 104-134.
- Ravn, Jacob, to The West Co. Cap structure for bottles. 3,071,274, 1-1-63, Cl. 215-37.
- Ravve, Abraham, and J. T. Khamis, to Continental Can Co., Inc. Vinyl halide copolymers with oxirane-containing side groups having improved heat stability. 3,100,758, 8-13-63, Cl. 260-45.5.
- Raw, Marshall F. Brush device for napped or pile fabrics. 3,087,223, 4-30-63, Cl. 26-27.
- Rawe, Martin, and W. Kerkmann, said Kerkmann assor. to said Rawe. Process and apparatus for manufacturing a flexible container. 3,103,856, 9-17-63, Cl. 93-8.
- Rawle, David, to Clinch-Tite Corp. Pallet bin. 3,085,706, 4-16-63, Cl. 217-48.
- Rawlings, Herbert L., and J. J. D'Amico, to Monsanto Chemical Co. Controlling vegetation with alkenyl thiopyridine oxides. 3,107,994, 10-22-63, Cl. 71-2.5.
- Rawlins, Charles B., to Aluminum Co. of America. Articulated bundle conductor spacer. 3,110,757, 11-12-63, Cl. 174-128.
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- Rawson, Arthur J.: *See*—  
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- Rawson, Emanuel, to Textile Mills Co. Ironing board construction. 3,089,266, 5-14-63, Cl. 38—135.
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- Rawstron, George O., and R. E. Reason, to Rank Precision Industries Ltd. trading as Taylor, Taylor & Hobson. Generation of shaped surfaces. 3,079,731, 3-5-63, Cl. 51—58.
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- Ray, Leonard S. Opaque projection apparatus. 3,084,594, 4-9-63, Cl. 88—26.
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- Ray, Norman L. Press for amalgams and the like. 3,095,648, 7-2-63, Cl. 32—40.
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- Ray, Roy W., to Pioneer Heddle and Reed Co., Inc. Heddle frame. 3,106,942, 10-15-63, Cl. 139—88.
- Ray, William A., to General Controls Co. Proportional positioning using hydraulic jet. 3,087,471, 4-30-63, Cl. 121—41.
- Ray, William A., to General Controls Co. Ball valve structure. 3,101,740, 8-27-63, Cl. 137—596.
- Ray, William A., to General Controls Co. Swing check type regulator valve. 3,105,513, 10-1-63, Cl. 137—484.8.
- Ray, William A., to General Controls Co. Heat motor operated valve. 3,108,616, 10-29-63, Cl. 137—628.
- Ray, William A., to General Controls Co. Oil-filled solenoid gas valve. 3,108,777, 10-29-63, Cl. 251—54.
- Ray, William A., to General Controls Co. System and safety device for multiple furnaces. 3,115,926, 12-31-63, Cl. 158—131.
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- Ray, William A., and R. D. Grayson, to General Controls Co. System for operating a rotary spit mechanism. 3,108,532, 10-29-63, Cl. 99—421.
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- Raybin, Benjamin, to Philip Morris Inc. Handle for surgical blades, and the like. 3,085,332, 4-16-63, Cl. 30—339.
- Raybuck, William B., to Fred'k H. Levey Co., Inc. Folder for web-fed printing presses. 3,088,731, 5-7-63, Cl. 270—72.
- Raybuck, William B., to Fred'k H. Levey Co., Inc. Register control mechanism for a web-fed printing press. 3,092,022, 6-4-63, Cl. 101—248.
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- Raymond, Gerald L., H. S. Blancher, Jr., and L. A. Davis. Garland forming apparatus and method. 3,109,277, 11-5-63, Cl. 57—24.
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- Rea, James E., to Koppers Co., Inc. Process for the production of hydraulic cement. 3,114,648, 12-17-63, Cl. 106—101.
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- Read, Robert C., and F. J. Gregor, to The Gordon Co. Juice expressing machine. 3,108,533, 10-29-63, Cl. 100—98.
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- Reagle, Gerald R.: *See*—  
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- Reali, Rodolfo, to Attrezzature e Dispositivi per Annunzi Reclamistiei-A.D.A.R. Advertising billboard showing a multiplicity of subjects. 3,080,668, 3-12-63, Cl. 40—36.
- Realisations Ultrasoniques: *See*—  
 Dory, Jacques. 3,089,458.  
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- Realist, Inc.: *See*—  
 Giwosky, Harry L. 3,085,149.
- Realty and Industrial Corp.: *See*—  
 Gubelmann, William S. 3,082,944.  
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 Gubelmann, William S. 3,115,300.
- Reamer, Thomas E., to Shell Oil Co. Metal working lubricant. 3,079,340, 2-26-63, Cl. 252—33.6.
- Reames, Leonard, to H. M. Jaxox, and K. E. Bauer, d.b.a. Jaybee Co. Backing plate for abrasive disks. 3,110,140, 11-12-63, Cl. 51—195.
- Reames, Louis E. Educational activities building construction. 3,083,418, 4-2-63, Cl. 20—41.
- Reamey, Herbert K., Jr.: *See*—  
 Simonson, Lowden, Wieman, Reamey, and Klefer. 3,076,241.
- Reams, Clinton A. Take-off assisting apparatus for rotary wing aircraft. 3,112,904, 12-3-63, Cl. 244—63.
- Reaney, Donald, to Ericsson Telephones Ltd. Multi-electrode glow discharge tubes. 3,090,893, 5-21-63, Cl. 315—135.
- Reardon, John J., and J. S. Axelson, to General Electric Co. Brush seating technique. 3,105,331, 10-1-63, Cl. 51—281.
- Reardon, Patrick H., to The Lionel Corp. Method for making lens blockers. 3,114,992, 12-24-63, Cl. 51—284.
- Rearwin, Earle W., to J. A. Kozma and J. A. Kozma, Jr. Automatic ladies. 3,077,015, 2-12-63, Cl. 22—81.
- Reasby, Charles S.: *See*—  
 Blaklock, William J., and Reasby. 3,100,939.
- Reasby, Charles S., to United States of America, Army. Dual level controlled automatic liquid dispensing nozzle. 3,100,007, 8-6-63, Cl. 141—209.
- Reaser, Marshall. Fishhook holder. 3,101,964, 8-27-63, Cl. 289—17.
- Reaser, Paul B. Means of recording and/or displaying physical magnitudes. 3,091,505, 5-28-63, Cl. 346—29.
- Reason, Richard E.: *See*—  
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- Reason, Richard E., to Rank Precision Industries Ltd. Suspension devices. 3,081,552, 3-19-63, Cl. 33—215.
- Reasor, George A.: *See*—  
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- Reath, Roger E.: *See*—  
 Raymond, Louis W., and Reath. 3,108,056.
- Reaves, John H., to Elcor, Inc. Differential amplifier. 3,075,155, 1-22-63, Cl. 330—69.
- Reaves, John H., and J. F. Walton, to Elcor Inc. Flip-flop circuits. 3,076,900, 2-5-63, Cl. 307—88.5.
- Re Baratelli, Giuseppe, to Count Numbering Machine, Inc. Typographic numerator progressively and regressively operating. 3,107,606, 10-22-63, Cl. 101—88.
- Rebecchini, Peter G., and P. E. Larson, to Thor Power Tool Co. Portable tool. 3,099,905, 8-6-63, Cl. 51—170.
- Reber, Carroll J., Jr., to Philco Corp. Defrostable refrigeration system. 3,081,607, 3-19-63, Cl. 62—278.
- Reber, John, Jr., to Hamilton Watch Co. Indexing mechanism for a battery operated electric watch. 3,090,245, 5-21-63, Cl. 74—126.
- Reber, John, Jr., D. A. Bly, and D. Fritsch, to Hamilton Watch Co. Manual starting mechanism for timepieces. 3,071,920, 1-8-63, Cl. 58—85.5.



- Rebikoff, Dimitri I., to Loral Electronics Corp. Control arrangement for a submarine vessel. 3,093,105, 6-11-63, Cl. 114-16.
- Rebizzo, Edward P.: *See—*  
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- Rebizzo, Victor, and E. P. Drum washer. 3,073,325, 1-15-63, Cl. 134-148.
- Rebka, Glen A., to The Metal Specialty Co. Bowling ball carrier and the like. 3,103,266, 9-10-63, Cl. 190-48.
- Rebo, Reina R., to Ritepoint Pen and Pencil Co. Ballpoint refill units. 3,106,909, 10-15-63, Cl. 120-42.4.
- Recchione, Dominic A., to Walter Balfour & Co. Inc. Rolling type closure construction. 3,078,917, 2-26-63, Cl. 160-120.
- Rece, Wesley J., Jr.: *See—*  
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- Rech, Jean M. D.: *See—*  
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- Rechenmaschinenfabrik, Precisa, A.G.: *See—*  
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- Recher, Werner, to Allgauer Maschinenbau G.m.b.H. Thread guide, particularly for textile twisting machines. 3,084,500, 4-9-63, Cl. 57-106.
- Recherches Etudes Production R. E. P., Societe a Responsabilite Limitee: *See—*  
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- Rechsteiner, Paul, to Zelter & Co. Slide-fasteners. 3,098,276, 7-23-63, Cl. 24-201.
- Reck, Herbert J. and H. W. Feeding, arranging and grading apparatus for eggs. 3,100,571, 8-13-63, Cl. 209-121.
- Reck, Hilbert W.: *See—*  
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- Reck, Richard A., W. W. Abramitis, and C. S. Wilhemy; said Reck assor. to Armour and Co. Oil-soluble plant growth regulation agents. 3,097,088, 7-9-63, Cl. 71-2.5.
- Reck, Richard A., C. S. Wilhemy, and J. Benveniste, to Conch International Methane Ltd. Containers for liquefied gases. 3,104,984, 9-24-63, Cl. 117-148.
- Recknor, Clarence E., R. L. Merchant, and D. W. and D. O. Miller. Weighing and measuring apparatus for granular and the like material. 3,109,503, 11-5-63, Cl. 177-24.
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- Rectenwald, Richard L. Cyclic arc welding. 3,103,065, 9-10-63, Cl. 29-401.
- Rector, Charles W. Natural expression former. 3,103,052, 9-10-63, Cl. 27-21.
- Rector, Joseph. Combined telephone amplifier and radio receiver. 3,092,688, 6-4-63, Cl. 179-1.
- Rector, Laurence L., to Rector Well Equipment Co., Inc. Tubing hangers. 3,080,180, 3-5-63, Cl. 285-137.
- Rector, Laurence L., to Rector Well Equipment Co., Inc. Multiple valved tubing hangers. 3,115,934, 12-31-63, Cl. 166-75.
- Rector, Ralph H., to Stauffer Chemical Co. Battery case. 3,093,515, 6-11-63, Cl. 136-166.
- Rector Well Equipment Co., Inc.: *See—*  
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Rector, Laurence L. 3,115,934.
- Recupito, Kenneth J. Muffler apparatus. 3,106,985, 10-15-63, Cl. 181-65.
- Recupito, Kenneth J. Muffler apparatus. 3,111,192, 11-19-63, Cl. 181-65.
- Red, Naomi P. Container for toothbrushes and related items. 3,099,273, 7-30-63, Cl. 132-84.
- Red Arrow Tow Bar Mfg., Inc.: *See—*  
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- Redd, Thomas J. Golf club. 3,081,087, 3-12-63, Cl. 273-80.
- Redden, Thomas K., to General Electric Co. Tungsten base alloys. 3,085,006, 4-9-63, Cl. 75-176.
- Reddick, John A., E. E. Berkley, L. L. Linthicum, and H. H. Buxton, to Anderson, Clayton & Co. Fractionating apparatus. 3,083,828, 4-2-63, Cl. 209-3.
- Reddick, Leonard L., R. M. Fort, E. J. Baldi, D. K. Harmon, and H. F. Ziegelsheim, to Producers Creamery Co., Inc. Spray cleaning. 3,113,046, 12-3-63, Cl. 134-24.
- Redding, Edward M.: *See—*  
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- Reddy, Robert R., to Hi-Shear Rivet Tool Co. Separable fastener. 3,080,633, 3-12-63, Cl. 24-221.
- Reddy, Virgin C.: *See—*  
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- Redenbaugh, William A., 1/2 to G. W. Arnold. Method and mechanism for separation of solutes from solvents. 3,096,255, 7-2-63, Cl. 202-51.
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- Reder, Rodney W.: *See—*  
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- Redfarn, Cyril A.: *See—*  
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- Redfern, Bernard, to The Plessey Co. Ltd. Bodies and shapes of carbonaceous materials and processes for their production. 3,109,712, 11-5-63, Cl. 23-209.2.
- Redfern, John T. Silicon controlled rectifier D.C. to A.C. inverter utilizing bridge type arrangement with single commutating capacitor. 3,109,977, 11-5-63, Cl. 321-44.
- Redfield, Paul H., Jr. Combination bale hook and twine cutter. 3,115,648, 12-31-63, Cl. 7-14.3.
- Redhead, Paul A., to National Research Council. Ionization gauge for the measurement of low pressures. Re. 25,369, 4-16-63, Cl. 324-33.
- Redi-Knot Inc.: *See—*  
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- Redi-Knot Tie Clip Corp.: *See—*  
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- Redin, Gunnar S.: *See—*  
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- Reding, Frederick P.: *See—*  
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- Reding, Frederick P., and C. W. McGary, Jr., to Union Carbide Corp. Olefinic copolymers. 3,091,601, 5-28-63, Cl. 260-80.5.
- Redi Truss International, Inc.: *See—*  
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- Red Jacket Mfg. Co.: *See—*  
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- Redman, Lawrence E., to Garbage Service Co., Inc. Grapple device for material handling apparatus. 3,080,988, 3-12-63, Cl. 214-656.
- Redmayne, Leonard, A. J. Wilson, and L. W. Kings, to Girling Ltd. Disc brakes. 3,077,246, 2-12-63, Cl. 188-73.
- Redmon, Paul C. 66 2/3 to Novel Ideas Inc. Dispenser for lawn treating materials. 3,100,371, 8-13-63, Cl. 56-25.4.
- Redmond, Eugene R., to Brian Jackson Associates, Inc. Process for refining blister copper. 3,114,628, 12-17-63, Cl. 75-75.
- Redmond, James A.: *See—*  
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- Redner, Salomon, to The Budd Co. Photoelastic strain gauges. 3,074,271, 1-22-63, Cl. 73-88.
- Redner, Salomon, to The Budd Co. Photoelastic strain gauges. 3,101,609, 8-27-63, Cl. 73-88.
- Redpath, John R., and L. S. Wysocki, to Chicago Carton Co. Carton. 3,099,383, 7-30-63, Cl. 229-52.
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- Redrow, Allan R. Windshield cleaner mechanism. 3,108,307, 10-29-63, Cl. 15-250.28.
- Red Wing Shoe Co., Inc.: *See—*  
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- Reeber, Rudolf, and R. Dobner, to G. M. Pfaff, A.G. Feed mechanism for sewing machines. 3,089,445, 5-14-63, Cl. 112-203.
- Reeber, Nicholas J., to Hazeltine Research, Inc. Subcarrier detector. 3,076,147, 1-29-63, Cl. 329-140.
- Reeber, Rudolf, to G. M. Pfaff, A.G. Sewing machine with feed wheel feeding. 3,071,089, 1-1-63, Cl. 112-214.
- Reeber, Rudolf, to G. M. Pfaff, A.G. Wheel feed differential control for sewing machines. 3,104,639, 9-24-63, Cl. 112-214.
- Reeber, Rudolf, and H. Wenz, to G. M. Pfaff, A.G. Arrangement for group stitch sewing machines for feeding material to be stitched in sections. 3,073,267, 1-15-63, Cl. 112-2.
- Reeber, Rudolf, and E. Schenkengel, to G. M. Pfaff, A.G. Electromagnetic cutting knife and the like actuating mechanism. 3,094,031, 6-18-63, Cl. 83-571.
- Reeb, Hans-Jürgen, to Siemens & Halske Aktiengesellschaft. Stabilized bridge oscillation generator. 3,114,116, 12-10-63, Cl. 331-139.
- Reece, Clark B., to R.I.N.C.O. Damper positioning means. 3,086,407, 4-23-63, Cl. 74-533.
- Reece Corp., The: *See—*  
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- Reece, Franklin A., Jr.: *See—*  
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- Reece, William F., to Allied Products Corp. Spring ejector for metal punch. 3,106,120, 10-8-63, Cl. 83-128.
- Reed, Albert E., & Co. Ltd.: *See—*  
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- Reed, Alun J., to Metalastik Ltd. Ball joints and ball jointed universal couplings. 3,082,613, 3-26-63, Cl. 64-11.
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- Reed, Charles M. D., to The Taylor-Reed Corp. Handle construction for utensils. 3,082,906, 3-26-63, Cl. 220-95.
- Reed, Clair S., to Van Dresser Specialty Corp. Supporting spring assembly for seats. 3,091,450, 5-28-63, Cl. 267-86.



- Reed, Clair S., to Van Dresser Specialty Corp. Supporting spring assembly for seats. 3,091,451, 5-28-63, Cl. 267-102.
- Reed, Clair S., to Van Dresser Specialty Corp. Supporting spring cushion structure for a seat. 3,112,924, 12-3-63, Cl. 267-103.
- Reed, Clifton W., to C. W. Reed Co., Inc. Radiation scanner. 3,116,416, 12-31-63, Cl. 250-53.
- Reed, Denzel W. and R. L., to Gulf Research & Development Co. Low temperature reverse combustion process. 3,110-345, 11-12-63, Cl. 166-11.
- Reed, Donald E. and S. F., E. F. Deady, and E. R. Fairbanks, to Space Components Inc. Magnetic switches. 3,098,907, 7-23-63, Cl. 200-87.
- Reed, Edgar, 2nd. Anti-slip handle for manually operated tools. 3,093,172, 6-11-63, Cl. 145-61.
- Reed, Edwin E., to Phillips Petroleum Co. Floating suction for submersible pump. 3,101,874, 8-27-63, Cl. 222-385.
- Reed, Edwin E., to Phillips Petroleum Co. Method of operating pressurized storage system. 3,105,358, 10-1-63, Cl. 61-5.
- Reed, Edwin E., J. W. Hale, and F. S. Hamlin, to Phillips Petroleum Co. Safety device for use in testing relief valves on pressurized fluid containers. 3,097,516, 7-16-63, Cl. 73-4.
- Reed Electromech Corp.: See—  
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- Reed, Everett C., to Albany Felt Co. Tennis ball cover cloth. 3,074,144, 1-22-63, Cl. 28-79.
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- Reed, Frank G. Palletized vehicle deck. 3,092,044, 6-4-63, Cl. 105-369.
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- Reed, Frederick P., to United States of America, Army. Combined cartridge ejector and retainer. 3,077,044, 2-12-63, Cl. 42-25.
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- Reed, Harold V., to Borg-Warner Corp. Clutches. 3,086,634, 4-23-63, Cl. 192-111.
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- Reed, Hugh W. B., to Imperial Chemical Industries Ltd. Alkylation of aromatic compounds. 3,114,781, 12-17-63, Cl. 260-671.
- Reed, John C. Articulated support beam. 3,073,559, 1-15-63, Cl. 248-205.
- Reed, John C., to United States of America, Air Force. Radar relay system. 3,093,823, 6-11-63, Cl. 343-11.
- Reed, John J., to St. Joseph Lead Co. Tape extensometer for measuring roof sag. 3,092,912, 6-11-63, Cl. 33-147.
- Reed, John W., and H. J. Halvorsen, to Farrel-Birmingham Co., Inc. Railroad wheel and axle assembly handling machine. 3,073,017, 1-15-63, Cl. 29-252.
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- Reed, Linwood L., to Union Steel Products Co. Outdoor grill. 3,113,504, 12-10-63, Cl. 99-421.
- Reed, Lionel E., and R. J. Whitley, to Socony Mobil Oil Co., Inc. Tank truck delivery system air elimination. 3,081-627, 3-19-63, Cl. 73-200.
- Reed, Lloyd E. Collapsible tent and trailer. 3,095,231, 6-25-63, Cl. 296-23.
- Reed, Loretta. Garment construction. 3,108,284, 10-29-63, Cl. 2-93.
- Reed Mfg. Co.: See—  
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- Reed, Robert D., to John Zink Co. Atomizer for liquid fuel. 3,072,343, 1-8-63, Cl. 239-404.
- Reed, Roland L., to The Babcock & Wilcox Co. Closure device. 3,081,900, 3-19-63, Cl. 220-39.
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Livermont, Frank W. 3,102,732.  
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- Reed, Stanley F., to American Scientific Corp. Media of exchange. 3,092,402, 6-4-63, Cl. 283-57.
- Reed, Stanley F., D. E. Houghton, and E. F. Deady, to Cambridge Wire Cloth Co. Lay beam assembly. 3,103,954, 9-17-63, Cl. 139-188.
- Reed, Theron J., to P. W. Sindlinger and J. R. Nichols. Variable flow feed auger for delivering from sealed storage bins. 3,107,825, 10-22-63, Cl. 222-310.
- Reed, Theron J., to American Planter Co. Cattle feed distributor. 3,108,572, 10-29-63, Cl. 119-52.
- Reed, Thomas B.: See—  
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- Reed, Troy J. Sprocket for saw chain. 3,087,350, 4-30-63, Cl. 74-243.
- Reed, Walden E., to Acme Visible Records, Inc. Record filing device. 3,106,208, 10-8-63, Cl. 129-31.
- Reed, Warren A.: See—  
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- Reed, William O., to The Rauland Corp. Photosensitive radiant-energy transducers. 3,112,404, 11-26-63, Cl. 250-213.
- Reed, William P. Granular material dispenser. 3,111,242, 11-19-63, Cl. 222-183.
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- Reeder, Earl, and L. H. Sternbach, to Hoffmann-La Roche Inc. Process for preparing 5-phenyl-1,2-dihydro-3H-1,4-benzodiazepines. 3,109,843, 11-5-63, Cl. 260-239.
- Reeder, Frank, to Courtaulds Ltd. Regeneration of an aqueous inorganic thiocyanate solution. 3,078,143, 2-19-63, Cl. 23-75.
- Reeder, Frank, and B. Krzesinski, to Courtaulds Ltd. Production of crimped filaments. 3,106,763, 10-15-63, Cl. 28-72.
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- Reely, Walter J., to General Instrument Corp. Punched card to teletypewriter code converter. 3,075,043, 1-22-63, Cl. 178-26.
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- Reen, Gerald K., and T. C. Warner, Jr., to Textron Electronics, Inc. Vibration pickup. 3,102,250, 8-27-63, Cl. 340-17.
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Bijloo, Johan D., and Reerink. 3,080,284.
- Rees, Glyn T., and R. E. Fanson, to H. H. Robertson Co. Mounting means for an electrical connector. 3,110,538, 11-12-63, Cl. 339-92.
- Rees, Rees W. Inserted cutting formations for percussive rock drill bits. 3,088,535, 5-7-63, Cl. 175-410.
- Rees, Thomas W.: See—  
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- Rees, Vernon C., to Johns-Manville Fiber Glass Inc. Process for combining glass fibers with synthetic resin fibers and product thereof. 3,091,018, 5-28-63, Cl. 28-80.
- Rees, Vernon C., to Johns-Manville Corp. Method for packaging stranded material. 3,115,312, 12-24-63, Cl. 242-18.
- Rees, William W.: See—  
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- Rees, Willis M., and D. N. Huggins, to Owens-Corning Fiberglass Corp. Acoustical tile. 3,111,188, 11-19-63, Cl. 181-33.
- Reese, David N., to Minneapolis-Honeywell Regulator Co. Condition responsive devices. 3,090,234, 5-21-63, Cl. 73-356.
- Reese, Elmer E.: See—  
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- Reese, Elmer E., to General Motors Corp. Windshield wiper arm. 3,076,992, 2-12-63, Cl. 15-250.35.
- Reese, Elmer E., to General Motors Corp. Windshield wiper blade. 3,098,255, 7-23-63, Cl. 15-250.42.
- Reese, Elmer E., to General Motors Corp. Windshield wiper arm. 3,102,295, 9-3-63, Cl. 15-250.35.
- Reese, Elmer E., and T. E. Stark, to General Motors Corp. Windshield wiper blade assembly. 3,090,986, 5-28-63, Cl. 15-250.42.
- Reese, Frank L.: See—  
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- Reese, Frank P.,  $\frac{1}{2}$  to G. L. Garff. Stroller chassis child's support structure. 3,100,651, 8-13-63, Cl. 280-30.
- Reese, Glenn A., to The Magnavox Co. Switch assembly. 3,086,095, 4-16-63, Cl. 200-87.
- Reese, H. B., Co., Inc.: See—
- Woody, George D. 3,108,679.
- Reese, James H.: See—
- Detwiler, Harry S., Reese, and Serlemitsos. Re. 25,328.
- Reese, James H., and P. J. Serlemitsos, to Hamilton Watch Co. Balance wheel for an electric watch. 3,091,914, 6-4-63, Cl. 58-28.
- Reese, Johannes: See—
- Greth, Arthur, and Reese. 3,081,323.
- Reese, Karl, to Ruhr Intrans Hubstapler, G.m.b.H. Friction engaging device. 3,106,266, 10-8-63, Cl. 188-78.
- Reese, Lawrence B., Jr., to National Rejectors, Inc. Bill-receiving cash boxes. 3,101,892, 8-27-63, Cl. 232-1.4.
- Reese, Lawrence C., Sr.: See—
- Edwards, Robert N., and Reese. 3,092,234.
- Reese, Milous, Jr. Revolvable toy. 3,089,277, 5-14-63, Cl. 46-61.
- Reese, Richard, to Chicago Bridge & Iron Co. Resilient foam seal for floating roof. 3,075,668, 1-29-63, Cl. 220-26.
- Reetz, Theodor, to Monsanto Chemical Co. Phosphorus boron compounds. 3,100,774, 8-13-63, Cl. 260-293.
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- Reeve, Lewis, to The United Steel Companies Ltd. Fluidised bed process and apparatus for use therein. 3,079,222, 2-26-63, Cl. 23-1.
- Reeves Brothers, Inc.: See—
- Dickey, John W. Re. 25,493.
- Reeves, Herbert M., to Geo. D. Roper Corp. Locking mechanism for burner control valves. 3,084,681, 4-9-63, Cl. 126-42.
- Reeves, Howard F., Jr., R. W. Ingwalson, and J. L. Rose, Jr., to Tennessee Products and Chemical Corp. Polyalkylene glycol dibenzoates and resinous compositions plasticized therewith. 3,110,603, 11-12-63, Cl. 106-179.
- Reeves Instrument Corp.: See—
- Tait, William O., and Wilkes. 3,114,405.
- Reeves Soundcraft Corp.: See—
- Morrison, William A. 3,095,969.
- Reeves, Willard D., 50% to St. Elmo Cross. Poultry scalding tank with air agitating means. 3,094,740, 6-25-63, Cl. 17-11.2.
- Reeves, Willard D.,  $\frac{1}{2}$  to S. E. Cross, and  $\frac{1}{2}$  to S. C. Cross. Gilet wrapping machine. 3,097,464, 7-16-63, Cl. 53-209.
- Reeves, Wilson A., G. L. Drake, Jr., and J. D. Guthrie, to United States of America, Agriculture. Dyed cellulosic textiles and processes for their production. 3,084,017, 4-2-63, Cl. 8-54.2.
- Refeli, Brian R. A., to The Walter Kidde Co. Ltd. Inflatable dinghies. 3,080,582, 3-12-63, Cl. 9-2.
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- Reflectotherm, Inc.: See—
- Mills, Clarence A. 3,097,650.
- Refracto-met, Inc.: See—
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- Woodruff, Richard K. 3,092,247.
- Refrigeration Research, Inc.: See—
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- Regal Plastic Co.: See—
- Kivett, Jerome S. 3,092,225.
- Regan, Dan A.: See—
- Kenyon, Ralph W., and Regan. 3,091,195.
- Regan Forge and Engineering Co.: See—
- Regan, John. 3,100,015.
- Regan, George P., Jr.: See—
- Hasala, Ernest N., and Regan. 3,108,031.
- Regan, John, to Regan Forge and Engineering Co. Method of and apparatus for running equipment into and out of wells. 3,100,015, 8-6-63, Cl. 166-46.
- Regan, John F., to E. I. du Pont de Nemours and Co. Stabilized polyoxymethylenes. 3,102,106, 8-27-63, Cl. 260-45.9.
- Regan, Thomas J., to Consolidation Coal Co. Method of comminuting particulate material. 3,085,757, 4-16-63, Cl. 241-26.
- Regel, Erik, R. Wegler, F. Grewe, and H. Kaspers, to Farbenfabriken Bayer Aktiengesellschaft. Combatting plant diseases caused by fungi. 3,097,130, 7-9-63, Cl. 167-30.
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- Mathis, Cecil E. 3,109,064.
- Regenhardt, Walter F. Card tray with adjustable follower. 3,109,432, 11-5-63, Cl. 129-31.
- Regenschett, Bruno, to H. Krantzy, Firma. Jet conveyors. 3,099,965, 8-6-63, Cl. 103-263.
- Regenstein, Joseph, Jr., to Velsicol Chemical Corp. Particle dispensing device. 3,107,822, 10-22-63, Cl. 222-177.
- Regent Jack Mfg. Co., Inc.: See—
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- Coffelt, Robert J. 3,106,152.
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- Reggia, Frank. Absorption modulator switch utilizing gyro-magnetic rotator split by resistive sheet. 3,103,639, 9-10-63, Cl. 333-24.2.
- Reggio, Ferdinando C. Engine speed and fuel-air ratio controller. 3,084,746, 4-9-63, Cl. 170-135.74.
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- Peras, Lucien. 3,070,829.
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- Rehacek, Alois, to Wiener Metallwaren- und Schnallenfabrik Schar-Smolka. Safety binding with swivel jaw. 3,105,696, 10-1-63, Cl. 280-11.35.
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- Rehman, Irving, and D. C. Gibson. Ear defender positioning and mounting apparatus. 3,108,282, 10-29-63, Cl. 2-6.
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- Reich, Robert W. Electrically operated clock with alarm device. 3,091,076, 5-28-63, Cl. 58-38.
- Reich, Robert W. Electromagnetic pendulum drive. 3,100,278, 8-6-63, Cl. 318-128.
- Reich, Robert W. Power, charging and control mechanism for battery operated electrical appliances. 3,108,192, 10-22-63, Cl. 307-66.
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- Reiche, Wilhelm, to Voigtlander A.G. Single lens photographic reflex camera. 3,075,443, 1-29-63, Cl. 95-42.
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- Reid, Allen F. Ion exchange process for separating proteins. 3,073,747, 1-15-63, Cl. 167-78.
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- Reider, Malcolm J., to Dew Chemical Corp. Continuous treatment of wool to shrink-proof and sensitize the same. 3,098,694, 7-23-63, Cl. 8-128.
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- Reimann, Hans, and D. H. Gould, to Schering Corp. 17 $\alpha$ -chloro and 17 $\alpha$ -bromo-progesterones. 3,087,938, 4-30-63, Cl. 260-397.3.
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- Reimers, James L.: *See*—  
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- Reimert, Lawrence J., to The New Jersey Zinc Co. Production of titanium. 3,082,159, 3-19-63, Cl. 204-1064.
- Reinartz, Robert, to Maschinenfabrik Augsburg-Nürnberg A.G. Chain stacker gripper control. 3,109,644, 11-5-63, Cl. 271-68.
- Reinke, Adolf C. Sheet material separator and handling device. 3,101,941, 8-27-63, Cl. 271-27.
- Reinders, Edward J. Dehorning chemical applicator. 3,086,526, 4-23-63, Cl. 128-260.
- Reindl, Erich, to International Standard Electric Corp. Conveying system. 3,086,663, 4-23-63, Cl. 214-1.
- Reindl, Harold J., and C. W. Killen, to General Motors Corp. Centrifugal distributor and electrostatic painting apparatus employing same. 3,104,185, 9-17-63, Cl. 118-627.
- Reindl, Harold J., and M. V. Roode, to General Motors Corp. Opaque coated plastic sheet material. 3,108,899, 10-29-63, Cl. 117-76.
- Reindl, Joseph. Muffler. 3,082,840, 3-26-63, Cl. 181-54.
- Reinecke, Marvin E., to Phillips Petroleum Co. Shut off valve for chromatographic system. 3,077,766, 2-19-63, Cl. 73-23.
- Reinecke, Marvin E., to Phillips Petroleum Co. Gas analyzer. 3,086,848, 4-23-63, Cl. 23-254.
- Reinecke, Marvin E., and D. V. Eckert, to Phillips Petroleum Co. Fluid-actuated valve. 3,095,746, 7-2-63, Cl. 73-422.
- Reinecke, Walter, to Gelenkwellenbau G.m.b.H. Universal joint. 3,074,255, 1-22-63, Cl. 64-17.
- Reinemann, Richard G., and G. E. Schaefer, to Brunswick Corp. Table or the like. Re. 25,414, 7-9-63, Cl. D34-5.
- Reinemann, Wilfried W., to Kohler Co. Diverter spout. 3,086,748, 4-23-63, Cl. 251-119.
- Reiner, Hans: *See*—  
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- Reiner Industries Inc.: *See*—  
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- Reiner, Kenneth, to Reiner Industries, Inc. Hair curl clip. 3,101,725, 8-27-63, Cl. 132-41.
- Reiner, Kenneth, to Reiner Industries, Inc. Clamps. 3,106,214, 10-8-63, Cl. 132-48.
- Reiner, Kenneth, to Reiner Industries Inc. Display devices and methods of using same. 3,110,119, 11-12-63, Cl. 40-18.
- Reiner, Roy H.: *See*—  
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- Reiners, Neville M., to Cummins Engine Co., Inc. Piston construction. 3,104,594, 9-24-63, Cl. 92-227.
- Reiners, Neville M., to Cummins Engine Co., Inc. Internal combustion engine. 3,110,293, 11-12-63, Cl. 123-32.
- Reiners, Robert A., and R. E. Morgan, to Corn Products Co. Stabilization of carotenoid material. 3,081,171, 3-12-63, Cl. 99-2.
- Reiners, Walter: *See*—  
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- Reiners, Walter. Yarn coil conveying and sorting apparatus. 3,085,713, 4-16-63, Cl. 221-171.
- Reiners, Walter, S. Furst, and Manfred Ruhl, deceased (Marilene Ruhl, representative); said Marilene Ruhl and S. Furst assigns to said W. Reiners. Coil winding machine with automatic coil exchanging and yarn-tying devices. 3,111,280, 11-19-63, Cl. 242-35.5.
- Reiners & Wiggermann Getriebe und Maschinenbau: *See*—  
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- Reinertson, Donald F.: *See*—  
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- Reingruber, Frank, to General Thermostat Corp. Quick acting, sensitive remote control for room heating and cooling units. 3,098,140, 7-16-63, Cl. 200-137.
- Reinhall, Rolf B., to Defibrator, Aktiebolaget. Cell feeder. 3,077,272, 2-12-63, Cl. 214-17.
- Reinhall, Rolf B., to Defibrator Aktiebolag. Pulp refining apparatus. 3,092,338, 6-4-63, Cl. 241-34.
- Reinhard, John F., to Wallace & Tierman Inc. Synergistic analgesic composition of 1-(m-aminophenyl)-2-pyridone and morphine derivatives. 3,106,513, 10-8-63, Cl. 167-65.
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- Reinhard, Raymond H., to Monsanto Chemical Co. Cross-linked olefin-maleic anhydride interpolymers. 3,083,189, 3-26-63, Cl. 260-78.5.
- Reinhardt, Fritz, and A. Gräfinholt, to Hesser, Fr., Maschinenfabrik-Aktiengesellschaft, Firma. Method and device for fabricating bag packages. 3,091,902, 6-4-63, Cl. 53-28.
- Reinhardt, John. Foundation for buildings, roads or the like. 3,096,695, 7-9-63, Cl. 94-11.
- Reinhardt, John P., to Baker-Roos, Inc. Scaffolding for dome structures. 3,095,060, 6-25-63, Cl. 182-12.
- Reinhardt, John T., and A. A. Baker; said Baker assignor to said Reinhardt. Printing machine. 3,115,826, 12-31-63, Cl. 101-41.
- Reinhardt, Robert M., and T. W. Fenner, to United States of America, Agriculture. Production of alkali-soluble cellulosic textile materials by the nitric acid treatment of partially etherified cottons. 3,087,775, 4-30-63, Cl. 8-116.
- Reinhardt, Rudolf: *See*—  
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- Reinhart, Henry F., and W. H. Smith, to General Motors Corp. Air engine improvement. 3,077,732, 2-19-63, Cl. 60-24.
- Reinhart, Henry P.: *See*—  
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- Reinhold, Donald F.: *See*—  
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- Reinhold, Earl R., to Amchem Products, Inc. Phosphate composition and method for coating metallic surfaces. 3,101,286, 8-20-63, Cl. 148-6.15.
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- Reinhold, Jean, to Fonderie de Precision. Core elements. 3,094,422, 6-18-63, Cl. 106-38.3.
- Reinhold, Richard S., to Boeing Airplane Co. Microwave antenna with adjustable reflector shape and automatically regulated focal distance spacing of radiation element. 3,076,964, 2-5-63, Cl. 343-76.1.
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- Reinsberg, Adolph. Rigid paper container. 3,108,730, 10-29-63, Cl. 229-7.
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- Reinsch, Herbert, and A. Schnell, to Eugen Bauer, G.m.b.H. Camera subassembly. 3,103,152, 9-10-63, Cl. 95-64.
- Reinsma, Harold L., and F. S. Dadds, to Caterpillar Tractor Co. Two-piece master track link. 3,096,661, 7-9-63, Cl. 74-258.
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- Reis, Norman, and R. L. Hackman, to Union Carbide Corp. Electric arc welding apparatus. 3,089,019, 5-7-63, Cl. 219-75.
- Reisberg, Joseph, to Shell Oil Co. Secondary recovery method. 3,111,984, 11-26-63, Cl. 166-9.
- Reisberg, Joseph, to Shell Oil Co. Secondary recovery method. 3,111,985, 11-26-63, Cl. 166-9.
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- Reiser, Sidney J. Metering control device for supplying additives to fluids. 3,100,496, 8-13-63, Cl. 137-111.
- Reisfeld, Ralph A., and G. L. Tong, to Merck & Co., Inc. Process for preparing a product having enhanced lactogenic activity. 3,098,792, 7-23-63, Cl. 167-74.
- Reisman, Albert, to J. Reisman & Sons, Inc. Paper carton folding apparatus. 3,083,619, 4-2-63, Cl. 93-49.
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- Reiter, Thomas A., to Esso Research and Engineering Co. Nuclear reactor loop for particulate radiation outside core. 3,092,560, 6-4-63, Cl. 204-154.
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- Reiterer, Ferdinand, to Whitin Machine Works. Carding machines for textile fibres. 3,115,683, 12-31-63, Cl. 19-105.
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- Reithel, Raymond F., to Eastman Kodak Co. Photoconductorography employing molybdenum or ferrous oxide. 3,106,156, 10-8-63, Cl. 101-149.2.
- Reithel, Raymond F., to Eastman Kodak Co. Photoconductorolithography employing nickel salts. 3,106,157, 10-8-63, Cl. 101-149.2.
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- Reitknecht, Jack. Automatic hypodermic unit. 3,101,711, 8-27-63, Cl. 128-218.
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- Reitmeier, George F., to Birdair Structures, Inc. Flexible panel joining means. 3,103,050, 9-10-63, Cl. 24-203.
- Reitter, John L., to Minnesota Mining and Mfg. Co. Copy-sheet and method. 3,094,620, 6-18-63, Cl. 250-65.
- Rejdak, Melvin F., to Erico Products, Inc. Material for welding aluminum and other metals. 3,089,798, 5-14-63, Cl. 149-37.
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- Rekart, Harold L., to National Castings Co. Mold ejecting machine. 3,076,238, 2-5-63, Cl. 22-95.5.
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- Relp, Earl B., H. A. Dahl, and R. Christiansen, to A. B. Dick Co. Copy sheet for electrostatic printing. 3,075,859, 1-29-63, Cl. 117-201.
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- Remer, Robert K., to Tribune Co. Apparatus for removing dust from paper webs. 3,074,086, 1-22-63, Cl. 15-1.5.
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- Remington, Elliott L., to Draper Corp. Filling carrier for shuttleless looms. 3,081,796, 3-19-63, Cl. 139-122.
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- Remp, Thomas E., Jr., to Weatherford Oil Tool Co., Inc. Casing centralizer with replaceable wings. 3,080,926, 3-12-63, Cl. 166-241.
- Rempel, Robert C., and H. E. Weaver, to Varian Associates. Gyromagnetic resonance method and apparatus. 3,090,003, 5-14-63, Cl. 324-5.
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- Renner, Alfred, to Ciba Ltd. New halogen containing organic phosphorus derivatives. 3,081,333, 3-12-63, Cl. 260-461.
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- Renner, Frank J., G. B., and W. M. Method for making coffee. 3,088,826, 5-7-63, Cl. 99-71.
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- Renner, Herbert O. Methods for producing baked goods. 3,084,048, 4-2-63, Cl. 99-90.
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- Renner, Thomas O. Suspended integral drive and rear axle assembly for automobiles. 3,115,206, 12-24-63, Cl. 180-73.
- Renner, Ulrich, to Geigy Chemical Corp. Hunteria alkaloid J and the obtention thereof from Hunteria eburnea. 3,108,095, 10-22-63, Cl. 260-236.
- Renner, Ulrich, and D. A. Prins, to Geigy Chemical Corp. New isoquinuclidine alkaloid and the production thereof. 3,090,787, 5-21-63, Cl. 260-294.3.
- Renner, Victor, to The O. M. Scott & Sons Co. Granular herbicidal composition and method. 3,083,089, 3-26-63, Cl. 71-2.4.
- Renner, Victor A., to The O. M. Scott & Sons Co. Granular herbicidal composition and method. 3,076,699, 2-5-63, Cl. 71-2.4.
- Renner, Victor A., to O. M. Scott and Sons Co. Fertilizer compositions and process. 3,076,700, 2-5-63, Cl. 71-29.
- Renner, William M.: *See*—  
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- Rennhard, Hans H.: *See*—  
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- Rennick, John L.: *See*—  
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 Heuer, Charles H., and Rennick. 3,078,421.
- Rennie, Frank P., to General Time Corp. Magnetic pulse forming and counting circuit. 3,109,936, 11-5-63, Cl. 307-88.
- Rennie, James W., to Johns-Manville Corp. Wall assembly. 3,084,482, 4-9-63, Cl. 50-145.
- Reno Engineering & Mining Co.: *See*—  
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- Renoll, Edward G.: *See*—  
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- Renoux, Robert A., to Societe d'Applications Industrielles Plastiques. Method and means for stamping gramophone records. 3,094,744, 6-25-63, Cl. 18-19.
- Rensch, Eugene F. Grain auger attachment. 3,080,960, 3-12-63, Cl. 198-64.
- Rensch, Joseph T. Truck mounted hopper. 3,090,527, 5-21-63, Cl. 222-176.
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- Renshaw, Helen M. Toilet guard. 3,071,778, 1-8-63, Cl. 4-1.
- Renshaw, Richard T. Trash tray. 3,089,633, 5-14-63, Cl. 229-38.
- Renstrom, Carl W., and R. C. Sherwin, to Tip-Top Products Co. Hair clip. 3,082,773, 3-26-63, Cl. 132-48.
- Rentas, William: *See*—  
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- Renton, Robert C., to Shaw Process Development Corp. Electric arc furnaces. 3,102,154, 8-27-63, Cl. 13-10.
- Rentschler, John W. Anti-theft means for fuel delivery truck. 3,092,289, 6-4-63, Cl. 222-30.
- Rentschler, Waldemar T., to Alfred Gauthier G.m.b.H. Photographic camera with automatic exposure setting. 3,071,052, 1-1-63, Cl. 95-10.
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- Renz, Edward J., to Riglander, Hammel, & Co., Inc. Tools for inserting arbors in watch main springs. 3,106,115, 10-8-63, Cl. 81-6.
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- Repke, Edward P., to Clark Equipment Co. Adjustable load engaging means for lift truck. 3,075,665, 1-29-63, Cl. 214-731.
- Repking, Edward F., to Crown Zellerbach Corp. Multi-wall bulk pak shipping container. 3,115,292, 12-24-63, Cl. 229-45.
- Replogle, Edward H., and M. R. Simmonds,  $\frac{1}{2}$  to Scott Aviation Corp., and  $\frac{1}{2}$  to said Replogle. Source selecting pressure regulator. 3,101,734, 8-27-63, Cl. 137-114.
- Reppe, Walter, K. Baur, and W. Schweter, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Catalytic hydrogenation of carbocyclic compounds having olefinic double linkages. 3,108,142, 10-22-63, Cl. 260-666.
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- Case, Leslie C. 3,096,344.
- Garcia, Gustavo E. 3,079,574.
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- Research Institute for Medicine and Chemistry, Inc.: See—
- Cruickshank, Philip A., and Sheehan. 3,072,638.
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- Babkin, Svyatoslav I. 3,079,608.
- Research Instrument Corp.: See—
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- Oliphant, Keith M. 3,079,890.
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- Resina Automatic Machinery Co., Inc.: See—
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- Resinoid Engineering Corp.: See—
- Herbst, Clarence A. 3,114,669.
- Resinol, William. Doll torso with flexibly joined limbs. 3,092,930, 6-11-63, Cl. 46-161.
- Resistoflex Corp.: See—
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- Press, Irving D. 3,083,989.
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- Resitron Laboratories, Inc.: See—
- De Lucia, Victor E. 3,112,759.
- Resnick, Arthur. Folding kite. 3,100,895, 8-13-63, Cl. 244-153.
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- Reter, George A., to American Telephone and Telegraph Co. Alarm testing device. 3,082,299, 3-19-63, Cl. 179-175.2.
- Rethorst, Scott C. Aircraft. Re. 25,368, 4-9-63, Cl. 244-4.
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- Retter, Eugene O. Musical instrument string divider. 3,081,662, 3-19-63, Cl. 84-298.
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- Rettinger, Michael, to Radio Corp. of America. Magnetic head construction. 3,079,467, 2-26-63, Cl. 179-100.2.
- Rety, Stephen P., W. H. Linnell, and H. Timmington, to Clinical Products Ltd. Medicament of polystyrene anion exchange resin having a barbiturate adsorbed thereon. 3,108,044, 10-22-63, Cl. 167-65.
- Retz, William B., to The New Britain Machine Co. Spindle accelerating and braking system. 3,081,523, 3-19-63, Cl. 29-38.
- Retzinger, Leo P., Jr., to Litton Systems, Inc. Logic circuits employing minority carrier storage diodes for adding booster charges to prevent input loading. 3,106,644, 10-8-63, Cl. 307-88.5.
- Reuge, Guido. Safety stretcher for ski attachment. 3,080,174, 3-5-63, Cl. 280-11.35.
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- Reuvers, John F., J. U. Clark, and E. W. Lockhart, to Hughes Aircraft Co. 180° H-plane bend for rectangular waveguide. 3,084,296, 4-2-63, Cl. 333—98.
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- Reynaud, Samuel C. Operating and locking mechanism for casement type windows. 3,085,299, 4-16-63, Cl. 20—42.
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- Reynolds, Charles H.: *See*—  
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- Reynolds, Clifford E., to Container Corp. of America. Container with cover flange and method of forming. 3,095,137, 6-25-63, Cl. 229—44.
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- Reynolds, Harold C., to Ingersoll-Rand Co. Impact wrench. 3,104,743, 9-24-63, Cl. 192—30.5.
- Reynolds, Jack J., to Continental Oil Co. Apparatus for consolidating incompetent subterranean formations. 3,115,932, 12-31-63, Cl. 166—55.1.
- Reynolds, Jack J., and D'A. A. Shock, to Continental Oil Co. Underground disposal of radioactive liquids or slurries. 3,108,439, 10-29-63, Cl. 61—5.
- Reynolds, James A., to United States Rubber Co. Increasing the particle size of synthetic rubber latices by freezing and thawing latices containing unreacted monomers. 3,081,275, 3-12-63, Cl. 260—29.7.
- Reynolds, James P., to Aeroquip Corp. Method of forming a one piece tubular T member. 3,073,020, 1-15-63, Cl. 29—531.
- Reynolds, James T.: *See—*  
Hightower, John R. 3,108,448.  
Hightower, John R., and Reynolds. 3,099,138.
- Reynolds, John J. Starter switch. 3,088,010, 4-30-63, Cl. 200—104.
- Reynolds, Lewis F., to The Budd Co. Vehicle ventilating means. 3,083,631, 4-2-63, Cl. 98—14.
- Reynolds, Loyal B. Windshield wiper and applicator blade. 3,103,686, 9-17-63, Cl. 15—250.03.
- Reynolds, Martin M., C. F. Gottzmann, O. A. Hansen, J. A. Proctor, and P. M. Riede, to Union Carbide Corp. Blasting method and apparatus. 3,082,690, 3-26-63, Cl. 102—25.
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Adkins, Frederick E., Jr. 3,080,213.  
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Bryant, Edward T. 3,093,279.  
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Buechele, Calvin F., and Hurst. 3,073,012.  
Cage, James. 3,086,692.  
Cave, Boyd D., and Keimann. 3,092,898.  
Chapman, James R., and Farquhar. 3,111,221.  
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Charles, Harold H. 3,108,405.  
Cheeley, William E. 3,074,594.  
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Miller, James A. 3,110,660.  
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Staley, John. 3,096,000.  
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Thomas, Jesse B., and Hall. 3,098,290.  
Wagner, Nicholas A. 3,104,189.  
Waring, James C. 3,093,931.  
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White, Frederick. 3,077,287.  
Wilson, John B. 3,080,093.
- Reynolds, Noel S. Piston cylinder assembly. 3,103,787, 9-17-63, Cl. 60—54.6.
- Reynolds Oil Well Pumps, Inc.: *See—*  
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- Reynolds, Otto V., 1/2 to L. G. Johnson. Gravity powered casing pump. 3,114,327, 12-17-63, Cl. 103—158.
- Reynolds, Paul W.: *See—*  
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- Reynolds, R. T., Tobacco Co.: *See—*  
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- Reynolds, Ralph K., to International Harvester Co. Earth working implement. 3,104,480, 9-24-63, Cl. 37—117.5.
- Reynolds, Ralph K., and J. R. Clarke, to International Harvester Co. Vehicular framework. 3,092,919, 6-11-63, Cl. 37—4.
- Reynolds, Robert L.: *See—*  
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- Reynolds, Walter F., Jr., and N. T. Woodberry, to American Cyanamid Co. Asbestos paper manufacture. 3,076,740, 2-5-63, Cl. 162—155.
- Reynolds, William B., to Phillips Petroleum Co. Reaction of polymer having terminally reactive acidic groups and an aziridinyl phosphine oxide or sulfide. 3,074,917, 1-22-63, Cl. 260—85.1.
- Reynolds, William B., and J. E. Pritchard, to Phillips Petroleum Co. Solid propellant compositions. 3,104,995, 9-24-63, Cl. 149—19.
- Reynolds, William G., and A. Cybriwsky, to Reynolds Metals Co. Smoking tobacco. 3,106,210, 10-8-63, Cl. 131—17.
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- Reynoso, Andres S. Bichromatic fountain pen. 3,093,113, 6-11-63, Cl. 120—42.16.
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- Rhedin, Klas G. N., to International Marine And Oil Development Corp., AB. Buoys for ship loading, unloading or bunkering. 3,082,440, 3-26-63, Cl. 9—8.
- Rheem Electronics Corp.: *See—*  
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- Rheinfrank, John J., to Xerox Corp. Apparatus for transferring powder images and method therefor. 3,093,039, 6-11-63, Cl. 95—1.7.
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- Rhoads, George D., and G. L. Corsi, to Federal-Mogul-Bower Bearings, Inc. Fluid seal. 3,114,558, 12-17-63, Cl. 277—37.
- Rhoads, Robert L. Control system for water craft. 3,082,727, 3-26-63, Cl. 114—152.
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- Rhodes, Alan, and M. P. McGonagle, to Glaxo Group Ltd. Griseofulvin production. 3,095,360, 6-25-63, Cl. 195—81.
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- Rhodes, Allen F., to McEvoy Co. Flange-connected well head apparatus. 3,095,927, 7-2-63, Cl. 166—75.



- Rhodes, Carl E., Jr., to United States of America, Navy. Breakaway suspension band. 3,077,818, 2-19-63, Cl. 89-1-5.
- Rhodes, Cecil E., to Sealectro Corp. Compensating means for delay lines. 3,098,985, 7-23-63, Cl. 333-30.
- Rhodes, Charles J., deceased, and H. Ridgway (W. S. Rhodes and H. Ridgway, executors of said C. J. Rhodes), to Joseph Rhodes & Sons Ltd. Machines for cutting or shearing sheets or plates. 3,090,270, 5-21-63, Cl. 83-601.
- Rhodes, Chester D., to Monsanto Chemical Co. Valved thermoplastic bags. 3,087,670, 4-30-63, Cl. 229-62.5.
- Rhodes, Edmund O., to Curtiss-Wright Corp. Paving compositions and methods of making the same. 3,091,543, 5-28-63, Cl. 106-279.
- Rhodes, Edwin C., and P. E. Gainsbury, to The International Nickel Co., Inc. Composite metal refractory. 3,083,109, 3-26-63, Cl. 106-1.
- Rhodes, Frank R., to Aluminum Co. of America. Mechanical cleaning valve construction. 3,071,149, 1-1-63, Cl. 137-243.3.
- Rhodes, Gerald E., to North American Aviation, Inc. Digital comparator. 3,089,121, 5-7-63, Cl. 340-146.2.
- Rhodes, Glenn E.: See—  
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- Rhodes, Glenn E., and C. W. Koenig, to Westinghouse Electric Corp. Door latching mechanism. 3,076,328, 2-5-63, Cl. 70-92.
- Rhodes, Harold R., to Yuba Consolidated Industries, Inc. Expansion joint and stuffing box. 3,082,012, 3-19-63, Cl. 277-69.
- Rhodes, Henry J. Apparatus for washing trucks and the like. 3,104,406, 9-24-63, Cl. 15-21.
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- Rhodes, James L., and R. C. Hug, to The Clayton Corp. of Delaware. Dispensing valves having a stem by-pass for gassing. 3,081,916, 3-19-63, Cl. 222-394.
- Rhodes, John E., to General Electric Co. Clothes washing machine. 3,091,107, 5-28-63, Cl. 68-4.
- Rhodes, John E., to General Electric Co. Structure for facilitating selection of one of a plurality of alternatively selectable control members. 3,103,803, 9-17-63, Cl. 68-196.
- Rhodes, Joseph C., and J. P. Segers, to Standard Oil Co. Positive displacement pump. 3,076,417, 2-5-63, Cl. 103-230.
- Rhodes, Joseph C., and J. P. Segers, to Standard Oil Co. Viscosimeter apparatus. 3,115,768, 12-31-63, Cl. 73-55.
- Rhodes, Joseph, & Sons Ltd.: See—  
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- Rhodes, Milton C., to Carrier Corp. Dynamoelectric machine having an air guide and method of assembling the same. 3,089,970, 5-14-63, Cl. 310-60.
- Rhodes, Orville E., to Lectrolure Co. Inc. Fishing lure. 3,085,361, 4-16-63, Cl. 43-26.2.
- Rhodes, Roland N., to Radio Corp. of America. Power supply circuit for television receivers. 3,098,170, 7-16-63, Cl. 315-13.
- Rhodes, Stanley J. Hydraulic pump mechanism. 3,092,037, 6-4-63, Cl. 103-174.
- Rhodes, Thomas J., to United States Rubber Co. Tire chain. 3,095,025, 6-25-63, Cl. 152-241.
- Rhodes, Travis M., to James Lees and Co. Tufted pile fabric comprising a flat woven synthetic plastic backing. 3,110,905, 11-19-63, Cl. 139-391.
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- Rhyne, Earl C., Jr., to The Warren Mfg. Co., Inc. Power rectifying apparatus. 3,084,322, 4-2-63, Cl. 321-27.
- Rhyne, Johnathan L., to C. T. Stowe, Jr. Composite textile yarn. 3,082,593, 3-26-63, Cl. 57-139.
- Rhyner, Paul, P. Grossmann, and R. Defago, to Ciba Ltd. Process for dyeing or printing fibrous materials of aromatic polyesters. 3,097,909, 7-16-63, Cl. 8-39.
- Rhys, David W., to The International Nickel Co., Inc. Ternary brazing alloy. 3,085,320, 4-16-63, Cl. 29-194.
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- Rianda, Thomas A. Seed potato cutting apparatus. 3,114,403, 12-17-63, Cl. 146-78.
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- Ribka, Joachim, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning. Water-insoluble monoazo-dyestuffs. 3,096,321, 7-2-63, Cl. 260-193.
- Riblet, Henry J. Microwave frequency discriminator. 3,077,565, 2-12-63, Cl. 329-116.
- Riblet, Henry J. Microwave attenuator. 3,105,210, 9-24-63, Cl. 333-81.
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- Ricardo & Co., Engineers Ltd.: See—  
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- Ricardo & Co., Engineers (1927) Ltd.: See—  
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- Riccardi, Samuel A., and J. R. Nichter, to Olin Mathieson Chemical Corp. Pyrolysis of diborane. 3,078,530, 2-26-63, Cl. 23-204.
- Ricci, Ernest A. De-burring tool. 3,076,254, 2-5-63, Cl. 29-90.
- Ricci, Henry. Chain saw spur attachment. 3,101,103, 8-20-63, Cl. 143-32.
- Ricci, Marie B. Safety sadiron holder. 3,080,141, 3-5-63, Cl. 248-117.1.
- Riccio, Joseph R., Jr., to Universal Brick & Supply Co. Brick cleaning machine. 3,080,860, 3-12-63, Cl. 125-26.
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- Rice, Clifford M. Automatic chains. 3,111,974, 11-26-63, Cl. 152-214.
- Rice, Dell E. Anchor manipulating device. 3,083,675, 4-2-63, Cl. 114-210.
- Rice, Dell E. Anchor manipulating device. 3,106,180, 10-8-63, Cl. 114-210.
- Rice, Edgar C.: See—  
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- Rice, Ernest G., to Tightpat, Inc. Combination stockings and panty. Re. 25,360, 3-26-63, Cl. 2-224.
- Rice, Everett M. Putting game. 3,097,849, 7-16-63, Cl. 273-180.
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- Rice, Gerald B., to Surface Alloys Engineering Co. Plated soldering iron tip and method of plating the same. 3,080,842, 3-12-63, Cl. 113-105.
- Rice, Gordon A. Book page turner for invalids' use. 3,087,268, 4-30-63, Cl. 40-140.
- Rice, Harold B., and J. G. Aguilar, deceased (C. Aguilar, administratrix), to John Burton Machinery Corp. Fluid driven mechanism. 3,097,554, 7-16-63, Cl. 82-59.
- Rice, Henry T. M., to Ohlsson & Rice, Inc. Prime mover and governor. 3,104,657, 9-24-63, Cl. 123-103.
- Rice, Ira J.: See—  
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- Rice, John C., and K. Thompson, to Lowe Paper Co. Coated paper and polyolefin and method of coating. 3,076,720, 2-5-63, Cl. 117-15.
- Rice, Leo H. and I. J. Roller skate plate and truck mounting assembly. 3,104,887, 9-24-63, Cl. 280-11.2.
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- Rice, Leonard M., to The Geschickter Fund For Medical Research, Inc. Isoindoles. 3,084,167, 4-2-63, Cl. 260-319.



- Rice, Livingston L., and W. J. Rohane, to Sprague Electric Co. Capacitor sealing method. 3,100,330, 8-13-63, Cl. 29—153.55.
- Rice, Livingston L., and W. J. Rohane, to Sprague Electric Co. Capacitor sealing means. 3,100,813, 8-13-63, Cl. 174—52.
- Rice, Livingston L., and D. F. Dagnoli, to Sprague Electric Co. Capacitor terminal connection. 3,100,857, 8-13-63, Cl. 317—260.
- Rice, Lyman A., to General Motors Corp. Latching relay. 3,114,862, 12-17-63, Cl. 317—172.
- Rice, Maurice A., to North Star Dairy. Method of preparing instant dry milk containing fat and product. 3,078,167, 2-19-63, Cl. 99—56.
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- Rice, Millard L., and T. J. O'Donnell, to Atlantic Research Corp. Rocket projectile. 3,104,613, 9-24-63, Cl. 102—49.
- Rice, Nelson E., to Macomber, Inc. Tube bending apparatus. 3,083,753, 4-2-63, Cl. 153—48.
- Rice, Rex., to International Business Machines Corp. Interconnected printed circuit boards. 3,082,327, 3-19-63, Cl. 250—220.
- Rice, Richard E.: *See—*  
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- Rice, Rip G., B. H. Geib, L. A. Kaplan, and J. R. Hooker, to General Dynamics Corp. (Convair Division). Polymeric product of a PN ring containing polymer and a carboxylated diene polymer and articles prepared therefrom. 3,108,989, 10-29-63, Cl. 260—45.5.
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- Rice, Robert C., Jr.: *See—*  
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- Rice, Russell E., to International Harvester Co. Scarifier bar lock mechanism. 3,101,790, 8-27-63, Cl. 172—317.
- Rice, Theodore: *See—*  
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- Rice, Thomas C. Illuminated hockey puck. 3,102,727, 9-3-63, Cl. 273—128.
- Rice, Thomas K., to Specialties Development Corp. Gelled hydrazine monopropellant. 3,077,072, 2-12-63, Cl. 60—35.4.
- Rice, Virgil C.: *See—*  
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- Rice, Walter A., to Mohasco Industries, Inc. Machine for making tufted fabric with cut and uncut pile loops. 3,100,467, 8-13-63, Cl. 112—79.
- Rice, Walter A., to Mohasco Industries, Inc. Apparatus for use in changing the pattern member of a tufting machine pattern attachment. 3,103,188, 9-10-63, Cl. 112—79.
- Rice, Warren A.,  $\frac{1}{2}$ , to C. E. Grebe. Propulsion system. 3,106,058, 10-8-63, Cl. 60—35.5.
- Rich, Alan H., to United States of America, Navy. Multi-channel logarithmic integrating computer. 3,116,472, 12-31-63, Cl. 340—5.
- Rich, Charles A., Jr., to Morgan Construction Co. Seal for rolling mill. 3,093,425, 6-11-63, Cl. 308—36.1.
- Rich, Elvis: *See—*  
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- Rich Hill Drug Co., Inc.: *See—*  
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Rich, Howard B. 3,085,652.
- Rich, Howard B., to Leatherwood Mfg. Co., Inc. Ladder construction. 3,078,955, 2-26-63, Cl. 182—206.
- Rich, Howard B., to Howard B. Rich, Inc. Step ladder. 3,085,651, 4-16-63, Cl. 182—222.
- Rich, Howard B., to Howard B. Rich, Inc. Step ladder. 3,085,652, 4-16-63, Cl. 182—228.
- Rich, John P., to Improved Machinery Inc. Apparatus for chlorinating wood pulp. 3,095,349, 6-25-63, Cl. 162—236.
- Rich, John P., to Improved Machinery Inc. Groundwood discharger. 3,100,192, 8-6-63, Cl. 210—386.
- Rich, John P., O. Luthi, and N. Saunders, to Improved Machinery Inc. Filter. 3,105,043, 9-24-63, Cl. 210—402.
- Rich Mfg. Co. of California: *See—*  
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- Rich, Phil, Fan Mfg. Co., Inc.: *See—*  
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- Rich, Scott R. Mobile garage. 3,108,820, 10-29-63, Cl. 280—63.
- Rich, Stanley R., to Acoustica Associates, Inc. Electromechanical transducer system. Re. 25,433, 8-13-63, Cl. 310—8.3.
- Rich, Stanley R., to Acoustica Associates, Inc. Autopolarization of electrostrictive transducers. 3,072,805, 1-8-63, Cl. 310—8.1.
- Rich, Stanley R., to Acoustica Associates, Inc. Continuous level measuring apparatus. 3,080,752, 3-12-63, Cl. 73—290.
- Rich, Stanley R., 20% to A. H. Rosen, 10% to W. W. Sellow, and 10% to R. E. Cohn. Method of separating differentially heated particles. 3,097,160, 7-9-63, Cl. 209—4.
- Rich, Stanley R., to Acoustica Associates, Inc. Electromechanical transducer system. 3,101,419, 8-20-63, Cl. 310—26.
- Rich, Theodore A., to General Electric Co. Penetrating radiation measurement by ionization of a particle bearing aerosol. 3,102,200, 8-27-63, Cl. 250—83.3.
- Richard, Charles D. Device for recording the speed of shutters in photographic and the like apparatus. 3,085,846, 4-16-63, Cl. 346—108.
- Richard, Grant M., and K. L., to Delavan Electronics Corp. Sealed variable impedance device. 3,105,213, 9-24-63, Cl. 336—136.
- Richard, Joseph D. Recording secure locking system. 3,093,994, 6-18-63, Cl. 70—434.
- Richard, Kenneth L.: *See—*  
Richard, Grant M., and K. L. 3,105,213.
- Richard, Paul P. Coupling arrangement between a half-trailer and a tractor. 3,105,705, 10-1-63, Cl. 280—461.
- Richards, Albert M. Blood flow meter. 3,075,515, 1-29-63, Cl. 128—2.05.
- Richards, Albert M. Respiratory devices. 3,105,488, 10-1-63, Cl. 128—29.
- Richards, Arklay S., Co., Inc.: *See—*  
Richards, Whitman A. 3,093,791.
- Richards, Donald L., and K. R. Molt, to The Cincinnati Milling Machine Co. Grignard reagents. 3,080,324, 3-5-63, Cl. 252—182.
- Richards, Dwight: *See—*  
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- Richards, Edgar J.: *See—*  
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- Richards, Edward G.: *See—*  
Franklin, Arthur W., Smith, and Richards. 3,094,414.
- Richards, George B., to Liquid Controls Corp. Liquid transmission system. 3,083,874, 4-2-63, Cl. 222—67.
- Richards, Gerald V.: *See—*  
Van Dyke, Bruce E., Richards, and Kadleck. 3,096,918.
- Richards, Gerald W.: *See—*  
Greenwell, Robert H., Kadleck, Richards, and Van Dyke. 3,082,931.
- Richards, Glenn L., to General Dynamics Corp. Magnetic core pulse operated counter. 3,071,695, 1-1-63, Cl. 307—88.
- Richards, Glenn L., to General Dynamics Corp. Single transistor glow tube trigger. 3,079,560, 2-26-63, Cl. 328—210.
- Richards, Glenn L., to General Dynamics Corp. Transistor-magnetic core pulse operated counter. 3,087,071, 4-23-63, Cl. 307—88.
- Richards, Harry F.: *See—*  
Herbert, Stephen A., Jr., and Richards. 3,102,863.
- Richards, Harry F., and S. A. Herbert, Jr., to Shell Oil Co. Lubricating compositions. 3,100,748, 8-13-63, Cl. 252—46.7.
- Richards, Howard R., and A. V. Alexeff, to Industrial Owens, Inc. Adjustable wrap web guiding apparatus. 3,100,069, 8-6-63, Cl. 226—17.
- Richards, Howard R., and A. V. Alexeff, to Industrial Owens, Inc. Self-adjusting web guiding apparatus. 3,107,036, 10-15-63, Cl. 226—198.
- Richards, J. Dudley: *See—*  
Chrest, Roy W., Rummery, Richards, and Roseman. 3,079,269.
- Richards, J. R., Co.: *See—*  
Richards, John R. 3,097,821.
- Richards, James A. K., to The Bendix Corp. Gated pulse radar system. 3,087,153, 4-23-63, Cl. 343—7.3.
- Richards, James C.: *See—*  
Terrill, James R., and Richards. 3,083,452.
- Richards, James D.: *See—*  
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- Richards, John J.: *See—*  
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- Richards, John R., to J. R. Richards Co. Bracket support for electric outlet box. 3,097,821, 7-16-63, Cl. 248—216.
- Richards, Lawrence E.: *See—*  
Ruscetta, Ralph A., and Richards. 3,114,085.
- Richards, Leslie D.: *See—*  
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- Richards, Lorenzo A. Tensiometer. 3,103,117, 9-10-63, Cl. 73—73.
- Richards, Oscar W., to American Optical Co. Diagnostic instruments. 3,091,235, 5-28-63, Cl. 128—6.
- Richards, Oscar W., to American Optical Co. Light conducting device to transmit ultra-violet radiation for specimen fluorescence under a microscope. 3,101,411, 8-20-63, Cl. 250—83.3.
- Richards, Philip. Elevating apparatus. 3,103,257, 9-10-63, Cl. 182—2.
- Richards, Richard K. Cryotron logic circuit. Re. 25,403, 6-18-63, Cl. 307—88.5.
- Richards, Ronald A., to Bell Telephone Laboratories, Inc. Printed circuit apparatus. 3,109,889, 11-5-63, Cl. 178—6.7.
- Richards, Walter B.: *See—*  
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- Richards, Whitman A., to Arklay S. Richards Co., Inc. Method and means using thermoelectric comparison for identifying conductive materials. 3,093,791, 6-11-63, Cl. 324—32.
- Richards-Wilcox Mfg. Co.: *See—*  
Ashmead, Lloyd R. 3,085,659.  
Burmeister, Albert J. 3,072,975.  
Burmeister, Albert J. 3,073,381.
- Richards, William H. Adjustable implement handle assembly. 3,103,028, 9-10-63, Cl. 15—118.



- Richardson, Cecil R., Jr.: *See*—  
Villalon, Severo L., Jr., and Richardson. 3,083,770.
- Richardson, Cloyd B., to The Mead Corp. Apparatus and process for continuously testing and controlling stock freeness. 3,086,905, 4-23-63, Cl. 162-198.
- Richardson Co., The: *See*—  
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Roney, Thomas E., Dexheimer, and Arthur. 3,112,335.  
Shank, M. McConnell, and Mocas. 3,075,036.  
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- Richardson Corp.: *See*—  
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- Richardson, David A., and F. J. Ricker, to The Foxboro Co. Alarm apparatus for industrial instrumentation systems. 3,075,187, 1-22-63, Cl. 340-213.
- Richardson, Donald E., to United States of America, Navy. Mechanical time delay device. 3,088,408, 5-7-63, Cl. 102-70.2.
- Richardson, Elmer L. Coat retainer. 3,098,590, 7-23-63, Cl. 223-71.
- Richardson, George A.: *See*—  
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Birum, Gail H., and Richardson. 3,113,139.
- Richardson, Henry M.: *See*—  
Velonis, Stamatis G., Schnitzer, and Richardson. 3,072,914.
- Richardson & Holland, Inc.: *See*—  
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- Richardson, Irene. Flower display device. 3,108,401, 10-29-63, Cl. 47-39.
- Richardson, Irwin W. Spray rigger boom. 3,090,562, 5-21-63, Cl. 239-167.
- Richardson, James C.: *See*—  
Principe, Michael J., and Richardson. 3,101,679.
- Richardson, Jasper E.: *See*—  
Orr, William R., Richardson, and Baskir. 3,116,417.
- Richardson, Jasper E., and W. R. Orr, to Shell Oil Co. Photomultiplier pulse shaping circuit. 3,102,954, 9-3-63, Cl. 250-71.5.
- Richardson, John C.: *See*—  
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- Richardson, Joseph W., Jr., to H. K. Porter Co., Inc. Apparatus for manufacturing transformer cores. 3,084,734, 4-9-63, Cl. 153-64.
- Richardson, Joseph W., Jr., to H. K. Porter Co., Inc. Magnetic core construction. 3,104,364, 9-17-63, Cl. 336-213.
- Richardson Mfg., Inc.: *See*—  
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Grant, John B. 3,096,903.  
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- Richardson, Morris E., to General Dynamics Corp. Method for evaporating subliming materials. 3,094,395, 6-18-63, Cl. 23-294.
- Richardson, Olan, and C. W. Walter, to Southern States Inc. Silver coiler. 3,094,340, 6-18-63, Cl. 280-35.
- Richardson, Philip: *See*—  
Mortlock, Joseph R., Wilkinson, and Richardson. 3,099,775.
- Richardson, Ralph W. Lawn fertilizer. 3,110,583, 11-12-63, Cl. 71-61.
- Richardson, Richard A., to Carrollton Mfg. Co. Self-rimming sink mounting. 3,110,040, 11-12-63, Cl. 4-187.
- Richardson, Robert L., to The Torsion Balance Co. Torsion balance. 3,075,596, 1-29-63, Cl. 177-172.
- Richardson, Robert L., to The Torsion Balance Co. Torsion balance having mechanically amplified indicator. 3,075,597, 1-29-63, Cl. 177-172.
- Richardson, Robert M. Remotely actuated radio frequency powered devices. 3,098,971, 7-23-63, Cl. 325-9.
- Richardson, Robert O.: *See*—  
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- Richardson, Roland A.: *See*—  
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- Richardson, Ronald E.: *See*—  
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- Richardson, Ronald E., to Pittsburgh Plate Glass Co. Glass bending Lehr. 3,084,526, 4-9-63, Cl. 65-268.
- Richardson, Roy A., and O. M. Enness, to Motorola, Inc. Single sideband receiver having squelch and phase-locked detection means. 3,100,871, 8-13-63, Cl. 325-330.
- Richardson, Ryden L., to Union Oil Co. of California. Hydrodenitrogenation with high molybdenum content catalyst. 3,094,480, 6-18-63, Cl. 208-254.
- Richardson, Sam. Air float buffer head. 3,072,942, 1-15-63, Cl. 15-98.
- Richardson, Sid, Carbon Co.: *See*—  
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- Richardson, Wallace L., to California Research Corp. Anti-knock gasoline. 3,116,126, 12-31-63, Cl. 44-69.
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- Richardson, William C.: *See*—  
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- Richardson, William C., to Courtaulds North America Inc. Method for making rayon filaments. 3,109,699, 11-5-63, Cl. 18-54.
- Richardson, William F., to Flex-O-Lators, Inc. Expandable lift for hollow objects. 3,088,769, 5-7-63, Cl. 294-93.
- Richardson, William G.: *See*—  
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- Richardson, William S., to The Falk Corp. Reversible power transmission. 3,073,175, 1-15-63, Cl. 74-377.
- Richardson, William S., to The Falk Corp. Multiple reduction gear unit. 3,088,334, 5-7-63, Cl. 74-664.
- Richardson, Woodrow W.: *See*—  
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- Richardsons, Wesgarth & Co. Ltd.: *See*—  
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- Richdel, Inc.: *See*—  
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- Richert, Eberhard, to International Standard Electric Corp. Apparatus for separating flat piled articles. 3,086,770, 4-23-63, Cl. 271-27.
- Richert, Eberhard, and R. Schneider, to International Standard Electric Corp. Equipment for continually charging an edgewise conveying system. 3,073,460, 1-15-63, Cl. 214-7.
- Richeson, James P., to Monsanto Chemical Co. Annealing apparatus. 3,098,260, 7-23-63, Cl. 18-1.
- Richey, Clarence B., to Ford Motor Co. Tire. 3,074,455, 1-22-63, Cl. 152-352.
- Richey, Clarence B., and J. F. O'Donnell, to Ford Motor Co. Tractor hitches. 3,098,528, 7-23-63, Cl. 172-7.
- Richey, James D., to Bell Telephone Laboratories, Inc. Bearing assembly. 3,073,654, 1-15-63, Cl. 308-26.
- Richey, Pat W.: *See*—  
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- Richey, William K., to The Five Mfg. Co., Inc. Bale thrower. 3,087,600, 4-30-63, Cl. 198-128.
- Richfield Oil Corp.: *See*—  
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Natland, Manley L. 3,109,781.
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- Richman, Donald, to Hazeltine Research, Inc. Balanced phase-detection system. 3,086,173, 4-16-63, Cl. 328-134.
- Richman, Donald, to Hazeltine Research, Inc. Transmitter apparatus for compensating for receiver signal distortion. 3,109,056, 10-29-63, Cl. 178-5.2.
- Richman, Henry J., Jr. Drill marker lift. 3,107,734, 10-22-63, Cl. 172-128.
- Richmond, Albert R. Portable earth boring machine. 3,071,199, 1-1-63, Cl. 175-170.
- Richmond, Earl B., to The Electric Storage Battery Co. Method of producing expanded fabric-like material. 3,100,926, 8-20-63, Cl. 28-75.
- Richmond, Earl B., to The Electric Storage Battery Co. Expanded fabric-like material composed of core yarns. 3,106,507, 10-8-63, Cl. 161-72.
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- Richmond, John L. Power-driven rotary toothbrush and liquid applicator. 3,108,300, 10-29-63, Cl. 15-24.
- Richmond, John L., and C. E. Wells, to United States of America, Atomic Energy Commission. Neutron source. 3,073,768, 1-15-63, Cl. 204-154.2.
- Richmond, Martin R., to Raytheon Co. Precision detection of radar signals. 3,082,416, 3-19-63, Cl. 343-7.4.
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- Richnow, Erick G., Jr., to Truck Accessories, Inc. Axle lift. 3,096,995, 7-9-63, Cl. 280-104.5.
- Richter, Alfred G., to Lockheed Aircraft Corp. Multiple harness rack. 3,101,939, 8-27-63, Cl. 269-40.
- Richter, Carl F., to Alfred Gauthier, G.m.b.H. Photographic camera having a built-in exposure meter. 3,095,791, 7-2-63, Cl. 95-10.
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- Richter, George A., Jr.: *See*—  
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- Richter, Gunther M. Launching devices. 3,077,876, 2-19-63, Cl. 12-1-13.
- Richter, Harold G., and A. S. Gillespie, Jr., to United States of America, Atomic Energy Commission. Flexible Geiger counter. 3,110,835, 11-12-63, Cl. 313-93.
- Richter, Heinz K., R. R. Heppel, and L. Celniker, to Lockheed Aircraft Corp. Automatic stability control device. 3,116,042, 12-31-63, Cl. 244-77.
- Richter, Jiri, and K. Cernoch, to Svit, narodni podnik. Sole fastening unit for a conveyorized shoe making machine. 3,088,143, 5-7-63, Cl. 12-1.
- Richter, Jiri, and K. Cernoch, to Svit, narodni podnik. Automatic shoe last operating device. 3,089,162, 5-14-63, Cl. 12-1.
- Richter, Jiri, and K. Cernock, to Svit, narodni podnik. Manufacturing line for shoe manufacturing. 3,113,847, 12-10-63, Cl. 34-68.
- Richter, Johan C. F. C., to Kamyrt Aktiebolaget. Container for washing of cellulose pulp. 3,088,306, 5-7-63, Cl. 68-181.
- Richter, Johan C. F. C. and O. J., to Kamyrt Aktiebolaget. Sieve arrangement in cylindrical containers for cellulose pulp. 3,078,703, 2-26-63, Cl. 68-181.
- Richter, Melvin W.: *See*—  
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- Richter, Milton E. Tricycle stand. 3,076,650, 2-5-63, Cl. 272-73.
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- Richter, Sidney B., to Velsicol Chemical Corp. Pesticidal compositions containing bis(O,O-dialkyl dithiophosphoro-) alkylsulfides and alkylsulfides. 3,075,873, 1-29-63, Cl. 167-22.
- Richter, Sidney B., to Velsicol Chemical Corp. Method of controlling undesirable plant growth. 3,088,817, 5-7-63, Cl. 71-23.
- Richter, Sidney B., to Velsicol Chemical Corp. O,O-dialkyl-S-hydroxyphenylpropyl phosphorodithioates. 3,088,863, 5-7-63, Cl. 167-30.
- Richter, Sidney B., to Velsicol Chemical Corp. (O,O-dimethylphosphorodithio) allyl phthalate pesticidal compositions. 3,092,543, 6-4-63, Cl. 167-30.
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- Rickard, James A., to Jersey Production Research Co. Method of controlling well fluid circulation by radioactivation of fluid elements. 3,115,576, 12-24-63, Cl. 250-43.5.
- Ricke, Donald W., to Minneapolis-Honeywell Regulator Co. Control apparatus. 3,088,060, 4-30-63, Cl. 318-19.
- Rickel, Arthur M., Jr., to The Bendix Corp. Method of selective etching. 3,081,211, 3-12-63, Cl. 156-9.
- Ricker, Francis J.: *See*—  
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- Ricketts, James B., Jr., to General Motors Corp. Switching circuit for a ladder type digital to analog converter utilizing an alternating reference voltage. 3,092,735, 6-4-63, Cl. 307-88.5.
- Ricketts, James M.: *See*—  
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- Ricketts, John S., Ricketts, and Turunen. 3,093,009.
- Ricketts, Robert W.: *See*—  
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- Rickle, Samuel S., to Morgan Construction Co. Integral bearing mounting and dismounting means. 3,080,199, 3-5-63, Cl. 308-207.
- Ricks, Herbert E., to Westinghouse Electric Corp. Method of electroplating on aluminum surfaces. 3,075,894, 1-29-63, Cl. 204-33.
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- Riddell, John A., Hubbard, and Riddell. 3,072,471.
- Riddell, John A., to United States Rubber Co. Itaconimide fungicides and algicides. 3,098,003, 7-16-63, Cl. 167-33.
- Riddell, John A., and B. von Schmeling, to United States Rubber Co. Herbicidal method. 3,097,944, 7-16-63, Cl. 71-25.
- Riddell, John A., and B. von Schmeling, to United States Rubber Co. Method of controlling fungi and algae with N-phenyl-itaconimides. 3,098,002, 7-16-63, Cl. 167-33.
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- Riddell, William, to Burgess Products Co. Ltd. Electrical switches. 3,102,177, 8-27-63, Cl. 200-67.
- Ridder, Clara A. Chairs and seats. 3,081,129, 3-12-63, Cl. 297-452.
- Riddick, Thomas M. Water treatment in municipal and industrial water systems. 3,075,645, 1-29-63, Cl. 210-197.
- Riddick, Thomas M. Treatment of water in municipal and industrial water systems. 3,097,163, 7-9-63, Cl. 210-53.
- Riddle, Merwyn D.: *See*—  
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- Riddle, Robert E., to Marvel Mfg. Co. Safety support structure for suspension balancer. 3,074,278, 1-22-63, Cl. 73-486.
- Ridenour, Jack B., to General Motors Corp. Windshield wiper blade. 3,081,477, 3-19-63, Cl. 15-250.30.
- Ridenour, Stewart J., and A. Pickinpaugh, to Cook Chemical Co. Hand pump for spraying liquids. 3,092,330, 6-4-63, Cl. 239-333.
- Ridenour, Wayne F., to Cheshire, Inc. Machine for conveying labeled articles and sorting same. 3,072,253, 1-8-63, Cl. 209-111.5.
- Ridenour, Wayne F., and E. A. Storck, to Cheshire, Inc. Addressing and imprinting machine. 3,111,084, 11-19-63, Cl. 101-47.
- Rider, Paul Z., and R. A. Locke, to Sperry Rand Corp. Precedence symbol recording means. 3,072,743, 1-8-63, Cl. 178-17.
- Ridge, Leonard G.: *See*—  
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- Ridgway, John A., Jr., to Standard Oil Co. Aluminum chloride catalyst activation. 3,094,572, 6-18-63, Cl. 260-683.7.
- Ridgway, Robert C.: *See*—  
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- Ridgway, Stuart L., to Thompson Ramo Wooldridge Inc. Afterburner systems. 3,086,353, 4-23-63, Cl. 60-30.
- Ridgway, Stuart L., to Thompson Ramo Wooldridge Inc. Automobile engine exhaust system. 3,106,821, 10-15-63, Cl. 60-30.
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- Riding, Frank, to Imperial Chemical Industries Ltd. Method for the production of assemblies comprising titanium. 3,074,858, 1-22-63, Cl. 204-32.
- Ridinger, Philip G.: *See*—  
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- Harr, John A., Lowry, Nehama, and Ridinger. 3,116,375.
- Ridings, James L., to Westinghouse Electric Corp. Circuit interrupter. 3,099,733, 7-30-63, Cl. 200-145.
- Ridler, Desmond S.: *See*—  
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- Ridley and Co., Inc.: *See*—  
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- Ridley, Ian M., to Ridley and Co., Inc. Feeding and mixing apparatus for concrete guns or the like. 3,072,388, 1-8-63, Cl. 259-178.
- Ridley, William C.: *See*—  
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- Ridsall, Newell V., to Peabody Seating Co., Inc. Foldable furniture. 3,080,834, 3-12-63, Cl. 108-112.
- Riebel, Fred J.: *See*—  
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- Riebel, William K. and F. J. to Kay Mfg. Corp. Combination brace bar and spring element. 3,078,087, 2-19-63, Cl. 267-110.
- Riebs, Richard E., to McGraw-Edison Co. Repeating circuit interrupter. 3,100,854, 8-13-63, Cl. 317-22.
- Riebs, Richard E., to McGraw-Edison Co. Repeating circuit interrupter and battery charging circuit used therewith. 3,116,439, 12-31-63, Cl. 317-22.
- Riebs, Richard E., and M. Rigert, to McGraw-Edison Co. Electronic voltage regulator with reversible electro-responsive operator means. 3,106,675, 10-8-63, Cl. 323-43.5.
- Rieck, Russel W., to Ford Motor Co. Vehicle engine and driveline mounting. 3,089,559, 5-14-63, Cl. 180-64.
- Riecke, Manfred, to Ernst Leitz Gesellschaft mit beschränkter Haftung. Slide-retaining attachment. 3,112,032, 11-26-63, Cl. 206-73.
- Riecke, Wolfgang D., to Max-Planck-Gesellschaft Zur Förderung der Wissenschaften E.V. Corpuscular radiation apparatus. 3,086,112, 4-16-63, Cl. 250-49.5.
- Rieckenberg, George W., to The Anderson Co. Motion-transmitting device. 3,087,344, 4-30-63, Cl. 74-95.
- Rieckenberg, George W., to The Anderson Co. Motion-transmitting mechanism. 3,087,345, 4-30-63, Cl. 74-95.
- Rieckenberg, George W., to The Anderson Co. Motion-transmitting mechanism. 3,107,542, 10-22-63, Cl. 74-95.
- Rieckman, Roger A.: *See*—  
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- Rieckman, Roger A., and C. N. Challacombe, to Elgin National Watch Co. Electromotive vibrator and oscillator system. 3,076,153, 1-29-63, Cl. 331-116.



- Riede, Peter M.: *See*—  
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- Riede, Raymond G., to Johns-Manville Corp. Sweetener for dry cleaners' solvents. 3,099,626, 7-30-63, Cl. 252-163.
- Riedel & Co.: *See*—  
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- Riedel, Erich O.: *See*—  
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- Riedel, Kurt A.: *See*—  
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- Riedel, Walter, to Pentsch Bamag Aktiengesellschaft. Discharge tubes for projectiles. 3,108,562, 10-29-63, Cl. 114-238.
- Riedeman, William L.: *See*—  
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- Riedesel, Richard G., to Minnesota Mining and Mfg. Co. Polypyrrolidone stabilization. 3,072,615, 1-8-63, Cl. 260-78.
- Riedi, Arnold T., to American Machine & Foundry Co. Bowling lane dressing applicator. 3,105,987, 10-8-63, Cl. 15-98.
- Riedl, Engelbert, to Knorr-Bremse Gesellschaft mit Beschränkter Haftung. Electropneumatically operating brake system. 3,097,019, 7-9-63, Cl. 303-20.
- Riedl, Marvin W., Adjustable threshold structure. 3,114,180, 12-17-63, Cl. 20-64.
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- Riegelman, Harry M., to Security Aluminum Corp. Weep hole construction for windows and the like. 3,091,008, 5-28-63, Cl. 20-70.
- Riegelman, Harry M., to Security Aluminum Corp. Reversible sliding door and window construction. 3,097,401, 7-16-63, Cl. 20-19.
- Riegelman, Harry M., to Security Aluminum Corp. Mounting means for sliding closure members. 3,110,935, 11-19-63, Cl. 20-19.
- Riegelman, Harry M., to Security Aluminum Corp. Roller means for slidable closure member. 3,111,209, 11-19-63, Cl. 189-64.
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- Rieger, Nelson M. Packaging apparatus. 3,088,499, 5-7-63, Cl. 141-81.
- Riegert, Richard P., to Servomechanisms, Inc. Method of making multiple layer condensers by vapor deposition and product thereof. 3,094,650, 6-18-63, Cl. 317-258.
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- Riemenschneider, Wilhelm, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning. Process for the manufacture of acetaldehyde. 3,104,263, 9-17-63, Cl. 260-604.
- Riemenschneider, Wilhelm, and K. Dialer, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brünig. Process for oxidizing olefins to aldehydes and ketones. 3,076,032, 1-29-63, Cl. 260-597.
- Riemer, Josef, to Daimler-Benz Aktiengesellschaft. Adjusting mechanism for a spring strut of a motor vehicle. 3,109,638, 11-5-63, Cl. 267-64.
- Riepe, Helmuth, to L. & C. Hardtmuth, Inc. Compasses. 3,089,246, 5-14-63, Cl. 33-27.
- Riepl, Josef, F. Scherer, and E. O. Riedel. Process for treating and burning refuse. 3,109,392, 11-5-63, Cl. 110-8.
- Rieppel, Perry J., G. E. Faulkner, J. W. Nelson, and H. C. Cook, to Esso Research and Engineering Co. Apparatus and process for welding pipelines and the like. 3,084,244, 4-2-63, Cl. 219-60.
- Rieppel, Perry J., G. E. Faulkner, J. W. Nelson, and H. C. Cook, to Esso Research and Engineering Co. Process and apparatus for welding. 3,084,246, 4-2-63, Cl. 219-125.
- Rieppel, Perry J., J. T. Niemann, R. P. Sopher, and F. H. Pennell, to De Laval Turbine Inc. Method and apparatus for semiautomatic welding. 3,104,313, 9-17-63, Cl. 219-124.
- Ries, Edward L.: *See*—  
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- Riesbeck, La Verne J., to Screen Heating Transformers, Inc. Electrically heated screening apparatus. 3,080,055, 3-5-63, Cl. 209-238.
- Riesen, Gerhard, to Schweizerische Lokomotiv-und Maschinenfabrik. Piezo-electric pressure transducer. 3,082,334, 3-19-63, Cl. 310-9.1.
- Riesser, Gregor H., to Shell Oil Co. Process for preparing dimethanonaphthalene. 3,116,339, 12-31-63, Cl. 260-667.
- Riester, William C.: *See*—  
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- Riester, William C., to Trico Products Corp. Windshield washer. 3,087,681, 4-30-63, Cl. 239-284.
- Riester, William C., and A. C. Scinta, to Trico Products Corp. Wiper arm. 3,088,154, 5-7-63, Cl. 15-250.34.
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- Rieth, Harold F., to Packard-Bell Electronics Corp. Signalling system. 3,077,856, 2-19-63, Cl. 116-137.
- Rieth, Harold F., to Packard-Bell Electronics Corp. Television tuner. 3,082,393, 3-19-63, Cl. 338-172.
- Rietsch, Eberhard, to Theodor Wupperman, G.m.b.H. Electric resistance butt welding machine. 3,080,471, 3-5-63, Cl. 219-101.
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- Rietz Mfg. Co.: *See*—  
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- Rigert, Max, to McGraw-Edison Co. Repeating circuit interrupters. 3,113,246, 12-3-63, Cl. 317-22.
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- Riggs, Olen L., Jr., to Continental Oil Co. Corrosion inhibitor. 3,107,222, 10-15-63, Cl. 252-389.
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- Rightmire, Robert A., to The Standard Oil Co. Electrochemical reaction apparatus. 3,115,427, 12-24-63, Cl. 136-86.
- Rightmire, Robert A., and J. L. Callahan, to The Standard Oil Co. Energy conversion system. 3,088,990, 5-7-63, Cl. 136-86.



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- Riley, Thomas, D. Zaas, J. Gaser, and J. Strmac, to Apex Paper Box Co. Film roll container. 3,084,882, 4-9-63, Cl. 242-71.1.
- Riley, William F., to Joslyn Mfg. and Supply Co. Disconnector. 3,100,246, 8-6-63, Cl. 200-115.
- Rilli, Arduino, to Specialties Development Corp. Valve and nameplate assembly. 3,079,716, 3-5-63, Cl. 40-307.
- Rill, John C., Jr., to General Motors Corp. Refrigerating apparatus including insulation material. 3,112,624, 12-3-63, Cl. 62-440.
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- Rimsha, Victor E., to The Dole Valve Co. Fluid mixing valve. 3,079,950, 3-5-63, Cl. 137-606.
- Rinald, Donald F., to Westinghouse Electric Corp. Radio-active fluid handling system. 3,080,307, 3-5-63, Cl. 204-193.2.
- Rinaldi, Nicholas, to Scovill Mfg. Co. Single piece pass case bar. 3,078,898, 2-26-63, Cl. 150-39.
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Nevo-Hacohen, Jacob I. 3,092,488.
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- Ringold, Howard J., and O. Mancera, to Syntex Corp. Pyrimidinyl androstanes. 3,071,577, 1-1-63, Cl. 260-239.5.
- Ringold, Howard J., and O. Halpern, to Syntex Corp. 7-acetylthio derivatives of 21-acetoxy-17 $\alpha$ -hydroxy- $\Delta^4$ -pregnene-3,20-diones. 3,071,579, 1-1-63, Cl. 260-239.55.
- Ringold, Howard J., F. Alvarez, and J. C. Orr, to Syntex Corp. Process for the production of 6-chloro-3-keto- $\Delta^4$ -6 steroid compounds. 3,076,823, 2-5-63, Cl. 260-397.4.
- Ringold, Howard J., C. Djerassi, and J. A. Zderic, to Syntex Corp. 17 $\beta$ -hydroxy-androstene-13,21-thiazole and derivatives thereof. 3,080,359, 3-5-63, Cl. 260-239.5.
- Ringold, Howard J., O. Mancera, and A. Bowers, to Syntex Corp. 6 $\alpha$ -chloro- $\Delta^{1,4}$ -androstadien-17 $\beta$ -ol-3-one derivatives. 3,080,391, 3-5-63, Cl. 260-397.4.
- Ringold, Howard J., and G. Rosenkranz, to Syntex Corp. Cyclopentanopienanthrene compounds and process. 3,080,399, 3-5-63, Cl. 260-397.5.
- Ringold, Howard J., and G. Rosenkranz, to Syntex Corp. 7-methyl pregnenes and process thereof. 3,080,402, 3-5-63, Cl. 260-397.45.
- Ringold, Howard J., and F. A. Kincl, to Syntex Corp. Testolactone derivatives. 3,082,217, 3-19-63, Cl. 260-343.2.
- Ringold, Howard J., and G. Rosenkranz, to Syntex Corp. 4-chloro-6 $\alpha$ -methyl derivatives of testosterone. 3,082,221, 3-19-63, Cl. 260-397.4.
- Ringold, Howard J., A. Bowers, O. Mancera, and G. Rosenkranz, to Syntex Corp. Process for the production of 6-fluoro-cortisone and intermediates therein. 3,084,157, 4-2-63, Cl. 260-239.55.
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- Ringold, Howard J., and G. Rosenkranz, to Syntex Corp. 4,4-dialkyl and 4,4-dialkyl-3 $\beta$ ,17 $\beta$ -dihydroxy-androstanes and derivatives thereof. 3,086,030, 4-16-63, Cl. 260-397.5.
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- Rively, Clair M., and W. A. Brenneck, to Westinghouse Electric Corp. Transfer conveyor. 3,088,572, 5-7-63, Cl. 198-19.
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- Robbins, James D., P. Kosch, and C. W. Uzarski, to Applied Arts Corp. Hanger vending machine. 3,110,415, 11-12-63, Cl. 221-77.
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- Robbins, Kenneth C., to Armour & Co. Omega hydroxylation of carboxylic acids. 3,074,854, 1-22-63, Cl. 195-30.
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Jacob, Robert M., Robert, and Gaillard. 3,082,210.  
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- Robert, Roger A., and P. P. Matge. Apparatus for storing and firing rocket bombs from aircraft. 3,088,373, 5-7-63, Cl. 89-17.
- Robert, Roger A., P. P. Matge, deceased, and L. R. P. Jacquot, heir of said Matge. Casing for transporting rocket-bombs from an aircraft. 3,106,863, 10-15-63, Cl. 89-17.
- Robertella, Joseph R.: See—  
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- Roberti, Michael A., to The Bendix Corp. Magnetic amplifier regulator for a motor generator system. 3,074,001, 1-15-63, Cl. 322-16.
- Roberts, Alfred H. Loudspeaker enclosures. 3,112,006, 11-26-63, Cl. 181-31.
- Roberts, Allen W., to Bell Telephone Laboratories, Inc. Logic circuitry. 3,084,861, 4-9-63, Cl. 235-175.
- Roberts, Bob R., and D. W. Irwin, to Fisher Governor Co. Small high pressure regulator. 3,075,546, 1-29-63, Cl. 137-505.25.
- Roberts, Bob R., and W. A. Etter, to Fisher Governor Co. Valve actuator. 3,087,468, 4-30-63, Cl. 121-41.
- Roberts, Carleton W., and D. H. Haigh, to The Dow Chemical Co. Oxyesters of 1,2,3,4,9,9-hexachloro-1,4a,5,6,7,8,8a-octa-hydro-1,4-methanonaphthylene-6,7-dicarboxylic acid. 3,105,087, 9-24-63, Cl. 260-468.
- Roberts, Carlton E.: See—  
Francisco, Herbert H., Ressler, Roberts, and Snyder. 3,082,157.
- Roberts, Cecil P., and J. C. Runco, to Anchor Hocking Glass Corp. Means for sealing threaded-type containers. 3,073,090, 1-15-63, Cl. 53-331.5.
- Roberts, Cecil P., and F. V. Hildebrandt, to Anchor Hocking Glass Corp. Cap aligning mechanism. 3,095,957, 7-2-63, Cl. 193-43.
- Roberts, Cecil P., and G. J. Foss, to Anchor Hocking Glass Corp. Replaceable sealing machine plunger cover. 3,107,468, 10-22-63, Cl. 53-341.
- Roberts, Charles E. Carrier system for transport and delivery along a trackway. 3,102,607, 9-3-63, Cl. 186-1.
- Roberts, Charles G. Vibrato device for harvesting earthworms. 3,073,284, 1-15-63, Cl. 116-137.
- Roberts, Charles K., to Diebold, Inc. Capacity alarm system. 3,103,003, 9-3-63, Cl. 340-258.
- Roberts, Charles K., and C. N. Smith, to Diebold, Inc. Bolt construction for safes, vaults and the like. 3,104,538, 9-24-63, Cl. 70-15.
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- Roberts Dental Mfg. Co., Inc.: See—  
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- Roberts, Dewey B., to Westinghouse Electric Corp. Controls for refrigeration systems having air cooled condensers. 3,111,815, 11-26-63, Cl. 62-209.
- Roberts, Donald E.: See—  
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- Roberts, Douglas, to Witco Chemical Co. Ltd. Process and apparatus for impregnating fibrous materials. 3,084,661, 4-9-63, Cl. 118-50.
- Roberts, Eugene, to United States Rubber Co. Anti-mitotic chemotherapeutic compounds. 3,105,009, 9-24-63, Cl. 167-65.
- Roberts, Eugene A., to The Armstrong Rubber Co. Tire tread. 3,115,919, 12-31-63, Cl. 152-209.
- Roberts, Francis P., to United States of America, Atomic Energy Commission. Adsorption of cerium values from aqueous solutions. 3,100,683, 8-13-63, Cl. 23-23.
- Roberts, Frank A. Shade pulls. 3,087,219, 4-30-63, Cl. 24-243.
- Roberts, Frank B., and W. F. Genett, to National Co., Inc. Extended handspread tuning for a communications receiver. 3,089,088, 5-7-63, Cl. 325-455.
- Roberts, Franklin B., to Package Machinery Co. Web feeding system. 3,116,032, 12-31-63, Cl. 242-75.43.
- Roberts, Fred T. and R. E., to Fred T. Roberts & Co. Corrugated hose with reinforcement in alternate inner corrugations. 3,083,736, 4-2-63, Cl. 138-122.
- Roberts, Fred T. and R. E., to Fred T. Roberts & Co. Method of making a reinforced molded flexible hose. 3,084,086, 4-2-63, Cl. 156-143.
- Roberts, Fred T., & Co.: See—  
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- Roberts, Frederick A.: See—  
Schoellhorn, Sidney W., and Roberts. 3,087,120.
- Roberts, Frederick W. System for operating the motor in a dictating machine and the like. 3,094,882, 6-25-63, Cl. 74-472.
- Roberts, Geoffrey: See—  
Cook, William W., Gibson, Roberts, and Scott. 3,072,999.
- Roberts, Glaness B., L. J. Gunyou, and H. H. Schulze, to Avco Corp. Corn saver mechanism for a corn harvester. 3,110,314, 11-12-63, Cl. 130-5.
- Roberts, Graham E., to Decca Ltd. Chart position display apparatus. 3,113,313, 12-3-63, Cl. 343-105.
- Roberts, Harold P., to The Goodyear Tire & Rubber Co. Process for the manufacture of 2,6-dimethylol-3,5-dimethyl-4-chlorophenol. 3,086,061, 4-16-63, Cl. 260-623.
- Roberts, Henry E., to Ross-Tacony Crucible Co. Stopper rod assemblies. 3,103,720, 9-17-63, Cl. 22-85.
- Roberts, Howard C.: See—  
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- Roberts, Hugh J., and J. T. Saatkamp, to Corn Products Co. Process for sizing cellulose sheets with a starch derivative bearing vicinal-glycol groups. 3,112,214, 11-26-63, Cl. 117-60.
- Roberts, Hugh L.: See—  
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- Roberts, James S.: See—  
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- Roberts, Jennings B., to Marvel Oil Co., Inc. Upper cylinder lubricator. 3,115,874, 12-31-63, Cl. 123-196.
- Roberts, John A., to General Electric Co. Leak detector. 3,071,722, 1-1-63, Cl. 324-33.
- Roberts, John A., to General Electric Co. Leak detector. 3,076,139, 1-29-63, Cl. 324-33.
- Roberts, John R. Cigarette package. 3,083,820, 4-2-63, Cl. 206-41.
- Roberts, Kenneth L. F., to Wade Engineering Ltd. Blowers and motors with cooperating rotors. 3,112,867, 12-3-63, Cl. 230-141.
- Roberts, Leslie N., to The Buckeye Steel Castings Co. Hydraulic cushioning device for railway vehicles. 3,110,367, 11-12-63, Cl. 188-96.
- Roberts, Lewis S. Drapery support. 3,093,877, 6-18-63, Cl. 24-255.
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- Roberts, Louis W., to Microwave Associates, Inc. Gaseous discharge device. 3,072,865, 1-8-63, Cl. 333-13.
- Roberts, Louis W., to Microwave Associates, Inc. Gaseous discharge device. 3,072,866, 1-8-63, Cl. 333-13.



- Roberts, Oswald R. Apparatus for determining soil moisture content. 3,091,115, 5-28-63, Cl. 73-73.
- Roberts, Paul L. Rotary shower brush. 3,091,776, 6-4-63, Cl. 4-158.
- Roberts, Paul T. Peeling machine. 3,112,779, 12-3-63, Cl. 146-43.
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- Crawford, George D., Fontaine, and Roberts. 3,076,039
- Wychorski, Henry J., and Roberts. 3,082,547.
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- Roberts, Ralph L., to Granite Machine Co. Textile picker machine with clutch-controlled driving mechanism. 3,079,098, 2-26-63, Cl. 242-55.1.
- Roberts, Ralph R. Portable step attachment for ladders. 3,115,214, 12-24-63, Cl. 182-228.
- Roberts, Richard L.: *See*—
- Lynn, John W., and Roberts. 3,074,997.
- Roberts, Robert: *See*—
- Mathews, Alfred Lee, Jr., and Roberts. 3,087,921.
- Roberts, Robert E.: *See*—
- Roberts, Fred T. and R. E. 3,083,736.
- Roberts, Fred T. and R. E. 3,084,086.
- Roberts, Robert E., to Fred T. Roberts & Co. Corrugated annularly reinforced hose and method for its manufacture. 3,076,737, 2-5-63, Cl. 156-48.
- Roberts, Roland W., J. Rosa, V. R. Algazi, and H. J. Abrams, to Westinghouse Electric Corp. Bistable amplifier circuit. 3,080,486, 3-5-63, Cl. 307-88.
- Roberts, Roy L., Jr.: *See*—
- Bond, Robert W., Ladd, Roberts, Keller, and Markey. 3,094,299.
- Roberts, Sylvia V., and R. D. Bassett. Water temperature selector valve. 3,115,896, 12-31-63, Cl. 137-625.41.
- Roberts, Thomas E., Jr.: *See*—
- Abbott, John A., Bunnelle, Roberts, Brooks, and Fowler. 3,096,837.
- Roberts, Thomas E., Jr., and W. J. Fowler, to FMC Corp. Electronic control circuits for weight checking apparatus. 3,072,254, 1-8-63, Cl. 209-121.
- Roberts, Walter C., Jr.: *See*—
- Webster, Roland C., Roberts, and Rice. 3,101,052.
- Roberts, Walter L.: *See*—
- Rollins, Gordon C. and Roberts. 3,076,235.
- Roberts, Webster C., to Harris-Intertype Corp. Dampening mechanism for lithographic printing press. 3,094,065, 6-18-63, Cl. 101-148.
- Roberts, William B., to United States of America, Army. Supplemental seal for garment sealing flap. 3,092,840, 6-11-63, Cl. 2-128.
- Roberts, William J. Garden edging tool. 3,093,195, 6-11-63, Cl. 172-16.
- Roberts, William J., and A. W. J. Rogers. Electrolytic cells. 3,073,774, 1-15-63, Cl. 204-301.
- Roberts, William L., to United States Steel Corp. Method and apparatus for correcting gage of strip during rolling. 3,081,651, 3-19-63, Cl. 80-35.
- Robertshaw Controls Co.: *See*—
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- Good, Arthur L. 3,109,902.
- Hild, Henry F., and Manecke. 3,110,789.
- McFarlane, Maynard D., and Crafts. 3,112,448.
- Puster, Louis M., and Wagner. 3,105,637.
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- Robertshaw-Fulton Controls Co.: *See*—
- Bauer, Werner R. Re. 25,351.
- Caparone, Michael J., and Dykzeul. 3,087,642.
- Coles, Ralph V. 3,091,919.
- Crafts, Cecil A., and Goodwin. 3,078,344.
- Crossley, Harry E., Jr. 3,101,031.
- Daugherty, Robert L. 3,077,542.
- Evalds, Egils H. 3,104,385.
- Evans, James R., and Jones. 3,076,454.
- Good, Arthur L. 3,088,412.
- Hild, Henry F., and Manecke. 3,091,838.
- Houser, Roy W. 3,090,235.
- Morgan, David L. 3,097,604.
- Mueller, Klaus P. 3,115,147.
- Perkins, Charles H. 3,082,626.
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- Revesz, George. 3,077,561.
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- Roe, Clarence D. 3,085,140.
- Russell, William J. 3,072,338.
- Wantz, Clarence. 3,092,323.
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- Willson, James R. 3,092,142.
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- Robertson, Anthony E., and J. T. Hamrick, to Thompson Ramo Wooldridge Inc. Closed power generating system. 3,101,592, 8-27-63, Cl. 60-39.46.
- Robertson, Earl J., to Wyandotte Chemicals Corp. Process for spraying a polyether-based polyurethane foam. 3,091,551, 5-28-63, Cl. 117-105.5.
- Robertson, Earl M.: *See*—
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- Robertson, Elmer W., to Elrick Rim Co., Inc. Tire mount and gauging means for buffing machine. 3,080,899, 3-12-63, Cl. 144-288.
- Robertson, Elmer W., to Elrick Industries, Inc. Combined rasp and brush mount. 3,098,282, 7-23-63, Cl. 29-78.
- Robertson, Ernest E. Combustion products condenser. 3,115,852, 12-31-63, Cl. 110-56.
- Robertson, H. H., Co.: *See*—
- Bricmont, Robert J. 3,104,060.
- Clay, Richard H. 3,092,218.
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- Fork, Frank W. 3,082,470.
- Fork, Frank W. 3,084,480.
- Fork, Frank W. 3,104,737.
- Harris, Robert E. 3,081,657.
- Hubbell, Dean S., and Weaver. 3,079,265.
- Jentoft, Arthur P. 3,078,781.
- Mote, Roy F. 3,080,022.
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- Rees, Glyn T., and Fanson. 3,110,538.
- Shelby, Wallace A., Jr. 3,102,610.
- Slingluff, Thomas J. 3,093,933.
- Robertson, Haney M., and J. E. Ingle, to Maxon Construction Co., Inc. Dump truck. 3,101,974, 8-27-63, Cl. 298-17.6.
- Robertson, James A., to FMC Corp. Production of cyanuric acid. 3,107,244, 10-15-63, Cl. 260-248.
- Robertson, James B. Shell holder. 3,082,660, 3-26-63, Cl. 86-44.
- Robertson, Jerry E., to Lakeside Laboratories, Inc. Amino-alkylbiguanides. 3,111,514, 11-19-63, Cl. 260-239.
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- Robertson, John, Co., Inc.: *See*—
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- Robertson, John D., to Mount Hope Machinery Co. Table roll with means for removing longitudinal curvature. 3,094,771, 6-25-63, Cl. 29-116.
- Robertson, John D., and R. H. Foster, to Mount Hope Machinery Co. Sensing device for web guiding mechanisms. 3,071,157, 1-1-63, Cl. 137-625.24.
- Robertson, John D., and R. H. Foster, to Mount Hope Machinery Co. Web guiding method and apparatus. 3,095,131, 6-25-63, Cl. 226-190.
- Robertson, John D., and G. P. Knapp, to Mount Hope Machinery Co. Table roll with means for removing longitudinal curvature. 3,099,072, 7-30-63, Cl. 29-116.
- Robertson, Joseph F. Scaffold. 3,084,761, 4-9-63, Cl. 182-178.
- Robertson Paper Box Co. Inc.: *See*—
- Tyrseck, Walter J., and Hackenberg. 3,089,631.
- Tyrseck, Walter J., and Hackenberg. 3,108,733.
- Tyrseck, Walter J., and Hackenberg. 3,116,004.
- Robertson Photo-Mechanix, Inc.: *See*—
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- Keller, Daniel F., and Beck. 3,098,765.
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- Robertson, Russell R. Practice apparatus for developing a correct golf stroke. 3,104,108, 9-17-63, Cl. 273-192.
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- Robertson, Thomas A., to The Firestone Tire & Rubber Co. Tire tread construction. 3,095,024, 6-25-63, Cl. 152-209.
- Robertson, William A., and J. J. Costello. Compound sine plate. 3,075,291, 1-29-63, Cl. 33-174.
- Robeson, Charles D., to Eastman Kodak Co. Sterol and piperazine complexes and process for the preparation thereof. 3,092,624, 6-4-63, Cl. 260-239.5.
- Robeson, Charles D., to Eastman Kodak Co. Water-dispersible vitamin preparations. 3,102,078, 8-27-63, Cl. 167-81.
- Robichaux, Roy P., to Lakeville Creameries, Inc. Butter churning apparatus and method. 3,109,740, 11-5-63, Cl. 99-119.
- Robillard, Jean J. A., to Motorola, Inc. Electrophotographic system. 3,088,883, 5-7-63, Cl. 204-18.
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- Robinette, Hillary, Jr., to Robinette Research Laboratories, Inc. Low viscosity quaternary ammonium ethosulfate compositions and methods. 3,113,956, 12-10-63, Cl. 260-459.
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- Robinette, Hillary, Jr. 3,113,956.
- Robins, Erford E.: *See*—
- Parker, Humphrey F., and Robins. 3,094,943.
- Parker, Humphrey F., Robins, and Church. 3,074,356.
- Robins, Erford E., and F. H. Heyden, Jr., to Columbus McKinnon Corp. Hoist brake. 3,090,601, 5-21-63, Cl. 254-169.
- Robins, John S., 1/2 to E. K. Erskine. Styptic bandage. 3,113,568, 12-10-63, Cl. 128-156.



- Robins, John W., to Worthington Corp. Pneumatic servo-positioner unit. 3,100,399, 8-13-63, Cl. 73-391.
- Robins, Milton, to M. F. Steward. Method and apparatus for pressure testing aerosol containers. 3,091,958, 6-4-63, Cl. 73-45.2.
- Robinsky, Eli L., and H. A. Holland, to Raymond Concrete Pile Co. Ltd. Earth boring auger and sampler. 3,095,051, 6-25-63, Cl. 175-270.
- Robinson, Adrian J.: See—
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- Robinson, Alfred D., to Research Instrument Corp. Electrolytic cell. 3,103,481, 9-10-63, Cl. 204-195.
- Robinson, Alfred J., and W. L. Haden, to Minerals & Chemicals Philipp Corp. Method for producing rounded contact masses. 3,078,518, 2-26-63, Cl. 18-47.5.
- Robinson, Alvin E., to Bow holder. 3,103,213, 9-10-63, Cl. 124-30.
- Robinson, Bert N., to W. E. Stone & Co., Inc. Process for controlling warehouse atmosphere. 3,107,171, 10-15-63, Cl. 99-154.
- Robinson, Brian. Flashlight mounting bracket. 3,106,348, 10-8-63, Cl. 240-6.41.
- Robinson Bros. Cork Growers Ltd.: See—
- Lawdham, Charles H. 3,106,808.
- Robinson, Cecil H.: See—
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- Robinson, Cecil H., and E. P. Oliveto, to Schering Corp. Novel 5,9-cyclo-1,11-oxidosteroids and methods for their manufacture. 3,081,299, 3-12-63, Cl. 260-239.55.
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- Robinson, Charles G.: See—
- Dillon, Paul W., Stewart, Bosco, and Robinson. 3,078,325.
- Robinson, Charles G., to Northwestern Steel and Wire Co. Electric arc control. 3,097,252, 7-9-63, Cl. 13-13.
- Robinson, Charles G., to Northwestern Steel and Wire Co. Method and means for electric melting. 3,101,385, 8-20-63, Cl. 13-33.
- Robinson, Charles G., to Northwestern Steel and Wire Co. Means of increasing arc power and efficiency of heat transfer. 3,105,864, 10-1-63, Cl. 13-9.
- Robinson, Charles K., to Ferry-Morse Seed Co. Combined seed planter box, packet, and container. 3,078,985, 2-26-63, Cl. 206-47.
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- Robinson, David B., to Diamond National Corp. Molded pulp article denesting machine. 3,091,362, 5-28-63, Cl. 221-36.
- Robinson, David E., to Time, Inc. Flow distributor. 3,076,502, 2-5-63, Cl. 162-339.
- Robinson, Donald B., to Joy Mfg. Co. Wiring device. 3,087,135, 4-23-63, Cl. 339-184.
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- Margraf, Harry J., Robinson, and Berglund. 3,078,803.
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- Robinson, Ernest Y.: See—
- Godsil, Edward C., and Robinson. 3,097,543.
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- Robinson, Glen: See—
- Curtis, Gerald R., Robinson, and Baugh. 3,077,571.
- Robinson, Glen P., Jr.: See—
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- Robinson, Harry A. Weed cutter and chopper attachment. 3,115,741, 12-31-63, Cl. 56-503.
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- Chambers, John M., and Robinson. 3,075,890.
- Robinson, Harry F.: See—
- Niekamp, Richard A., and Robinson. 3,112,079.
- Robinson, Herbert T., to Eastman Kodak Co. Automatic repeater slide projector. 3,085,471, 4-16-63, Cl. 88-28.
- Robinson, Herman L. Drainage receiver. 3,074,404, 1-22-63, Cl. 128-283.
- Robinson, Ivan M.: See—
- Koch, Theodore A., Robinson, and Wiley. 3,087,964.
- Robinson, John A., to A.E.I.-John Thompson Nuclear Energy Co. Ltd. Temperature measurement apparatus for a nuclear reactor fuel element. 3,087,886, 4-30-63, Cl. 204-193.2.
- Robinson, John L., to Philco Corp. Method and system for encoding a signal into binary code groups. 3,089,134, 5-7-63, Cl. 340-347.
- Robinson, John L., to Philco Corp. Pattern suppressed ring counters. 3,108,227, 10-22-63, Cl. 328-43.
- Robinson, John L., to Philco Corp. Switching system for current-switching transistor multivibrator. 3,114,053, 12-10-63, Cl. 307-88.5.
- Robinson, John L., and A. K. Rapp, to Philco Corp. High-speed transistor multivibrator circuit having constant-current biasing to prevent complete cut-off of emitter current. 3,076,105, 1-29-63, Cl. 307-88.5.
- Robinson, John W., Jr., to E. I. du Pont de Nemours and Co. Process of after tanning with chromium Werner type complex. 3,102,772, 9-3-63, Cl. 8-94.27.
- Robinson, Joseph V.: See—
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- Robinson, Kenneth A., to Lancashire Dynamo Electronic Products Ltd. Electromechanical signalling apparatus. 3,079,548, 2-26-63, Cl. 323-109.
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- Robinson, La Roy E., to Continental Machines, Inc. Combination saw guide and coolant applicator for band sawing machines. 3,104,576, 9-24-63, Cl. 83-169.
- Robinson, Leon H.: See—
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- Friedman, Robert H., Robinson, and Edwards. 3,112,233.
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- Robinson, Leon H., Jr., B. Mosier, and J. A. Burkhardt, to Jersey Production Research Co. Treating liquid device for gas wells. 3,104,715, 9-24-63, Cl. 166-162.
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- Robinson, Lester L., to General Motors Corp. Fuel control with dirt separator. 3,073,377, 1-15-63, Cl. 158-36.4.
- Robinson, Manford J.: See—
- Raff, Allen M., Robinson, and Svedres. 3,079,303.
- Robinson, Maurice C., to Chrysler Corp. Sprag lock structure. 3,074,513, 1-22-63, Cl. 188-69.
- Robinson, Mayes R. Cultivator tool holder. 3,101,122, 8-20-63, Cl. 172-556.
- Robinson, Mott L. Apparatus and method for forming monolithic pipe. 3,091,013, 5-28-63, Cl. 25-32.
- Robinson, Norland W. Door frame. 3,086,628, 4-23-63, Cl. 189-46.
- Robinson, Preston, to Sprague Electric Co. Method of making transistors. 3,080,481, 3-5-63, Cl. 250-83.3.
- Robinson, Preston, and R. J. Millard, to Sprague Electric Co. Electrolytic capacitors. 3,082,360, 3-19-63, Cl. 317-230.
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- Ring, Thomas F., and Robinson. 3,109,280.
- Robinson, Ralph L., to Imperial Chemical Industries Ltd. Catalysts and process for the selective hydrogenation of acetylenes. 3,113,980, 12-10-63, Cl. 260-683.
- Robinson, Ralph L., and W. R. Smith, to Imperial Chemical Industries Ltd. Two-stage selective hydrogenation of acetylenes. 3,116,342, 12-31-63, Cl. 260-677.
- Robinson, Ralph M.: See—
- Freifelder, Morris, and Robinson. 3,079,435.
- Robinson, Ralph M., and L. McKeage, to Abbott Laboratories. High temperature regeneration of rhodium catalyst. 3,071,551, 1-1-63, Cl. 252-411.
- Robinson, Ralph O., Jr., to United States of America, Navy. Radome structure. 3,081,051, 3-12-63, Cl. 244-14.
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- Robinson, Ralph O., Jr., to United States of America, Navy. Oscillator. 3,092,028, 6-4-63, Cl. 102-70.2.
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- Robinson, Reginald C. B.: See—
- Conger, Joseph C., Sr., Robinson, and Kelly. 3,114,726.
- Robinson, Richard A., to G. D. Searle & Co. Hydroxydialkylaminoalkylaminoisoquinolines and related compounds. 3,101,338, 8-20-63, Cl. 260-268.
- Robinson, Richard S.: See—
- Doggett, Roger H., Hall, and Montgomery. 3,112,518.
- Robinson, Robert E.: See—
- Mador, Irving L., and Robinson. 3,111,543.
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- Robinson, Russell I., to The Louis Allis Co. Electric motor with improved cooling means. 3,088,042, 4-30-63, Cl. 310-54.
- Robinson, Russell S.: See—
- Fisher, John L. 3,103,034.
- Robinson, Samuel B.: See—
- Miller, Alfred L., Baldwin, and Robison. 3,091,560.



- Robinson, Stephen B., Jr., to Rohm & Haas Co. Process of treating filaments and yarns of thermoplastic addition polymers. 3,094,718, 6-25-63, Cl. 8-155.
- Robinson Technical Products, Inc.: *See*—  
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- Robinson, Thomas R., Jr., to The Marlin Firearms Co. Rifled gun barrel. 3,100,358, 8-13-63, Cl. 42-78.
- Robinson, Walter H., Jr., to The Stanley Works. Utility knife. 3,107,426, 10-22-63, Cl. 30-162.
- Robinson, Warn D., to Monsanto Chemical Co. Catalytic production of maleic and phthalic anhydride. 3,106,569, 10-8-63, Cl. 260-346.4.
- Robinson, Wayne W., to Edcliff Instruments. Hard backing bar for adjustable wire wound systems. 3,116,470, 12-31-63, Cl. 338-180.
- Robinson, William H. Molding apparatus. 3,103,039, 9-10-63, Cl. 18-30.
- Robinson, William H., and C. R. Scheuring, to Buckeye Molding Co. Container. 3,080,964, 3-12-63, Cl. 206-46.
- Robinson, William J., and R. W. Guyer, Jr., to Waldorf Paper Products Co. Carrying container. 3,078,032, 2-19-63, Cl. 229-52.
- Robinson, William T. Outlet box supports. 3,082,987, 3-26-63, Cl. 248-205.
- Robisch, Norman G.: *See*—  
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- Robischung, Philip J., and D. E. Sutton, to Hammond Machinery Builders, Inc. Electrolytic grinding machine. 3,115,454, 12-24-63, Cl. 204-224.
- Robison, Michael M., H. B. MacPhillamy, and R. A. Lucas, to Ciba Corp. 18 $\beta$ -deoxy-18-oxo- and 18-oximino-reserpates. 3,093,648, 6-11-63, Cl. 260-287.
- Robison, Paul C.: *See*—  
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- Robison, Samuel B.: *See*—  
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- Robledano, Pablo: *See*—  
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- Roblee, Leland H. S., Jr., to Esso Research and Engineering Co. Temperature measuring instrument. 3,100,996, 8-20-63, Cl. 73-362.
- Roblee, Leland H. S., Jr., and S. C. Sperling, to Esso Research and Engineering Co. Apparatus for and method of sampling intermediate products of chemical reactions. 3,075,391, 1-29-63, Cl. 73-421.5.
- Roblee, Leland H. S., Jr., J. V. Clarke, Jr., and C. W. Foust, to Esso Research and Engineering Co. Process for improving diffusion electrodes. 3,098,762, 7-23-63, Cl. 117-228.
- Robot-Foto G.m.b.H. & Co.: *See*—  
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- Robot Foto und Elektronik G.m.b.H., & Co., KG: *See*—  
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- Robotron Corp.: *See*—  
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- Robra, Helmut: *See*—  
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- Robson, Anthony E.: *See*—  
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- Robson, Aubrey H., to American Air Filter Co., Inc. Control system for air heater. 3,076,604, 2-5-63, Cl. 236-10.
- Robson, John, to Reynolds Metals Co. Metering dispensing carton. 3,090,532, 5-21-63, Cl. 222-456.
- Robson, Norman S., to Trabon Engineering Corp. Cyclic lubricating means. 3,074,509, 1-22-63, Cl. 184-7.
- Robson, Walter A.: *See*—  
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- Roby, Frank H.: *See*—  
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- Roby, Robert L., to Accurate Products Co. Inc. Pressure tube for traffic indicator. 3,090,404, 5-21-63, Cl. 138-119.
- Rocard, Yves A., to Hupp Corp. Infra-red radiant energy devices. 3,111,587, 11-19-63, Cl. 250-199.
- Rocchini, Albert G., and C. E. Trautman, to Gulf Research & Development Co. Non-corrosive vanadium-containing fuels. 3,078,662, 2-26-63, Cl. 60-39.02.
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- Rocco, Joseph. Illuminated dancing shoe. 3,070,907, 1-1-63, Cl. 36-8.3.
- Roch, Josef, and G. Beisenherz, to Dr. Karl Thomae G.m.b.H. Basic-substituted pyrimido[5,4-D]-purimides. 3,074,928, 1-22-63, Cl. 260-210.
- Rochar Electronique: *See*—  
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- Roche, Andre, P. Grancher, J. Gajac, and R. Becanne, to French State, Minister of Armies (Powder Department). Process for the recovery of pentaerythrite. 3,096,377, 7-2-63, Cl. 260-637.
- Roche, Arthur F.: *See*—  
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- Roche, Edouard: *See*—  
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- Roche, Irvan D., to E. I. du Pont de Nemours and Co. Process for coating porous material with a microporous elastomeric polymer dissolved in a volatile mixture of a ketone and a volatile aliphatic hydrocarbon. 3,109,750, 11-5-63, Cl. 117-98.
- Roche, James L.: *See*—  
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- Roche, Melvin E., to The Harvard Mfg. Co. Arm or head-board support for divans and the like. 3,098,243, 7-23-63, Cl. 5-52.
- Roche, Melvin E., to The Harvard Mfg. Co. Bedframe having snap-in leg means. 3,105,976, 10-8-63, Cl. 5-285.
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- Rochen, Leo K. Alkyl acid phosphate salts. 3,107,262, 10-15-63, Cl. 260-461.
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- Rochester, John C. O., to The Plessey Co. Ltd. Circuit for producing output signal as a function of plural, varied-sloped inputs. 3,089,093, 5-7-63, Cl. 328-178.
- Rochester Mfg. Co., Inc.: *See*—  
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- Rochester, Nathaniel: *See*—  
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- Rochester Ropes, Inc.: *See*—  
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- Rocheville, Charles F., to Microseal Products, Inc. Device for treating the surface of a workpiece. 3,100,724, 8-13-63, Cl. 118-308.
- Rochla, Kurt, to Windmoller & Holscher. Machine for winding continuous sheet material. 3,112,085, 11-26-63, Cl. 242-56.
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Heuck, Claus, Rochlitz, Schmidt, Vilcek, and Winter. 3,097,184.
- Rochow, Eugene G., to General Electric Co. Polymeric silazanes. 3,098,830, 7-23-63, Cl. 260-2.
- Rock, Harvey R., to United States of America, Atomic Energy Commission. Composite control rod. 3,115,452, 12-24-63, Cl. 204-193.2.
- Röck, Heinrich, to Suddutsche Kalkstickstoff-Werke A.G. Process for decreasing the oxide content of commercial calcium carbide. 3,092,460, 6-4-63, Cl. 23-208.
- Rock, Jerome R., and K. Sameshima, to Burroughs Corp. Tape guiding means for magnetic tape transports. 3,097,779, 7-16-63, Cl. 226-97.
- Rock, Raymond H. Decorative mirror. 3,104,830, 9-24-63, Cl. 240-4.2.
- Rockabrand, Claude S. (deceased), H. E. Higginbotham, and A. M. Rockabrand (executrix of said C. S. Rockabrand). Floor pad. 3,114,940, 12-24-63, Cl. 20-6.
- Rockafellow, Stuart C., to Robotron Corp. Pulse generation from a three-phase source. 3,075,094, 1-22-63, Cl. 307-106.
- Rockafellow, Stuart C., to Robotron Corp. Precharging capacitor for pulse power. 3,087,047, 4-23-63, Cl. 219-114.
- Rockafellow, Stuart C., to Robotron Corp. Current peaked pulse generator providing switched D.C. potential of a charged capacitor through an RLC circuit. 3,106,682, 10-8-63, Cl. 328-76.
- Rockafellow, Stuart C., to Robotron Corp. Pulse generating circuit. 3,112,437, 11-26-63, Cl. 323-24.
- Rockborn, Gunnar, to Behringwerke Aktiengesellschaft. Process for producing a vaccine against distemper. 3,098,011, 7-16-63, Cl. 167-78.
- Rocke, William. Hydrotherapy apparatus. 3,085,576, 4-16-63, Cl. 128-369.
- Rocker, Elmer, to The J. B. Coggins Mfg. Co. Toilet seat and lid assembly. 3,075,204, 1-29-63, Cl. 4-236.
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- Rocket Power, Inc.: *See*—  
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Bridgforth, Robert M., Jr. 3,112,609.
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- Rocklin, Albert L.: *See*—  
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- Rocklin, Albert L., to Shell Oil Co. Bisphenol preparation. 3,091,645, 5-28-63, Cl. 260-619.
- Rockmont Envelope Co.: See—  
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- Rockola, David C., to Rock-Ola Mfg. Corp. Automatic phonograph. 3,074,725, 1-22-63, Cl. 274-10.
- Rockola, David C., to Rock-Ola Mfg. Corp. Selectively operable control mechanism for automatic phonographs. 3,085,228, 4-9-63, Cl. 340-147.
- Rockola, David C., R. Petri, and H. Sifferle, to Rock-Ola Mfg. Corp. Automatic phonograph with coin controlled mechanism. 3,082,853, 3-26-63, Cl. 194-15.
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- Rockova, Eva: See—  
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- Rockovits, John F., 25% to J. J. McGlew and 37½% to G. Tomosy. Self-seal balloon. 3,088,242, 5-7-63, Cl. 46-90.
- Rock, Hugh N., and G. M. Snyder, to Landis Tool Co. Control wheel motor interlock with loading and ejecting mechanism. 3,081,582, 3-19-63, Cl. 51-103.
- Rockstrom, Leonard, to Cameron Machine Co. Anti-deflecting rewind shaft assembly for winding machines. 3,079,101, 2-26-63, Cl. 242-66.
- Rocksvold, Alvin N.: See—  
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- Rockwell, Adelbert W., Jr., to United Shoe Machinery Corp. Heel and shank lasting machines. 3,082,448, 3-26-63, Cl. 12-10.2.
- Rockwell, Adelbert W., Jr., to United Shoe Machinery Corp. Heel end assembling and backpart molding machine. 3,096,531, 7-9-63, Cl. 12-10.2.
- Rockwell, Albert M., to United Aircraft Corp. Compressor rotor construction. 3,104,092, 9-17-63, Cl. 253-38.
- Rockwell, Edward A. Hydraulic system. 3,091,931, 6-4-63, Cl. 60-54.5.
- Rockwell, Frank H.: See—  
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- Rockwell, Harvey W., to Allis-Chalmers Mfg. Co. Cutting blade for excavator. 3,103,752, 9-17-63, Cl. 37-144.
- Rockwell Mfg. Co.: See—  
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Scherer, George F. 3,107,219.  
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- Rockwell, Robert G.: See—  
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- Rockwell, Ross R. Foam type surface cleaner and method of cleaning surfaces. 3,079,285, 2-26-63, Cl. 134-10.
- Rockwell-Standard Corp.: See—  
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- Rockwood, Albert M., and D. M. Cowan, to Ten Council of the United States of America, Inc. Valve assembly including actuating mechanism therefor. 3,088,490, 5-7-63, Cl. 137-637.
- Rockwood & Co.: See—  
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- Rock Wool Engineering and Equipment Co., Inc.: See—  
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- Roda, Dominick A., to Talon, Inc. Shoe construction. 3,078,600, 2-26-63, Cl. 36-50.
- Rodale Mfg. Co., Inc.: See—  
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- Rodbard, Simon. Surgical clamp. 3,111,124, 11-19-63, Cl. 128-346.
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- Roddy, John J., to Skinner Precision Industries, Inc. Indexing chuck. 3,096,097, 7-2-63, Cl. 279-5.
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- Rodek, Victor, to General Dynamics Corp. Adjustable piezoelectric wave filter having two resonance peaks. 3,109,153, 10-29-63, Cl. 333-72.
- Roden, William F.: See—  
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- Rodenacker, Wolf, to Farbenfabriken Bayer Aktiengesellschaft. Process for stretching filaments. 3,084,393, 4-9-63, Cl. 18-48.
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- Roder, Georg: See—  
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- Roder, Karl, to Goebel G.m.b.H., Maschinenfabrik. Roll slitting and rewinding machines. 3,090,576, 5-21-63, Cl. 242-67.1.
- Roderick, George J.: See—  
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- Roderick, Miriam Y.: See—  
Yates, Charles G., Jr., and Roderick. 3,072,370.
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- Rodewald, Arnold, to Emil Haefely & Cie, A.G. Circuit arrangements for the damping of excess voltages in shock potential generators. 3,073,973, 1-15-63, Cl. 307-110.
- Rodgers, Arthur: See—  
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- Rodgers, Arthur, C. E. Fallis, and H. W. Huthsing, to The Fire Guard Corp. Pressurized gas valve unit. 3,086,547, 4-23-63, Cl. 137-466.
- Rodgers, Arthur, and C. E. Fallis, to Fire Guard Corp. Pressurized fluid coupling means. 3,093,357, 6-11-63, Cl. 251-149.4.
- Rodgers, Felix C., to Chemetron Corp. Method and apparatus for preserving an adequate supply of CO<sub>2</sub> for fire protection. 3,097,499, 7-16-63, Cl. 62-55.
- Rodgers, Frank J. Drafting instrument. 3,111,765, 11-26-63, Cl. 33-108.
- Rodgers Hydraulic Inc.: See—  
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- Rodgers, James S., to Rodgers Hydraulics Inc. Track press and track assembly tool therefor. 3,097,477, 7-16-63, Cl. 59-7.
- Rodgers, John L., Jr.: See—  
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- Rodgers, Marlon E., Jr., to North American Aviation, Inc. Fastener. 3,078,002, 2-19-63, Cl. 218-29.
- Rodgers, Otis N., W. F. Olson, and W. R. Wheeler, Jr., to American Iron & Machine Works Co., Inc. Valve with means for controlling and indicating wear. 3,092,139, 6-4-63, Cl. 137-533.29.
- Rodi & Wienerberger A.G.: See—  
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- Rodin, Walter H. Overheated journal box detection system comprising radioactive source and detector. 3,090,859, 5-21-63, Cl. 246-169.
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- Rodis, Franz, and J. Cremer, to Knapsack-Griesheim Aktiengesellschaft. Process for the manufacture of active silicic acid from a high-percent silicate slag. 3,110,564, 11-12-63, Cl. 23-182.
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- Rodish, John, to The Mead Corp. Fibrous cylindrical containers having reinforced end structures. 3,107,037, 10-15-63, Cl. 229-5.6.
- Rodloff, Günther: See—  
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- Rodmaker, Gerald M., and W. R. Wedding, to Joseph H. Spaulding. Lighting fixture mounting means. 3,108,751, 10-29-63, Cl. 240-51.11.
- Rodman, James P. Sausage cooker. 3,090,294, 5-21-63, Cl. 99-427.



- Rodney, Longin: *See*—  
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- Rodrigues, Anthony F., and E. R. Anderson, to Filper Corp. Orienting apparatus and method for orienting whole fruit having depressions at their stem and blossom ends. 3,101,833, 8-27-63, Cl. 198-33.
- Rodriguez, Emil, to Jacoby-Bender, Inc. Structure for releasable attachment of bracelet sections. 3,084,412, 4-9-63, Cl. 24-265.
- Rodriguez, Enos S. Battery carriers. 3,084,963, 4-9-63, Cl. 294-92.
- Rodriguez, Jose, and R. Rodriguez; said R. Rodriguez assor. to said J. Rodriguez. Stem splitter and grader for cherries. 3,115,169, 12-24-63, Cl. 146-1.
- Rodriguez, Jose, and R. Rodriguez; said R. Rodriguez assor. to said J. Rodriguez. Cherry cluster cutting machine. 3,115,170, 12-24-63, Cl. 146-1.
- Rodriguez, Rudolph: *See*—  
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- Rodwell, William, to United Kingdom Atomic Energy Authority. Nuclear reactor moderator structures. 3,105,805, 10-1-63, Cl. 204-193.2.
- Rodwick, Frank P., and N. T. Thome, to The Silex Co. Coffee brewer. 3,093,061, 6-11-63, Cl. 99-281.
- Roe, Charles A. and R. R. Trailer light support. 3,083,292, 3-26-63, Cl. 240-8.3.
- Roe, Clarence D., to Robertshaw-Fulton Controls Co. Encapsulated switch. 3,085,140, 4-9-63, Cl. 200-168.
- Roe, Elverson O., and R. C. Carneke, to General Industries Co. Electric motors. 3,075,109, 1-22-63, Cl. 310-239.
- Roe, Justus, and Sons, Inc.: *See*—  
Roe, Justus G. 3,078,058.  
Roe, Justus G. 3,084,622.
- Roe, Justus G., to Justus Roe and Sons, Inc. Tape measure. 3,078,058, 2-19-63, Cl. 242-84.8.
- Roe, Justus G., to Justus Roe and Sons, Inc. Printing machines. 3,084,622, 4-9-63, Cl. 101-228.
- Roe, Paul S., to The Bendix Corp. Automatic adjuster. 3,075,620, 1-29-63, Cl. 188-71.
- Roe, Ralph C., to Burns and Roe, Inc. Combined gas and steam power cycle. 3,097,486, 7-16-63, Cl. 60-39.18.
- Roe, Ralph C., J. Lichtenstein, and T. Y. Mullen, to Burns and Roe, Inc. Heat storage and steam generating unit. 3,108,577, 10-29-63, Cl. 122-33.
- Roe, Robert R.: *See*—  
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- Roe, Thorndyke, Jr.: *See*—  
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- Roerber, William H.: *See*—  
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- Roebuck, Alan K., and B. L. Evering, to Standard Oil Co. Paraffin alkylation process. 3,075,028, 1-22-63, Cl. 260-683.53.
- Roeder, George K., to Roeder Hydraulics, Inc. Well pumps. 3,096,717, 7-9-63, Cl. 103-46.
- Roeder Hydraulics, Inc.: *See*—  
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- Roeder, John, Jr.: *See*—  
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- Roeder, Joseph A.: *See*—  
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- Roediger, Charles L., and B. T. Groome, to Star Paper Tube, Inc. Apparatus for making convolute paper tubes and method. 3,073,218, 1-15-63, Cl. 93-81.
- Roehl, Edward J., to Pittsburgh Steel Co. Strip and method for manufacturing Bundy tubing and method of making the same. 3,076,260, 2-5-63, Cl. 29-476.5.
- Roehl, Ernest O., to Baron Industries. Degreasing apparatus. 3,111,952, 11-26-63, Cl. 134-105.
- Roehr, Zbislav M., to Brunswick Corp. Medicinal vial and needle assembly. 3,074,541, 1-22-63, Cl. 206-43.
- Roehr, Zbislav M., to Brunswick Corp. Needle with molded hub. 3,093,134, 6-11-63, Cl. 128-221.
- Roehr, Zbislav M., to Brunswick Corp. Surgical apparatus. 3,097,647, 7-16-63, Cl. 128-221.
- Roehr, Zbislav M., to Brunswick Corp. Syringe-container structure. 3,107,785, 10-22-63, Cl. 206-63.2.
- Roehrig, Phillip J., to The Wurlitzer Co. Piano action. 3,100,416, 8-13-63, Cl. 84-240.
- Roehrig, Phillip J., to The Wurlitzer Co. Piano action and materials for making the same. 3,106,861, 10-15-63, Cl. 84-240.
- Roelen, Otto, K. Büchner, and J. Meis, to Ruhrchemie Aktiengesellschaft. Catalytic addition of carbon monoxide and hydrogen to olefinic compounds. 3,095,451, 6-25-63, Cl. 260-598.
- Roelli, Conrad H., to North American Aviation, Inc. Balanced current series transistor regulator. 3,094,654, 6-18-63, Cl. 323-22.
- Roelofs, Henry M.: *See*—  
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- Roemer, Irving C., to Crown Zellerbach Corp. Two-roll paper dispenser. 3,084,006, 4-2-63, Cl. 312-39.
- Roes, Carl W. Fishing lure. 3,079,723, 3-5-63, Cl. 43-42.26.
- Roesel, John F., Jr., to Westinghouse Electric Corp. Circuit arrangement for energizing discharge devices. 3,089,981, 5-14-63, Cl. 315-98.
- Roeser, Gerald P., to Mobil Finishes Co., Inc. Dimethyl sulfoxide-aromatic hydrocarbon solvent system for vinyl chloride copolymers. 3,109,828, 11-5-63, Cl. 260-30.8.
- Roeser, John O., to Illinois Tool Works Inc. Control mechanism. 3,072,769, 1-8-63, Cl. 200-160.
- Roeser, John O., to Illinois Tool Works Inc. Snap switch. 3,099,723, 7-30-63, Cl. 200-67.
- Roeser, John O. Adjustable switch block assembly. 3,099,735, 7-30-63, Cl. 200-166.
- Roeser, John O., to Illinois Tool Works Inc. Snap switch mechanism. 3,105,885, 10-1-63, Cl. 200-67.
- Roethler, Babe H. Magnetic toy for simulating earth-working operations. 3,106,042, 10-8-63, Cl. 46-240.
- Rogal, Edward, to Universal Controls, Inc. Remote controlled adder/subtractor using coded frequency inputs. 3,072,333, 1-8-63, Cl. 235-168.
- Rogal, Edward, to Universal Controls, Inc. Remote controlled arithmetic unit using coded frequency inputs. 3,072,334, 1-8-63, Cl. 235-179.
- Rogal, Edward, to Universal Controls, Inc. Information recording apparatus. 3,080,551, 3-5-63, Cl. 340-174.1.
- Rogal, Edward, to Universal Controls, Inc. Automatic data sorting devices. 3,081,445, 3-12-63, Cl. 340-172.5.
- Roganti, Henry P. Miniature reflex copy-reproducing device. 3,073,234, 1-15-63, Cl. 95-75.
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- Rogers, Alfred N., to Baldwin-Lima-Hamilton Corp. Air-cooled shipping container for nuclear fuel elements. 3,111,586, 11-19-63, Cl. 250-108.
- Rogers, Arthur O., to E. I. du Pont de Nemours and Co. Production of 5(4-aminobutyl)-hydantoin and of intermediates therefor. 3,078,274, 2-19-63, Cl. 260-309.5.
- Rogers, Austin S., to Houston Oil Field Material Co., Inc. Stuck pipe locator. 3,095,736, 7-2-63, Cl. 73-151.
- Rogers, Bobo B. Ring rail latch for spinning frames and the like. 3,095,684, 7-2-63, Cl. 57-54.
- Rogers, Bobo B. Traveler cleaner. 3,095,685, 7-2-63, Cl. 57-57.
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- Rogers Brothers Corp.: *See*—  
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- Rogers, Cecil B. Balancer for a rotating shaft. 3,109,321, 11-5-63, Cl. 74-573.
- Rogers, Chester E., Jr., to United Shoe Machinery Corp. Heel attaching machines. 3,101,480, 8-27-63, Cl. 1-335.
- Rogers, Cyril B., to Clark Equipment Co. Truck carrier with tilting turntable. 3,086,669, 4-23-63, Cl. 214-505.
- Rogers, Dale R., and R. K. Lemon. Liner for spouts and the like. 3,110,521, 11-12-63, Cl. 302-64.
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- Rogers, Dilworth T., and J. P. McDermott, to Esso Research and Engineering Co. Additives to improve the electrical properties of combustible organic liquids. 3,084,035, 4-2-63, Cl. 44-66.
- Rogers, Edward A., and N. G. Bennett, to Gravinier Mfg. Co. Ltd. Temperature sensitive devices. 3,089,339, 5-14-63, Cl. 73-362.
- Rogers, Edward F.: *See*—  
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- Rogers, Edward F., and R. L. Clark, to Merck & Co., Inc. Compositions for the control of coccidiosis. 3,088,867, 5-7-63, Cl. 167-53.1.
- Rogers, Edward S., Jr., to Radio Corp. of America. Electrical devices. 3,107,277, 10-15-63, Cl. 179-1.
- Rogers, Elwood C., Jr., to Fotomatic Corp. Combined light meter and sighting device. 3,087,379, 4-30-63, Cl. 88-23.
- Rogers, Emrie E. Control valve. 3,115,160, 12-24-63, Cl. 137-625.23.
- Rogers, Francis R.: *See*—  
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- Rogers, Gail C., and A. Williams, to Submerged Combustion, Inc. Process and apparatus for converting non-potable water to potable water. 3,080,302, 3-5-63, Cl. 202-66.
- Rogers, Herbert M., to The Hoover Co. Coupling device. 3,113,795, 12-10-63, Cl. 287-119.
- Rogers, Howard G.: *See*—  
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- Rogers, Howard G., to Polaroid Corp. Process and product for forming color images from complete dyes. 3,087,817, 4-30-63, Cl. 96-29.
- Rogers, Howard G., and H. W. Lutes, to Polaroid Corp. Color diffusion transfer using gelatin-silver halide emulsions containing cellulose ethers. 3,077,400, 2-12-63, Cl. 96-3.
- Rogers, Howard H., to Allis-Chalmers Mfg. Co. Method of fusion bonding with a nitrogen trifluoride flame. 3,071,852, 1-8-63, Cl. 29-470.
- Rogers Iron Works Co.: *See*—  
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- Rogers, John F., to M. S. Bowne, as trustee. Vacuum transfer device for material in a plastic state. 3,076,561, 2-5-63, Cl. 214-1.
- Roger, Jose M. C. Parlor game. 3,104,878, 9-24-63, Cl. 273-130.
- Rogers, Joseph, Inc.: See—  
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- Rogers, Thomas H., G. F. Bavor, and B. Magnusson, to The Machlett Laboratories, Inc. Radiographic systems and method. 3,103,591, 9-10-63, Cl. 250-102.
- Rogers, Thomas H., Jr., to The Goodyear Tire & Rubber Co. Latex foam rubber reinforced with a film of starch derivative and method of making same. 3,107,225, 10-15-63, Cl. 260-25.
- Rogers, Thomas H., Jr., and H. H. Heineman, to The Goodyear Tire & Rubber Co. Treatment of polyurethane cellular products. 3,102,825, 9-3-63, Cl. 117-98.
- Rogers, Thomas H., Jr., H. H. Heineman, and C. L. Howard, to The Goodyear Tire & Rubber Co. Combustion resistant rubber latex foam containing a hydrocarbon mineral oil and a reinforcing styrene polymer. 3,107,224, 10-15-63, Cl. 260-25.
- Rogers, Thomas W. Pogo pony. 3,079,161, 2-26-63, Cl. 280-1191.
- Rogers, Walter C., and N. W. Mizelle, to General Steel Products, Inc. Reclining chair. 3,100,668, 8-13-63, Cl. 297-89.
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- Rogers, William A., Jr., C. A. Latta, L. R. Knodel, and A. E. Gurgio, to The Dow Chemical Co. Polyurethane stabilization. 3,072,605, 1-8-63, Cl. 260-45.95.
- Rogers, William I., to General Foods Corp. Preparation of heat-coagulable protein. 3,099,562, 7-30-63, Cl. 99-18.
- Rogerson, John, to Laird, Cammell, & Co. (Shipbuilders & Engineers) Ltd. Lubricating systems. 3,106,262, 10-8-63, Cl. 184-6.
- Rogg, Otto, to C. Hurth. Gear shaving machine. 3,115,064, 12-24-63, Cl. 90-1.6.
- Rogge, Bernhard. Munition cleaning equipment. 3,088,473, 5-7-63, Cl. 134-58.
- Roggenstein, Edwin O., to Sperry Rand Corp. Power action for typewriter. 3,103,272, 9-10-63, Cl. 197-17.
- Rogier, Edgar R., to General Mills, Inc. Amino hydroxy nitriles. 3,081,304, 3-12-63, Cl. 260-247.7.
- Rogillo, Archie E., to Esso Research and Engineering Co. Alcohol dehydration process. 3,100,741, 8-13-63, Cl. 202-42.
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- Rohats, Nicholas, and B. V. Bhimani, to General Electric Co. Method and apparatus for testing electrical insulation. 3,071,724, 1-1-63, Cl. 324-54.
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- Röhl, Georg. Stripping device for bobbins. 3,095,631, 7-2-63, Cl. 28-20.
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- Rohner, Thomas G., to Electric Machinery Mfg. Co. Control system for controlling the operation of synchronous motors. 3,100,279, 8-6-63, Cl. 318-167.
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- Rohr, Fred H. Method and apparatus for fabricating honeycomb core. 3,079,487, 2-26-63, Cl. 219-83.



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- Rohr, Hans, to Siemens-Schuckertwerke Aktiengesellschaft. Electric devices for performing logic functions. 3,111,589, 11-19-63, Cl. 307-88.
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- Rohrer, Douglas P., and G. A. Wood, Jr., to Arthur D. Little Inc. Card printing machine. 3,086,459, 4-23-63, Cl. 101-297.
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- Rojecki, Walter E., to The Black-Clawson Co. Paper machinery. 3,079,805, 3-5-63, Cl. 74-241.
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- Rolland, Calvin C., and R. E. Duncan, to American Cyanamid Co. Stabilization of acrylonitrile. 3,109,856, 11-5-63, Cl. 260-465.8.
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- Rollman, Ernest E.: *See—*
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- Rolls, Glen D., to Textron Inc. Electrically commutated fluid motor. 3,090,362, 5-21-63, Cl. 121-63.
- Rolls-Royce & Associates Ltd.: *See—*
- Hollings, John S., and Unitt. 3,082,893.
- Lockwood, William C. 3,083,297.
- Rolls-Royce Ltd.: *See—*
- Basford, Kenneth A. 3,103,829.
- Basford, Kenneth A., and Panton. 3,095,030.
- Bauer, Stefan G. 3,096,264.
- Bauer, Stefan G., and Battle. 3,099,616.
- Bauer, Stefan G., and Jubb. 3,103,917.
- Beale, Richard D., Kent, and Wilde. 3,074,432.
- Beale, Richard D., and Littleford. 3,113,430.
- Bill, Arthur, and Dawson. 3,075,349.
- Bowmer, Thomas. 3,094,810.
- Bowmer, Thomas. 3,111,302.
- Bragg, Stephen L., and Gibbings. 3,106,822.
- Brown, David M., and Colley. 3,078,309.
- Brown, David M., Keen, and Urnston. 3,092,205.
- Brown, David M., and Spooner. 3,113,636.
- Colley, Rowan H., and Ward. 3,113,428.
- Cook, Henry. 3,083,532.
- Eltis, Ernest, and Collins. 3,108,767.
- Gayfer, Peter J., Jubb, and Johnson. 3,076,310.
- Goodall, Donald G. 3,089,663.
- Griffith, Alan A. 3,076,625.
- Horbury, Eric A., Dix, and Parkin. 3,105,140.
- Hurcomb, William J. 3,099,056.
- James, Ralph, and Miller. 3,113,431.
- Johnson, Christopher L. 3,076,311.
- Jubb, Albert, and Johnson. 3,085,397.
- Kent, Nelson H., Beale, and Blackhurst. 3,094,270.
- Kent, Nelson H., and Eccles. 3,112,557.
- Kent, Nelson H., and Smith. 3,085,396.
- Leaver, Ralph H., and Knibbs. 3,071,125.
- Lefebvre, Arthur H. 3,080,715.
- Lefebvre, Arthur H., and Miller. 3,088,280.
- Lefebvre, Arthur H., and Rice. 3,085,401.
- May, Gordon C., and Morley. 3,091,925.
- McLean, Donald, Kent, and Steel. 3,095,010.
- Morley, Frederick W. W., Anley, and Torrance. 3,108,434.
- Morley, Frederick W. W., and Wilkinson. 3,092,393.
- Morley, Frederick W. W., Wilkinson, and Broad. 3,082,010.
- Palfreyman, Jack. 3,107,489.
- Petrie, James A., and Bracey. 3,088,563.
- Pope, Geoffrey A. K., Brealey, and Kent. 3,107,690.
- Pratt, Leslie J., and Brien. 3,096,074.
- Shelley, Thomas. 3,091,382.
- Smith, Alfred J., and Mellin. 3,089,078.
- Smith-Gorman, Robert J. 3,089,764.
- Wilde, Geoffrey L. 3,100,627.
- Wilde, Geoffrey L., and Murray. 3,099,423.
- Wilde, Geoffrey L., and Oldfield. 3,115,748.
- Wilkinson, Wilfred H. 3,111,195.
- Rolo Mfg. Co.: *See—*
- Franklin, Robert K., Boren, and Oliphant. 3,110,171.
- Rolph, Samuel F., to The Yale & Towne Mfg. Co. Door closer adjustment. 3,082,471, 3-26-63, Cl. 16-49.
- Rolt, Anthony P. R.: *See—*
- Hill, Claude, and Rolt. 3,073,405.
- Rollz-On, Inc.: *See—*
- Zauner, Frank J., and Hommen. 3,078,227.
- Rom, Rudolph A.: *See—*
- Briskin, Theodore S., Moore, and Rom. 3,076,397.
- Briskin, Theodore S., Moore, and Rom. 3,081,669.
- Briskin, Theodore S., Moore, and Rom. 3,084,607.
- Briskin, Theodore S., Moore, and Rom. 3,094,038.
- Moore, Robert L., and Rom. 3,107,862.
- Roman, Daniel P., to Monsanto Chemical Co. Bacteriostatic and fungistatic cleansing compositions. 3,088,916, 5-7-63, Cl. 252-106.
- Roman, Michael. Milk sampling and testing apparatus. 3,085,425, 4-16-63, Cl. 73-61.
- Roman, Pierre A., to Eastman Kodak Co. Apparatus and method for treating photographic products in a single bath. 3,110,595, 11-12-63, Cl. 96-48.
- Roman, Robert J., to Eastman Kodak Co. Cam and follower. 3,110,194, 11-12-63, Cl. 74-567.
- Romanchuk, Steve, and C. R. Mills, to Shemitt Gordon Mines Ltd. Powder metal sampling device. 3,091,969, 6-4-63, Cl. 73-425.2.
- Romanek, Gerald A.: *See—*
- George, William L., and Romanek. 3,101,520.
- Roman-Garcia, Carlos. Universal grill press. 3,088,341, 5-7-63, Cl. 77-28.
- Romanin, Bruno. Web-like continuous textile structure. 3,095,338, 6-25-63, Cl. 154-46.
- Romano, John E., to E. I. du Pont de Nemours and Co. Process for preparing spandex filaments. 3,111,368, 11-19-63, Cl. 18-54.
- Romano, Joseph J.: *See—*
- Yelpo, Joseph P., and Romano. 3,104,503.
- Romano, Thomas, Jr.: *See—*
- Berdan, David, and Romano. 3,107,093.
- Romans, Isabella B., 15% to A. C. Nolte. Oligodynamic silver compositions and uses. 3,092,552, 6-4-63, Cl. 167-72.
- Rombau, Paul A.: *See—*
- Peltier, Maurice L., and Rombau. 3,102,783.
- Rombold, Harry A. Multi-use work head for grinding operations. 3,087,287, 4-30-63, Cl. 51-225.
- Rombouts, Victor, to Koffie F. Rombouts N.V. in het Frans Cafes F. Rombouts S.A. Filtering device for the preparation of infusions, to be used only once. 3,094,917, 6-25-63, Cl. 99-287.



- Rome Cable Corp.: *See*—  
Seidel, Henry. 3,074,208.
- Romel, Ezio. Pneumatically operated table game. 3,113,776, 12-10-63, Cl. 273-85.
- Romeo, Albert J., and E. E. Masterson, to Sperry Rand Corp. Card feeding system. 3,073,590, 1-15-63, Cl. 271-51.
- Romeo, Alfa, S.p.A.: *See*—  
Orlando, Luigi E., and Corradì. 3,099,983.
- Romeo, Neil M., to Holley Carburetor Co. Nozzle bleed. 3,110,750, 11-12-63, Cl. 261-72.
- Romeo, Philip L.: *See*—  
Andersen, Holger C., Romeo, and Green. 3,098,712.
- Romeo, Philip L., Sr.: *See*—  
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- Römer, Wilhelm: *See*—  
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- Romesberg, Floyd E., and R. M. Karlinski, to The Dow Chemical Co. Process for incorporating additives into polymeric products. 3,108,984, 10-29-63, Cl. 260-34.2.
- Romeu Saez, Fernando. Process for the fabrication of sparkling wines. 3,112,201, 11-26-63, Cl. 99-41.
- Romi, Giordano. Method and mechanism for generating gears, racks and the like. 3,089,392, 5-14-63, Cl. 90-7.
- Romig, John R.: *See*—  
Herz, Joseph H., and Romig. 3,091,443.
- Romig, John R., and J. H. Herz, to California Portland Cement Co. Kiln control method and apparatus. 3,091,442, 5-28-63, Cl. 263-32.
- Romiguiere, Claude E. G.: *See*—  
Favaliere, Jean, and Romiguiere. 3,076,917.
- Romine, Charles F.: *See*—  
Kohn, Robert C., Kleibert, and Romine. 3,070,817.
- Romine, Glenn N.: *See*—  
Sylvester, Rowland L., and Romine. 3,075,659.
- Romine, Gordon L.: *See*—  
Egnor, William D., and Romine. 3,090,480.
- Romine, Roy T.: *See*—  
Smith, Jack C., Etterman, and Romine. 3,100,191.
- Romine, Roy T., J. B. Jacobsen, and N. Grasel, to Detrex Chemical Industries, Inc. Traveling guard conveyORIZED degreaser. 3,107,677, 10-22-63, Cl. 134-127.
- Romito, Vincent A.: *See*—  
Huyck, Willard M., and Romito. 3,093,242.  
Huyck, Willard M., and Romito. 3,098,751.
- Romling, Kurt: *See*—  
Zygan, Hieronymus, Koch, Schnell, Prietzschk, and Romling. 3,114,929.
- Rommel, Howard E. Transfer machine. 3,108,676, 10-29-63, Cl. 198-19.
- Rommel, Richard H.: *See*—  
Kelly, Thomas J., and Rommel. 3,084,033.
- Romney, Russell H. Valved mechanism. 3,078,068, 2-19-63, Cl. 251-149.2.
- Rompel, Walter: *See*—  
Haberkorn, Otto, Rompel, and Roth. 3,110,440.
- Ronan and Kunzli, Inc.: *See*—  
Millard, George R., Bidelman, and Martin. 3,078,500.  
Millard, George R., Bidelman, and Nobbs. 3,079,629.
- Ronay, Bela. Portable furnace. 3,074,704, 1-22-63, Cl. 263-4.
- Ronay, Thomas E., to The Richardson Co. Impact resistant laminate. 3,084,085, 4-2-63, Cl. 154-43.
- Ronay, Thomas E., R. D. Dexheimer, and R. P. Arthur, to The Richardson Co. Phosphoric acid styrene oxide ester. 3,112,335, 11-26-63, Cl. 260-461.
- Ronci, Fernando M. Reinforcing dowel for high heels. 3,087,263, 4-30-63, Cl. 36-34.
- Rondash, John T., to General Dynamics Corp. Tool for use with rigid cards. 3,110,960, 11-19-63, Cl. 29-278.
- Roney, Ellis L., to Sylvania Electric Products Inc. Chassis construction. 3,072,874, 1-8-63, Cl. 339-17.
- Ronga, Anthony J.: *See*—  
MacLellan, William J. 3,074,515.
- Rongved, Leif: *See*—  
Nielsen, Robert J., Paola, and Rongved. 3,116,434.  
Nielsen, Robert J., and Rongved. 3,116,171.
- Ronick, Murray, to Baldwin-Lima-Hamilton Corp. Shear for cutting billets, beams, and the like. 3,077,134, 2-12-63, Cl. 83-559.
- Ronkese, Bruno J.: *See*—  
Radovsky, David A., and Ronkese. 3,099,608.
- Ronnell, Eva E., to My Double Co., Inc. Adjustable dress form. 3,096,916, 7-9-63, Cl. 223-68.
- Ronner, Otto, and K. Aebi, to Starrfrasmashinenn A.G. Copying machine tool. 3,114,295, 12-17-63, Cl. 90-62.
- Ronnerström, Sven-Erik. Brake for airplane-arresting devices. 3,092,210, 6-4-63, Cl. 188-1.
- Ronning, Jacob A. Rotary lawn tool. 3,112,593, 12-3-63, Cl. 56-24.
- Rönnsäter, Per V., and A. G. Storm. Equipment for the transportation of goods in railway systems. 3,087,635, 4-30-63, Cl. 214-75.
- Ronshelm, Nelson, to Peters & Russell, Inc. Cleat. 3,090,343, 5-21-63, Cl. 114-218.
- Ronson Corp.: *See*—  
Cruz, Paul L. 3,072,360.  
Freedman, Lawrence I., and Tone. 3,084,446.  
Fuller, Richard E. 3,072,361.  
Goddard, John A. 3,093,990.  
Smith, James D. 3,081,611.  
Smith, James D. 3,111,015.  
Zellweger, Conrad. 3,085,601.
- Rood, Alvin A., to General Motors Corp. High-low speed hoist valve. 3,093,116, 6-11-63, Cl. 121-38.
- Rood, Alvin A., to General Motors Corp. Power steering for articulated vehicles. 3,097,719, 7-16-63, Cl. 180-79.2.
- Rood, Robert E.: *See*—  
Book, Herbert W., and Rood. 3,106,842.
- Rood, Robert E., to Westinghouse Electric Corp. Thermal indicator for electrical apparatus. 3,077,776, 2-19-63, Cl. 73-350.
- Rood, Robert M., and P. Villers, to General Electric Co. Article and method for joining dissimilar materials. 3,095,951, 7-2-63, Cl. 189-36.
- Roode, Melvin V.: *See*—  
Reindl, Harold J., and Roode. 3,108,899.
- Roof, Lewis B., to Phillips Petroleum Co. Gas separation system. 3,076,301, 2-5-63, Cl. 55-18.
- Roof, Lewis B., to Phillips Petroleum Co. Programmer for chromatography. 3,101,606, 8-27-63, Cl. 73-23.
- Roof, Robert A.: *See*—  
Shaw, Fred B., Long, and Roof. 3,108,881.
- Roofs, Howard B., and A. F. Mayer, to Collins Radio Co. Method of mechanical addition. 3,109,587, 11-5-63, Cl. 235-61.
- Rookus, James E., 5% to E. H. Daverman. Film projector. 3,089,628, 5-14-63, Cl. 226-83.
- Rooney, Hugh J.: *See*—  
Aronoff, Eli J., Del Franco, and Rooney. 3,083,171.
- Rooney, Michael: *See*—  
Worley, Norman G., and Rooney. 3,108,704.
- Rooney, William J. Inked typing ribbon with clean replacement means. 3,108,675, 10-29-63, Cl. 197-172.
- Roop, Robert E., to Continental Can Co., Inc. Temporary sealing means for bags. 3,079,066, 2-26-63, Cl. 229-62.
- Roos, Ernst: *See*—  
Lober, Friedrich, Roos, and Pohle. 3,111,504.  
Malz, Hugo, Roos, and Göbel. 3,107,231.
- Roos, Henry W.: *See*—  
Neher, Harry P., Jr., Roos, and Naylor. 3,087,676.
- Roos, John T., to Bird Machine Co. Valve for filter. 3,072,136, 1-8-63, Cl. 137-197.
- Roosa, Vernon D. Filter assembly. 3,105,042, 9-24-63, Cl. 210-94.
- Root, A. I. Co., The: *See*—  
Root, John A. 3,105,977.
- Root, Bernard H.: *See*—  
Martin, Joseph F., Nieretti, and Root. 3,071,732.
- Root, Clinton H., to The Bath, Cyril Co. Combined stretch and wipe forming machine with automatic traverse control of the wipe shoe. 3,096,806, 7-9-63, Cl. 153-40.
- Root, Elihu, III. Counting devices. 3,087,347, 4-30-63, Cl. 74-128.
- Root, Frank B., to United States of America, Agriculture. Compatible tung oil-unsaturated alkyl resin compositions and method for producing the same. 3,092,596, 6-4-63, Cl. 260-22.
- Root, George R., to Root Mfg. Co., Inc. Rotating disk mower with vertically adjustable rotating blade. 3,093,948, 6-18-63, Cl. 56-25.4.
- Root, John A., to The A. I. Root Co. Beehive having a slidable brood frame assembly. 3,105,977, 10-8-63, Cl. 6-2.
- Root-Lowell Mfg. Co.: *See*—  
Tidd, Victor S. 3,091,372.
- Root Mfg. Co., Inc.: *See*—  
Root, George R. 3,093,948.
- Root Spring Scraper Co.: *See*—  
Weeks, Warren D. 3,086,303.
- Root, William F.: *See*—  
Clark, Edgar W., Reynolds, and Root. 3,095,042.
- Roper, Dean W., C. L. Davis, and C. H. Wingrove. Apparatus for treating and sealing reloaded shot shells. 3,091,153, 5-28-63, Cl. 86-17.
- Roper, Geo. D. Corp.: *See*—  
Mathis, John B. 3,081,695.  
Reeves, Herbert M. 3,084,681.
- Roper Hydraulics, Inc.: *See*—  
Albright, John R. 3,105,268.  
Fulton, John J. 3,113,524.  
Fulton, John J., and Albright. 3,103,891.  
Holmes, John D., Jr. 3,109,445.  
Mosbacher, Bruce H. 3,106,163.
- Roper, John, and Co., Inc.: *See*—  
Roper, John H. 3,072,112.
- Roper, John H., to John Roper and Co., Inc. System for capturing crankcase gas and solids. 3,072,112, 1-8-63, Cl. 123-119.
- Ropes, George F.: *See*—  
Stromeyer, Charles F. 3,092,471.
- Ropiequet, Richard L., to Tetrionix, Inc. Bistable multivibrator which changes states in response to a single limited range, variable input signal. 3,074,020, 1-15-63, Cl. 328-194.
- Ropp, Richard C., to Sylvania Electric Products Inc. Ultra-violet emitting phosphor compositions. 3,109,820, 11-5-63, Cl. 252-301.6.
- Ropp, Richard C., to Sylvania Electric Products Inc. Cadmium bromophosphate phosphors. 3,111,493, 11-19-63, Cl. 252-301.6.
- Roppel, Clarence L. Vertical take off aircraft. 3,096,952, 7-9-63, Cl. 244-12.
- Roquemore, Troy L. Garage door handle. 3,082,472, 3-26-63, Cl. 16-112.



- Rorden, Robert J., and A. A. Ginsling, to Varian Associates. Thermocouple measuring circuit. 3,073,164, 1-15-63, Cl. 73-361.
- Rorig, Kurt J.: *See*—  
Kalm, Max J., and Rorig. 3,074,944.
- Rorig, Kurt J., to G. D. Searle & Co. Certain heterocyclic acid esters of  $\alpha$ -phenylpyridinemethanol. 3,071,588, 1-1-63, Cl. 260-294.8.
- Rorig, Kurt J., to G. D. Searle Co. 1-acyl- $\alpha$ , $\alpha$ -diphenyl-4-piperidinemethanols. 3,073,835, 1-15-63, Cl. 260-294.7.
- Rorig, Kurt J., to G. D. Searle & Co. 1-aminoalkyl- $\alpha$ -diphenylpiperidinemethanols. 3,081,303, 3-12-63, Cl. 260-247.5.
- Rorig, Kurt J., to G. D. Searle & Co. Bis(aminoalkylcarbamates). 3,081,310, 3-12-63, Cl. 260-294.3.
- Rorig, Kurt J., to G. D. Searle & Co.  $\alpha$ -phenyl-4-pyridine-methyl 2,2-dimethyl-3-(2-methylpropenyl) cyclopropylcarboxylate. 3,098,857, 7-23-63, Cl. 260-295.
- Rorig, Kurt J., to G. D. Searle & Co.  $\alpha$ -phenyl(pyridyl or piperidyl) alkyl esters of (chloro or lower alkoxy)-benzoic acids and congeners. 3,100,775, 8-13-63, Cl. 260-295.
- Rorig, Kurt J., to G. D. Searle & Co. 4-tertiary-butyl-4-diphenylmethyl, and 4-diphenylhydroxymethyl-, piperidinopropionitriles. 3,101,340, 8-20-63, Cl. 260-293.
- Rorig, Kurt J., to G. D. Searle & Co. 2,3-bis(p-methoxyphenyl)-N-dialkylaminoalkylpentanamides. 3,101,371, 8-20-63, Cl. 260-559.
- Rorig, Kurt J., to G. D. Searle & Co.  $\alpha$ -dialkylamino-N-[2,3-bis(p-methoxyphenyl)pentyl] alkanamides and intermediates. 3,101,372, 8-20-63, Cl. 260-562.
- Rorvig, Hjalmer. Gas torch lighter. 3,090,856, 5-21-63, Cl. 219-32.
- Rosa, Esau da Silva. Pumping system or apparatus for deep wells. 3,072,057, 1-8-63, Cl. 103-5.
- Rosa, John: *See*—  
Roberts, Roland W., Rosa, Algazi, and Abrams. 3,080,486.
- Rosa, Richard J., to Avco Corp. Hall current generator. 3,091,709, 5-28-63, Cl. 310-11.
- Rosa, Richard J., to Avco Mfg. Corp. Power generation system for propulsion and method of operating same. 3,099,131, 7-30-63, Cl. 60-35.3.
- Rosa, Umberto: *See*—  
Douis, Michel, and Rosa. 3,114,608.
- Rosaen Filter Co., The: *See*—  
Rosaen, Nils O. 3,076,335.  
Rosaen, Nils O. 3,077,267.  
Rosaen, Nils O. 3,113,925.  
Rosaen, Nils O. and O. E. 3,076,336.  
Rosaen, Oscar E. 3,074,556.  
Rosaen, Oscar E. 3,080,058.
- Rosaen, Nils O., to The Rosaen Filter Co. Means for checking hydraulic installations. 3,076,335, 2-5-63, Cl. 73-198.
- Rosaen, Nils O., to The Rosaen Filter Co. Oil filter outlet. 3,077,267, 2-12-63, Cl. 210-90.
- Rosaen, Nils O., to The Rosaen Filter Co. Fluid filters. 3,113,925, 12-10-63, Cl. 210-315.
- Rosaen, Nils O. and O. E., to The Rosaen Filter Co. Flow meter for checking the efficiency of hydraulic installations. 3,076,336, 2-5-63, Cl. 73-198.
- Rosaen, Oscar E.: *See*—  
Rosaen, Nils O. and O. E. 3,076,336.
- Rosaen, Oscar E., to The Rosaen Filter Co. Fluid filtering mechanism. 3,074,556, 1-22-63, Cl. 210-195.
- Rosaen, Oscar E., to The Rosaen-Filter Co. Pressure filter. 3,080,058, 3-5-63, Cl. 210-90.
- Rosaen, Oscar E. Variable delivery pumps. 3,086,475, 4-23-63, Cl. 103-136.
- Rosahl, Dietrich, and H. Esser, to Farbenfabriken Bayer Aktiengesellschaft. Process for production of polychloroprene latices using a paraffin sulfonate emulsifier. 3,074,899, 1-22-63, Cl. 260-29.7.
- Rosamilia, Peter L.: *See*—  
Harvey, Mortimer T., and Rosamilia. 3,074,972.
- Rosan Engineering Corp.: *See*—  
Rosan, Jose, and La Torre. 3,081,808.
- Rosan, Jose, and A. J. La Torre, to Rosan Engineering Corp. Thin-walled inserts and method of making same. 3,081,808, 3-19-63, Cl. 151-41.73.
- Rosander, Axel E. Infusion type coffee maker. 3,085,494, 4-16-63, Cl. 99-283.
- Rosander, Axel E. Automatic pressurized coffee maker. 3,085,495, 4-16-63, Cl. 99-283.
- Rosander, Russell B., to The Budd Co. High speed universal setting testing machine. 3,101,610, 8-27-63, Cl. 73-93.
- Rosano, Henri L. Evaporation-retardant. 3,082,058, 3-19-63, Cl. 21-60.5.
- Rosard, Daniel D.: *See*—  
Meyer, Charles A., and Rosard. 3,073,563.
- Rosati, Isadore F.: *See*—  
Rauner, Frederick J., Rosati, and Robertson. 3,100,702.
- Rosato, Frank J., and G. A. Biernson, to Sylvania Electric Products Inc. Inertial sensor. 3,083,578, 4-2-63, Cl. 73-504.
- Roscelli, Gertrude A., to National Industrial Products Co. Starch product. 3,097,969, 7-16-63, Cl. 127-33.
- Roscelli, Gertrude A., and R. L. High, to National Industrial Products Co. Blended carbohydrate textile size compositions. 3,081,183, 3-12-63, Cl. 106-197.
- Roschen, John: *See*—  
Bradley, William E., and Roschen. 3,075,902.
- Roschke, Erwin M.: *See*—  
Loughlin, Bernard D., and Roschke. 3,081,376.
- Roschke, Erwin M., to Zenith Radio Corp. Subscription television. 3,107,274, 10-15-63, Cl. 178-5.1.
- Roschuk, John I. Cartridge relay contact. 3,076,072, 1-29-63, Cl. 200-87.
- Roscoe, Samuel, to Hayeshaw Ltd. Irregularly operating control motions. 3,073,169, 1-15-63, Cl. 74-1.
- Roscovich, Frank A., to H. F. Renwick. Artificial candle. 3,081,612, 3-19-63, Cl. 67-55.
- Rose, A. J. Mfg. Co.: *See*—  
Sweeney, Francis R. 3,088,150.
- Rose, Alan, and J. E. Parton, to International Business Machines Corp. Decision element circuits. 3,105,923, 10-1-63, Cl. 317-134.
- Rose, Alan C. Compound error correction system. 3,078,443, 2-19-63, Cl. 340-146.1.
- Rose Brothers (Gainsborough) Ltd.: *See*—  
Bailey, Arthur R. 3,106,315.  
Barr, Walter L. 3,070,930.  
Kay, James A. 3,093,036.
- Rose, Charles H., and A. Miller, to United States of America, Army. Electro-hydraulic system for converting a lathe to automatic threading operation. 3,087,365, 4-30-63, Cl. 82-5.
- Rose, Clarence W., to Rose Mfg. Co. Safety and supporting belt constructions. 3,099,331, 7-30-63, Cl. 182-3.
- Rose, Darrell E.: *See*—  
Brutten, Eugene J., Gray, and Rose. 3,083,682.
- Rose, David: *See*—  
Fortescue, Peter, Rickard, and Rose. 3,072,550.
- Rose, Donald,  $\frac{1}{2}$  to R. D. Baker. Water softening apparatus and system. 3,080,974, 3-12-63, Cl. 210-126.
- Rose, Donald,  $\frac{1}{2}$  to R. D. Baker. Water treating apparatus and system with time and automatic brine refill control. 3,080,975, 3-12-63, Cl. 210-134.
- Rose, Donald,  $\frac{1}{2}$  to R. D. Baker. Process of treating water. 3,101,316, 8-20-63, Cl. 210-35.
- Rose, Donald,  $\frac{1}{2}$  to R. D. Baker. Fluid pressure actuator for valve. 3,103,339, 9-10-63, Cl. 251-61.
- Rose, Downs & Thompson, Ltd.: *See*—  
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- Rose, Edward: *See*—  
Talbot, Richard C., Bahr, and Rose. 3,105,418.
- Rose, Ewald: *See*—  
Hofmann, Walter K. 3,107,672.
- Rose, Frank L., and M. H. Subilia, to Avco Corp. Surgical instrument. 3,075,199, 1-29-63, Cl. 1-349.
- Rose, Frederick M., J. W. Hurst, R. L. Latham, C. D. Moore, and J. B. Platner, to Chrysler Corp. Multicylinder inline overhead valve engine. 3,109,416, 11-5-63, Cl. 123-59.
- Rose, Henry. Leather finishing process and apparatus. 3,114,254, 12-17-63, Cl. 69-21.
- Rose, Herbert: *See*—  
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- Rose, Jay. Device for holding hypodermic needles. 3,103,688, 9-17-63, Cl. 15-268.
- Rose, John F.: *See*—  
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- Rose, John L., Jr.: *See*—  
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- Rose, John S. Cabinet door spacing. 3,104,473, 9-24-63, Cl. 33-180.
- Rose, Joseph K. Cabinet with light shield. 3,087,014, 4-23-63, Cl. 178-7.82.
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- Rose, Leslie C., to Thompson Ramo Wooldridge Inc. Rocket propulsion method employing catalytic decomposition of hydrazine. 3,081,595, 3-19-63, Cl. 60-35.4.
- Rose, Lloyd R., to General Electric Co. X-ray diffraction apparatus. 3,073,952, 1-15-63, Cl. 250-51.5.
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- Rose, Morton J. Structural edge rails. 3,113,401, 12-10-63, Cl. 50-194.
- Rose, Peter H., to High Voltage Engineering Corp. Charged particle beam-viewing arrangement. 3,094,615, 6-18-63, Cl. 250-49.5.
- Rose, Robert G.: *See*—  
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- Rose, Robert H. Luminated dip stick wiper. 3,098,254, 7-23-63, Cl. 15-210.
- Rose, Robert L. Fluid flow control valve. 3,096,069, 7-2-63, Cl. 251-205.
- Rose, Robert M., and F. O. Wright. Hip prosthesis. 3,102,536, 9-3-63, Cl. 128-92.
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- Roseberry, Thomas J., to Western Gear Corp. Method of applying internal metallic linings to tubes and the like. 3,101,531, 8-27-63, Cl. 29-474.4.
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- Rosekrans, David de L., and H. C. McDaniel, to The Procter & Gamble Co. Tablet retainer cage. 3,088,634, 5-7-63, Cl. 222-158.
- Roseler, Rudolf: *See*—  
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- Roseman, Leo. Combined garment and covered stay, and method of making the latter. 3,092,113, 6-4-63, Cl. 128-567.
- Roseman, Leo and R. J. Sewing machine attachment for sewing hook fastener tape on garments. 3,085,525, 4-16-63, Cl. 112-2.
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- Rosen, Irving, to Diamond Alkali Co. Addition-halogenated cyclohexyl esters. 3,080,417, 3-5-63, Cl. 260-487.
- Rosen, Irving, to Diamond Alkali Co. Xylene dithiocyanates. 3,109,015, 10-29-63, Cl. 260-454.
- Rosen, Jack R., to Automatic Record, Inc. Apparatus for forming a phonograph record. 3,113,905, 12-10-63, Cl. 156-581.
- Rosen, Joseph L., to Super Whip Valve Co. Tamper-proof caps or closures for containers. 3,102,658, 9-3-63, Cl. 220-27.
- Rosen, Karl I. J. Device for guided feeding of yarn to knitting machines. 3,090,215, 5-21-63, Cl. 66-132.
- Rosen, Leo, to Analex Corp. Deep diving submarine. 3,112,724, 12-3-63, Cl. 114-16.
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- Rosen, Marc. Tilttable tapered slat canopy. 3,075,257, 1-29-63, Cl. 20-57.5.
- Rosen, Milton J., and I. A. Kaye. Water-soluble non-ionic surface-active agents of mono and polysaccharides. 3,092,618, 6-4-63, Cl. 260-209.
- Rosen, Samuel R., and E. T. Nord, to Nordson Corp. Paint spray gun. 3,116,020, 12-31-63, Cl. 239-578.
- Rosen, Sidney. Fluid filler recycling control circuit. 3,074,443, 1-22-63, Cl. 141-361.
- Rosen, Sidney. Automatic scale filler apparatus. 3,090,453, 5-21-63, Cl. 177-120.
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- Rosenberg, Edgar N., and S. F. Moran. Non-magnetic sea-cycle for scuba diving. 3,084,654, 4-9-63, Cl. 114-16.
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- Rosenberg, Milton, and W. R. Johnston, to Ampex Corp. Magnetic-core counter. 3,096,509, 7-2-63, Cl. 340-174.
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- Rosenberg, Richard H., and P. A. Chipouras, to General Electric Co. Torque and power sensing and control system for gas turbine engines. 3,106,062, 10-8-63, Cl. 60-39.16.
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- Rosenberg, Sheldon, to Alles & Fisher, Inc. Process of treating tobacco and the resultant product. 3,085,581, 4-16-63, Cl. 131-144.
- Rosenberg, Simon. Massaging device. 3,081,768, 3-19-63, Cl. 128-57.
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- Rosenberger, Albert J., to Rockwell Mfg. Co. Liquid flow control valve. 3,110,320, 11-12-63, Cl. 137-563.
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- Rosenberry, George M., Jr., to General Electric Co. Starting circuit for a synchronous motor. 3,098,959, 7-23-63, Cl. 318-181.
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- Rosene, Victor E., to Bell Telephone Laboratories, Inc. Relay pulsing circuit. 3,090,874, 5-21-63, Cl. 307-132.
- Rosener, Wolfgang, to Vereinigte Glanzstoff-Fabriken A.G. Black dyeing of polymer textiles. 3,073,663, 1-15-63, Cl. 88-55.
- Rösener, Wolfgang, to Vereinigte Glanzstoff-Fabriken A.G. Method for dyeing polypropylene textile material and product. 3,100,133, 8-6-63, Cl. 8-55.
- Rosenfeld, Aaron, and K. Kupferberg, to Forbro Design Inc. Circuit means for preventing spike or surges at the output of a power supply. 3,092,757, 6-4-63, Cl. 317-16.
- Rosenfeld, Alexander. Combined optical reproducer and projector. 3,101,025, 8-20-63, Cl. 88-24.
- Rosenfeld, Elias B., T. N. Miagkich, M. N. Vilam-Vilmont, E. M. Josse, and A. V. Plotnikov. Optical bronchoscope. 3,096,756, 7-9-63, Cl. 128-6.
- Rosenfeld, Esriel. Removable tab. 3,106,719, 10-15-63, Cl. 2-141.
- Rosenfeld, Klaus, and G. Mickley, to Escher Wyss G.m.b.H. Process for the preparation of fibre suspensions. 3,076,610, 2-5-63, Cl. 241-28.
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- Rosenfeld, Morton M. Toilet. 3,078,470, 2-26-63, Cl. 4-134.
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 Rosenthal, Harry. Motor drive control for wheelchair. 3,100,860, 8-13-63, Cl. 318—55.  
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 Rosenthal, Harry. Wire braced rigid display package. 3,114,453, 12-17-63, Cl. 206—45.33.  
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- Rousseau, William P. C., to The Badger Co., Inc. Production of phthalic anhydride. 3,080,382, 3-5-63, Cl. 260-346.4.
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- Rowell, William G. Method of and apparatus for temperature-stabilizing semi-conductor relays and the like. 3,092,730, 6-4-63, Cl. 307-88.5.
- Rowell, William G., to Scully Signal Co. Fluid level detector and method. 3,109,415, 11-5-63, Cl. 122-504.
- Rowen, John H., to Bell Telephone Laboratories, Inc. Electromagnetic wave generation utilizing electron spins in magnetic materials. 3,087,122, 4-23-63, Cl. 331-94.
- Rowlan, Albert M.: *See*—  
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- Rowland, Ben W., to Georgia Kaolin Co. Paper coating pigments. 3,085,894, 4-16-63, Cl. 106-306.
- Rowland, David L. Compactly stackable chair. 3,080,194, 3-5-63, Cl. 297-239.
- Rowland, Eugene R. Grate inlet. 3,089,396, 5-14-63, Cl. 94-31.1.
- Rowland, Frederick T.: *See*—  
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- Rowland, George P., Jr., and J. J. Woiski, to The Firestone Tire & Rubber Co. Metal salts of alkyl beta-amino dipropionic acids. 3,078,289, 2-19-63, Cl. 260-429.7.
- Rowland, Howard J., to Electronic Specialty Co. Dual polarized horn. 3,089,102, 5-7-63, Cl. 333-6.
- Rowland, Milton E., to Pacific Valves Inc. Internal stop means for valves. 3,107,546, 10-22-63, Cl. 74-526.
- Rowland Products, Inc.: *See*—  
Rowland, William P. 3,096,545.
- Rowland, William P., to Rowland Products, Inc. Resilient spacer for press-finishing of plastic sheet. 3,096,545, 7-9-63, Cl. 18-17.
- Rowlands, Richard O.: *See*—  
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- Rowlands, Tom: *See*—  
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- Rowlett, Beb H., and A. Silver, to The Garrett Corp. Temperature responsive variable means for controlling flow in turbo-machines. 3,079,127, 2-26-63, Cl. 253-52.
- Rowlett, Willard A. Idler arm repair kit. 3,073,655, 1-15-63, Cl. 308-135.
- Rowley, David S., to Jersey Production Research Co. Gas turbine drive drilling apparatus. 3,083,779, 4-2-63, Cl. 175-107.
- Rowley, David S., to Jersey Production Research Co. Diamond drill bit. 3,112,803, 12-3-63, Cl. 175-329.
- Rowley, Martin E.: *See*—  
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Hiatt, Gordon D., and Rowley. 3,075,963.  
Malm, Carl J., and Rowley. 3,075,964.
- Rowley, Martin E., to Eastman Kodak Co. Method for making water-soluble sheet film. 3,091,541, 5-28-63, Cl. 106-187.
- Rowley, Richard B.: *See*—  
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- Rowlinson, Hugh C., to Canadian Industries Ltd. Melt-spinning of polymers. 3,097,056, 7-9-63, Cl. 18-54.
- Rowse, James A. Production of sauces and purees from fruits and vegetables. 3,103,438, 9-10-63, Cl. 99-100.
- Rowse, Robert A., to Norton Co. Grinding wheels having unsaturated organic polymeric bonds and the like. 3,098,730, 7-23-63, Cl. 51-298.
- Roxas, Pedro G., to P. Robledano. Process of recovering oils from oleaginous meats of nuts, beans and seeds. 3,083,365, 3-26-63, Cl. 260-412.2.
- Roxburgh, Albert A. Leigh, and J. J. Fellerman, to Associated Electrical Industries Ltd. Air or gas blast electric circuit breakers. 3,079,534, 2-26-63, Cl. 317-59.
- Roxstrom, Eric B. Apparatus for determining the orientation of drill cores. 3,115,196, 12-24-63, Cl. 175-44.
- Roy, Gerald L.: *See*—  
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- Roy, Grover D.: *See*—  
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- Roy, Henry A., Sr. Height gage. 3,115,708, 12-31-63, Cl. 33-143.
- Roy, Jacques P. J., to J. I. Case Co. Supplementary feed arm for a pickup baler. 3,106,814, 10-15-63, Cl. 56-341.
- Roy, Leo T., to Craft, Inc. Corner hinge construction. 3,100,073, 8-6-63, Cl. 229-44.
- Roy, Milton, Co.: *See*—  
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Williams, William A. 3,107,624.
- Roy, Richard. Cleaning implement having a swivel mounted handle. 3,108,304, 10-29-63, Cl. 15-144.
- Roy, Rustum, to Bausch & Lomb Inc. Densification of glass, germanium oxide, silica or boric acid. 3,098,699, 7-23-63, Cl. 18-59.2.
- Royal Industries, Inc.: *See*—  
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- Royal McBee Corp.: *See*—  
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Morelli, Joseph L., Brignole, and Hare. 3,095,079.
- Ryan, William P. 3,098,398.
- Smusz, Terry F. 3,073,935.
- Spalla, Joseph R. 3,080,038.
- Royalmetal Corp.: *See*—  
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- Royce, Damon V., Jr.: *See*—  
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- Royce, John H. Tissue macerator. 3,082,805, 3-26-63, Cl. 146-68.
- Royce, Mark B., to Continental Can Co., Inc. Container for fruits, vegetables and the like. 3,108,731, 10-29-63, Cl. 229-14.
- Royer, Herman G., Sr. Gun rest. 3,077,678, 2-19-63, Cl. 36-1.
- Royer, Leslie W., and R. H. Wainwright, to Koppers Pittsburgh Co. Vanadium pentoxide catalyst and method of preparation thereof. 3,107,223, 10-15-63, Cl. 252-428.
- Royle, Joseph K.: *See*—  
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- Royle, Joseph K., to National Research Development Corp. Hydraulic control valve. 3,093,159, 6-11-63, Cl. 138-46.
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- Royster, Robert H. Fluid pressure actuator and locking means. 3,107,582, 10-22-63, Cl. 92-24.
- Royster, Robert H. Extensible and retractable device having manually releasable positive locking means. 3,107,933, 10-22-63, Cl. 287-58.
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Wittner, Eugene, and Rozalsky. 3,100,749.
- Rozanski, Anthony J. Tire anti-skid device. 3,085,614, 4-16-63, Cl. 152-229.
- Rozentals, Alfreds, to Universal Bearing Corp. Method and apparatus for assembling rolling elements in antifriction bearings. 3,103,059, 9-10-63, Cl. 29-148.4.
- Rozmus, Walter J., to Kelsey-Hayes Co. Apparatus for multiple upset welding. 3,093,018, 6-11-63, Cl. 78-82.
- Rozmus, Walter J., to Kelsey-Hayes Co. Method of pressure welding metals. 3,106,013, 10-8-63, Cl. 29-470.1.
- Rozner, Felix, to Ferguson Radio Corp. Transistor circuits. 3,076,150, 1-29-63, Cl. 330-11.
- Rozsa, John T., O. W. Ugucini, and L. E. Zeeb, to National Spectrographic Laboratories, Inc. Method and apparatus for analysis of particles in a gaseous stream. 3,088,364, 5-7-63, Cl. 88-14.
- Rozsa, Tibor A., A. B. Ward, and R. Gracza, to The Pillsbury Co. Process of reducing and surface treating cereal endosperm particles and production of new products through attendant separations. 3,077,308, 2-12-63, Cl. 241-11.
- Rozsa, Tibor A., C. G. Harrel, and W. T. Manning, to The Pillsbury Co. Wheat flour fractionation processes. 3,077,407, 2-12-63, Cl. 99-93.
- Rozsa, Tibor A., C. G. Harrel, W. T. Manning, A. B. Ward, and R. Gracza, to The Pillsbury Co. Cereal flour fractionation processes. 3,077,408, 2-12-63, Cl. 99-93.
- Rozum, John. Multiple tool holder for lathes or like machines. 3,109,336, 11-5-63, Cl. 82-36.
- Rozzi, Arthur, to Tri-State Mfg. Co., Inc. Pyrotechnic apparatus. 3,084,628, 4-9-63, Cl. 102-37.5.
- Ruane, George W. Removable track and tire assembly for a vehicle. 3,107,128, 10-15-63, Cl. 305-35.
- Ruano, William J.: *See*—  
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- Rub, Johann J., to Maschinenfabrik Ad. Schulthess & Co. AG. Automatic washing machine, more particularly for self-service laundries. 3,110,384, 11-12-63, Cl. 194-9.
- Rubbermaid Inc.: *See*—  
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- Rubber and Plastics Research Association of Great Britain: *See*—  
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- Rubber Products, Inc.: *See*—  
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- Ruben, Paul L., and G. F. Ziegler, to Bausch & Lomb Inc. Microscope objective. 3,115,538, 12-24-63, Cl. 88-57.
- Ruben, Samuel. Electric current producing cell. 3,088,991, 5-7-63, Cl. 136-106.
- Rubens, George J. Tilttable bowl. 3,100,054, 8-6-63, Cl. 215-1.
- Rubens, Harry E.: *See*—  
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- Rubens, Harry E. Rotatable heel. 3,085,359, 4-16-63, Cl. 36-39.
- Rubens, Harry S., to Engelhard Hanovia, Inc. Instrument for inspecting locks. 3,087,050, 4-23-63, Cl. 240-6.4.
- Rubens, Louis C., to The Dow Chemical Co. Composition comprising expandable thermoplastic material and powdered iron and method for molding same. 3,086,247, 4-23-63, Cl. 18-48.
- Rubens, Sidney M.: *See*—  
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- Rubens, Sidney M., to Sperry Rand Corp. Magnetic cores. 3,080,549, 3-5-63, Cl. 340-174.
- Rubenstein, David. Packaged laminated constructions. 3,111,569, 11-19-63, Cl. 219-19.
- Rubenstein, Herbert, and A. G. Samusenko, to Radio Corp. of America. Negative resistance diode multivibrators. 3,087,123, 4-23-63, Cl. 331-107.
- Rubenstein, Jacob H. Starter and circuit for electric discharge device. 3,086,141, 4-16-63, Cl. 315-100.
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- Rubenstein, Lester S., and F. L. Shubert, to Westinghouse Electric Corp. Zirconium alloys. 3,097,094, 7-9-63, Cl. 75-177.
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- Rubico, Jerome A.: *See*—  
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- Rubico, Jerome A., to Batchelder-Rubico, Inc. Plastic welt. 3,113,388, 12-10-63, Cl. 36-78.
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- Rubin, Arthur I., and J. P. Landauer, to Electronic Associates, Inc. Circuit for separately indicating voltage magnitude and polarity of analog input signal. 3,076,901, 2-5-63, Cl. 307-88.5.
- Rubin, Eugene S., and D. H. Ross, to Mithras, Inc. Supersonic flow control device. 3,086,357, 4-23-63, Cl. 60-35.6.
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- Rubin, James M. and R. W. Orthodontic device. 3,091,857, 6-4-63, Cl. 32-14.
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- Rubin, Martin. Detergent composition. 3,075,924, 1-29-63, Cl. 252-152.
- Rubin, Martin, to Advance Growth Capital Corp. 19-methyl pregnene derivatives. 3,087,940, 4-30-63, Cl. 260-397.4.
- Rubin, Martin, to Advance Growth Capital Corp. 19-methyl-19-acyloxy strophanthidin derivatives. 3,087,944, 4-30-63, Cl. 260-397.45.
- Rubin, Martin. Neutral composition for removal of rust. 3,110,679, 11-12-63, Cl. 252-152.
- Rubin, Ronald W.: *See*—  
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- Rubin, Saul H., and G. Zbinden, to Hoffmann-La Roche Inc. Therapeutic composition comprising 3,3-diethyl-5-methyl-2,4-piperidinedione and 7-chloro-2-methylamino-5-phenyl-3H-1,4-benzodiazepine-4-oxide. 3,085,932, 4-16-63, Cl. 167-52.
- Rubinstein, Harry, and R. T. Schenck, to Keystone Chemurgic Corp. Production of 1-carbethoxy-2,6,6-trimethyl-2-cyclohexen-4-one. 3,093,678, 6-11-63, Cl. 260-468.
- Rubinstein, Harry W., and S. B. Williams, to Sprague Electric Co. Method and means for assembling capacitors. 3,073,007, 1-15-63, Cl. 29-54.2.
- Rubinstein, Joseph, to General Slicing Machine Co., Inc. Swivelled cranks. 3,091,978, 6-4-63, Cl. 74-547.
- Rubinstein, Joseph, to General Slicing Machine Co., Inc. Scrapers for slicing machines. 3,092,161, 6-4-63, Cl. 146-102.
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- Rubio, Abdon, and C. R. Ernest, Jr., to General Electric Co. Compensating device for turbomachine bucket wheel. 3,084,343, 4-2-63, Cl. 253-77.
- Rubio, Carlos. Pin collar stays. 3,075,202, 1-29-63, Cl. 2-132.
- Rubissow, George A. Fountain pen. 3,087,465, 4-30-63, Cl. 120-46.
- Ruble, Ernest B.: *See*—  
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- Ruble, Theodore A.: *See*—  
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- Rubrecht, Charles J., and A. J. Minnotte, to Metaline Corp. Coil support for annealing furnace. 3,100,634, 8-13-63, Cl. 263-47.
- Ruby, Charles, to Lusine a Idees, Societe Anonyme dite: Ratchet and pawl drive magnetic motor. 3,098,940, 7-23-63, Cl. 310-22.
- Ruby, Elmer H. Automatic mop and cloth cleaning machine. 3,072,935, 1-15-63, Cl. 15-4.
- Ruby, Elmer H. Paper towel dispenser. 3,087,646, 4-30-63, Cl. 221-44.
- Ruby, Stanley L., K.-H. Sun, and T. Fahrner, to Westinghouse Electric Corp. Thermionic radiation counter. 3,101,410, 8-20-63, Cl. 250-83.1.
- Ruchin, Zan. Window replacement unit. 3,087,194, 4-30-63, Cl. 16-197.
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- Ruck, Vincent J., Jr., and S. J. Woolley, to General Electric Co. Adjustable door stop. 3,103,692, 9-17-63, Cl. 16-82.
- Ruckelshaus, John G. Mass production of resistors. 3,095,636, 7-2-63, Cl. 29-155.62.
- Ruckert, Horst, to International Standard Electric Corp. Detection of stamps on documents. 3,090,870, 5-21-63, Cl. 250-219.
- Ruckstuhl, Jakob E., to Terlinden & Co. Method of making synthetic velvet-like knitted fabric. 3,090,097, 5-21-63, Cl. 28-72.
- Ruckwardt, Kurt F., B. T. McDonald, and J. F. Mahoney, to The Anaconda Co. Calcination of zinc sulfide concentrates. 3,095,363, 6-25-63, Cl. 204-119.
- Ruda, Ernest V.: *See*—  
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- Rudacille, Arthur G.: *See*—  
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- Rudder, Elbert. High pressure-low temperature gasket. 3,107,100, 10-15-63, Cl. 277-198.
- Rudder, Walter H., to Goodyear Tire & Rubber Co. Tire bead grommet. 3,106,952, 10-15-63, Cl. 152-362.
- Ruddock, Kenneth A., to Varian Associates. Electromagnetic method and apparatus for geophysical prospecting including means for generating an auxiliary flux field to cancel direct coupling between the primary and pick-up coils. 3,108,220, 10-22-63, Cl. 324-6.



- Rude, Raymond C. Movable fulcrum for springboards. 3,072,401, 1-8-63, Cl. 272-66.
- Rudel, Harry W., and A. J. Morway, to Esso Research and Engineering Co. Rust preventive compositions of paraffinic mineral oil thickened with polyethylene and microcrystalline wax. 3,080,330, 3-5-63, Cl. 260-18.
- Rudel, Harry W., and W. Seitz, to Esso Research and Engineering Co. Corrosion inhibitors. 3,088,910, 5-7-63, Cl. 252-32.5.
- Rudelick, John, to Bruner Corp. Water softening apparatus. 3,073,674, 1-15-63, Cl. 23-112.
- Rudelick, John, to Bruner Corp. Rotatable spindle valve. 3,090,396, 5-21-63, Cl. 137-375.
- Rudelick, John, to Bruner Corp. Float valve particularly for water softener brine vessels. 3,095,008, 6-25-63, Cl. 137-391.
- Rudelick, John, to Bruner Corp. Pressure vessel. 3,098,578, 7-23-63, Cl. 220-5.
- Rudelick, John, to Bruner Corp. Method of making pressure vessels. 3,114,968, 12-24-63, Cl. 29-421.
- Rudenberg, Hermann G., to Transiltron Electronic Corp. Photoelectric semiconductor device. 3,112,230, 11-26-63, Cl. 136-88.
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- Ruderfer, Martin, to Dimensions, Inc. Typewriting apparatus with constantly rotating type disc. 3,077,256, 2-12-63, Cl. 197-18.
- Rudner, Bernard, to Koppers Co., Inc. Preparation of alcohols. 3,091,627, 5-28-63, Cl. 260-462.
- Rudner, Bernard, and J. J. Harris, to Koppers Co., Inc. 2-borabenzoxazoborolanes and a method for their preparation. 3,100,791, 8-13-63, Cl. 260-462.
- Rudner, Bernard, and C. W. Wieneke, to W. R. Grace & Co. Polyarylmethane hydrazinium compounds. 3,112,326, 11-26-63, Cl. 260-391.
- Rudner, Merritt A., to Garlock Inc. Fluorocarbon resin mixtures and metal to plastic bonding. 3,094,585, 6-18-63, Cl. 174-77.
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- Rudnick, Jack, to himself and B. Rudnick. Folding door structure. 3,102,582, 9-3-63, Cl. 160-206.
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- Rudolph, Bud, and J. P. Freer, to Saffronics, Inc. Passenger safety indicating systems. 3,074,055, 1-15-63, Cl. 340-278.
- Rudolph, Eugene A. Cap screws with replaceable inserts. 3,073,206, 1-15-63, Cl. 85-45.
- Rudolph, Hans, and A. Schelling, to Siemens & Halske Aktiengesellschaft. Synchronous communication systems. 3,080,452, 3-5-63, Cl. 178-69.5.
- Rudolph, Martin, to Porex Corp., Ltd. Method and apparatus for blow molding plastic objects. 3,115,673, 12-31-63, Cl. 18-5.
- Rudolph, Nathan H., and R. H. Crutchett, to All-Steel Equipment Inc. Electrical outlet box cable clamp. 3,082,023, 3-19-63, Cl. 285-128.
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- Rudomanski, Andrew C., R. D. De Waard, and E. M. Wormser, to Barnes Engineering Co. Selective radiation detector and free-air thermometer. 3,091,693, 5-28-63, Cl. 250-83.3.
- Rudow, Harold R.: See—  
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- Rudszinat, Willy, and H. Berlin, to Hauni-Werke Korber & Co., K.G. Means for wrapping connecting leaves around the abutment regions of assemblies comprising cigarettes and filter plugs. 3,091,245, 5-28-63, Cl. 131-94.
- Rudszinat, Willy, and H. Berlin, to Hauni-Werke Korber & Co., K.G. Device for wrapping a connecting band around axially aligned rod-shaped articles. 3,093,143, 6-11-63, Cl. 131-94.
- Rudszinat, Willy, and H. Berlin, to Hauni-Werke Korber & Co., K.G. Method for supplying connector sheets to groups of filter plugs and cigarettes. 3,099,989, 8-6-63, Cl. 131-94.
- Rudszinat, Willy, and B. Schubert, to Hauni-Werke Korber & Co., K.G. Apparatus for making filter plugs for filter tip cigarettes. 3,104,752, 9-24-63, Cl. 198-22.
- Rudy, Emil, to Loren Cook Co. Centrifugal impeller units. 3,102,679, 9-3-63, Cl. 230-117.
- Rudy, Emil, to Loren Cook Co. Compact roof ventilators. 3,107,598, 10-22-63, Cl. 98-42.
- Rudy, Marion F. Split ball spherical bearing. 3,107,954, 10-22-63, Cl. 308-72.
- Rudy, Hermann, J. Rauch, K. R. Dietrich, and C. Constabel, to Joh. A. Benckiser G.m.b.H. Chemische Fabrik. Process for producing vitamin B<sub>12</sub> and antibiotics. 3,085,049, 4-9-63, Cl. 195-80.
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- Rudzinski, Stanley P. Screening and comminuting device. 3,074,555, 1-22-63, Cl. 210-152.
- Rudzki, Henryk S., to Rexall Drug & Chemical Co. Method of making an encapsulated tablet. 3,096,248, 7-2-63, Cl. 167-82.
- Rue, Howard M., to Sun Oil Co. Emulsifiable mixtures of mineral oil and esters. 3,071,544, 1-1-63, Cl. 252-33.3.
- Rue, Howard M., to Sun Oil Co. Soluble oil for treating filters. 3,081,176, 3-12-63, Cl. 106-15.
- Rue, Howard M., and S. E. Jolly, to Sun Oil Co. Foam-inhibited emulsifiable mineral oil composition. 3,082,168, 3-19-63, Cl. 252-33.3.
- Ruebel, Joseph B., to Rimfoot Co. Infant's shoe. 3,110,117, 11-12-63, Cl. 36-2.5.
- Ruediger, Bernt A., to General Electric Co. Heat treating malleablized white iron to control growth. 3,109,759, 11-5-63, Cl. 148-138.
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- Ruegg, Rene: See—  
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- Goel, Ram N., Rüegg, Schwieter. 3,081,314.
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- Hegedus, Balthasar, Isler, Rüegg, and Ryser. 3,090,805.
- Isler, Otto, Lindlar, Montavon, Ruegg, Schwieter, and Saucy. 3,091,631.
- Kofler, Max, Langemann, and Ruegg. 3,080,384.
- Rueggesser, Donald R., to M. M. Mebus. Anti-back draft damper. 3,111,301, 11-19-63, Cl. 251-356.
- Rueggesser, Frank E., to Raymond International Inc. Self-cleaning and retractable troweling device. 3,113,365, 12-10-63, Cl. 25-38.
- Ruehl, Harold. Expandable and contractible work piece holder. 3,111,327, 11-19-63, Cl. 279-2.
- Ruehle, Harry P. Game device. 3,108,807, 10-29-63, Cl. 273-96.
- Ruehrwein, Robert A.: See—  
Stone, Bobbie D., and Ruehrwein. 3,073,679.
- Ruehrwein, Robert A., to United States of America, Army. Process for making ozone. 3,113,914, 12-10-63, Cl. 204-176.
- Ruekberg, Herbert S., to Continental Can Co., Inc. Dispenser. 3,090,987, 5-28-63, Cl. 15-575.
- Ruelle, Roland L., to The Standard Rivet Co. Trip device. 3,087,161, 4-30-63, Cl. 1-106.
- Rueping, Calvin F.: See—  
Silva, Adalbert M., and Rueping. 3,108,942.
- Rüesch, Ferdinand, Maschinenfabrik: See—  
Schick, Johann G. 3,097,596.
- Ruetschi, Paul, to The Electric Storage Battery Co. Silver-zinc battery and method for obtaining a substantially flat voltage discharge curve. 3,085,186, 4-9-63, Cl. 320-13.
- Ruetschi, Paul, and B. D. Cahan, to The Electric Storage Battery Co. Storage battery. 3,080,440, 3-5-63, Cl. 136-3.
- Ruetz, Karl. Container with closing device. 3,099,361, 7-30-63, Cl. 215-73.
- Rüfenacht, Kurt: See—  
Knüsch, Enrico, Rüfenacht, and Gysin. 3,086,855.
- Ruff, Charles F., deceased; Girard Trust Corn Exchange Bank and J. K. Ruff, executors. Meter for registering selected-rate flow volume. 3,107,528, 10-22-63, Cl. 73-272.
- Ruff, John K.: See—  
Ruff, Charles F. 3,107,528.
- Ruff, Richard J., and W. C. Verner, to Universal Oil Products Co. Retractable infra-red heater. 3,086,763, 4-23-63, Cl. 263-3.
- Ruff, Richard J., and W. C. Verner, to Universal Oil Products Co. Direct flame incinerator. 3,090,675, 5-21-63, Cl. 23-277.
- Ruffin-Hoebel Corp.: See—  
Ruffin, Robert H. 3,079,498.
- Ruffin, Robert H., to Ruffin-Hoebel Corp. Swimming pool water purifier. 3,079,498, 2-26-63, Cl. 250-45.
- Rufin, Gerard T.: See—  
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- Rufu, Arthur J., to L. S. Kaufman & Sons, Inc. Liquid shoe polish applicator. 3,075,229, 1-29-63, Cl. 15-543.
- Rugaber, Robert H.: See—  
Welsh, Joseph P., Zarcone, and Rugaber. 3,071,763.
- Ruge, Ulrich, to C. F. Boehringer & Soehne G.m.b.H. Composition and process for promoting the growth of plants. 3,100,149, 8-6-63, Cl. 71-2.3.
- Rugenstein, Robert W. Adjustable cutting die. 3,111,877, 11-26-63, Cl. 83-657.
- Rugg, Frederick D., to Inertia-Matic, Inc. Fifth-wheel assembly. 3,077,357, 2-12-63, Cl. 280-438.
- Rugg, Frederick D., to Inertia-Matic, Inc. Fifth-wheel assembly. 3,082,021, 3-19-63, Cl. 280-438.
- Rugg, Frederick D., to Inertia-Matic, Inc. Universal coupling unit for vehicles. 3,091,480, 5-28-63, Cl. 280-438.



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Rugg, William P. 3,108,426.
- Rugg, William P., to Rugg Mfg. Co. Rake. 3,108,426, 10-29-63, Cl. 56—400.01.
- Ruggeberg, Heinz R.: *See*—  
Schaub, Franz, Kolling, Notthoff, Stiebling, and Ruggeberg. 3,100,694.
- Ruggiero, Alfred J., to E. D. Bullard Co. Head and face protector. 3,114,914, 12-24-63, Cl. 2—8.
- Rugland, Gerhard T., J. P. Yackel, and A. P. Bergee. Multiple choice response device. 3,086,300, 4-23-63, Cl. 35—48.
- Ruh, Robert P.: *See*—  
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- Ruh, Robert P., R. A. Davis, and K. A. Aliswede, to The Dow Chemical Co. Process for the production of sulfuric fluoride. 3,092,458, 6-4-63, Cl. 23—203.
- Ruhemann, Martin S. W., and L. E. Putman, to Superior Air Products Co. Production of oxygen. 3,070,966, 1-1-63, Cl. 62—29.
- Ruhf, Robert J.: *See*—  
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- Ruhfel, Robert E.: *See*—  
Howell, Harvey L., and Ruhfel. 3,110,914.
- Ruhl, Charles A. L.: *See*—  
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- Ruhl, Charles A. L., to The New York Air Brake Co. Variable displacement pump. 3,086,477, 4-23-63, Cl. 103—161.
- Ruhl, Manfred: *See*—  
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- Ruhl, Marlene: *See*—  
Reiners, Walter, Furst, and Ruhl. 3,111,280.
- Ruhland, Walter F., to Bishman Mfg. Co. Tire spreader. 3,097,825, 7-16-63, Cl. 254—50.3.
- Ruhlman, Jon R., to Preformed Line Products Co., Inc. Appliance for linear bodies. 3,080,631, 3-12-63, Cl. 24—131.
- Ruhlman, Jon R., to Preformed Line Products Co., Inc. Corona suppressing ends for appliances for electrical conductors. 3,087,008, 4-23-63, Cl. 174—135.
- Ruhman, Smil: *See*—  
Woo, Way D., Kodis, and Ruhman. 3,075,179.
- Ruhman, Smil, to Raytheon Co. Magnetic computing. 3,079,592, 2-26-63, Cl. 340—174.
- Ruhman, Smil, and E. T. Johnson, to Raytheon Co. Digital computing systems. 3,090,035, 5-14-63, Cl. 340—174.
- Ruhnke, Edward J., to Hill-Shaw Co. Brewing apparatus for coffee maker. 3,092,012, 6-4-63, Cl. 99—307.
- Ruhr Intrans Hubstapler, G.m.b.H.: *See*—  
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- Ruhrchemie Aktiengesellschaft: *See*—  
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- Ruhrstahl A.G.: *See*—  
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- Ruidisch, Louis E., and E. Y. Heister, to Texaco Inc. Ester recovery process. 3,072,714, 1-8-63, Cl. 260—499.
- Ruisinger, Laurence J., to Texas Instruments Inc. Radar receiver system. 3,097,356, 7-9-63, Cl. 343—100.
- Ruiz, William B. Self-closing door hinge. 3,098,258, 7-23-63, Cl. 16—50.
- Ruland, Edward J., Jr.: *See*—  
Lobosco, Roscoe R., and Ruland. 3,079,489.
- Rule, Edwin L.: *See*—  
Steele, Roger C., and Rule. 3,082,141.
- Rule, Eric, to Lockheed Aircraft Corp. Transducer devices employing a fluid film for improvement of sensitivity and frequency response characteristics. 3,089,343, 5-14-63, Cl. 73—516.
- Rule, Kenneth C.: *See*—  
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- Rule, Wilbur E., and E. D. Smith, to Kamar, Inc. Method and device for detecting period of heat in cows. 3,076,431, 2-5-63, Cl. 119—1.
- Rullman, Robert G., to General Electronic Laboratories, Inc. Crystal discriminator. 3,074,021, 1-15-63, Cl. 329—117.
- Rulon, Richard M., to Sylvania Electric Products Inc. Electroluminescent lamp with ceramic dielectric. 3,103,607, 9-10-63, Cl. 313—108.
- Rulseh, Roger D.: *See*—  
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- Rumbel, Keith E.: *See*—  
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Scurluck, Arch C., Rumbel, and Friedman. 3,092,968.  
Scurluck, Arch C., Rumbel, and Rice. 3,107,186.
- Rumbel, Keith E., J. M. Burton, and E. P. Sullivan, Jr., to Atlantic Research Corp. Loading device. 3,082,659, 3-26-63, Cl. 86—20.
- Rumbel, Keith E., A. C. Scurluck, and R. Friedman, to Atlantic Research Corp. Propellant compositions. 3,107,187, 10-15-63, Cl. 149—22.
- Rumbel, Keith E., and M. Cohen, to Atlantic Research Corp. Propellant grains. 3,109,374, 11-5-63, Cl. 102—98.
- Rumbel, Keith E., and A. C. Scurluck, to Atlantic Research Corp. Propellant grains. 3,109,375, 11-5-63, Cl. 102—98.
- Rumbell, Henry F., to Flexible Tubing Corp. Connecting means for flexible and rigid tubing. 3,087,745, 4-30-63, Cl. 285—149.
- Rumble, Roy W. Electrical plug. 3,079,475, 2-26-63, Cl. 200—51.
- Rumble, Roy W. Electrical outlet. 3,082,302, 3-19-63, Cl. 200—51.03.
- Rumble, Roy W. Combustion-engine exhaust systems. 3,095,696, 7-2-63, Cl. 60—35.6.
- Rummery, Frank O.: *See*—  
Chrest, Roy W., Rummery, Richards, and Roseman. 3,079,269.
- Rumpelein, Fritz, to Agfa Aktiengesellschaft. Cameras with coupled light meters. 3,102,460, 9-3-63, Cl. 95—10.
- Rumpf, Paul, and G. Thuillier, to Centre National de la Recherche Scientifique. Para-halogenophenyl ethylsulfonates: central nervous system depressants. 3,084,101, 4-2-63, Cl. 167—65.
- Rumscheidt, Gottfried E., and P. Bruin, to Shell Oil Co. Process for curing polyepoxides with anhydrides and organic sulfur compounds. 3,114,731, 12-17-63, Cl. 260—47.
- Rumsey, Herbert, Jr. Method for pressure-packing of meat products. 3,095,308, 6-25-63, Cl. 99—174.
- Rumsey, Herbert, Jr. Package for food product and method of making the same. 3,116,154, 12-31-63, Cl. 99—175.
- Rumsey, Rollin D., to Houdaille Industries, Inc. Torsional vibration damper. 3,105,392, 10-1-63, Cl. 74—574.
- Rumsey, Rollin D., and G. M. Magrum, to Houdaille Industries, Inc. Rotary actuator unit mount for booms and the like. 3,103,281, 9-10-63, Cl. 212—66.
- Runco, Joseph C.: *See*—  
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- Runco, Joseph C., to Anchor Hocking Glass Corp. Rotary jar washer. 3,097,658, 7-16-63, Cl. 134—81.
- Runde, Bonita E.: *See*—  
Tinkey, Otto G. 3,108,453.
- Runde, Byron, and I. W. Borutzke, to Burroughs Corp. Control apparatus for accounting machines. 3,083,900, 4-2-63, Cl. 235—60.49.
- Runde, Byron A.: *See*—  
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- Rundel, Morton S.: *See*—  
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- Rundle, George W. Combination cigarette mouthpiece and shield. 3,100,493, 8-13-63, Cl. 131—175.
- Rundle, George W., to H. L. Johnson. Combination handleable fluid dispenser and tool head holder. 3,113,703, 12-10-63, Cl. 222—191.
- Rundman, Sven J.: *See*—  
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- Runft, Arthur J.: *See*—  
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- Rung, Robert D., and E. J. Barakauskas, to United States of America, Navy. Adapter for missile launcher. 3,087,386, 4-30-63, Cl. 89—1.7.
- Runge, Frank E.: *See*—  
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Lyon, William H., and Runge. 3,078,464.
- Runge, W. L.: *See*—  
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- Runken, Gerd, to ACF Industries, Inc. Lading bracing arrangement. 3,095,830, 7-2-63, Cl. 105—369.
- Runknagel, Rolf K. H. Lubricator pad and wicking unit therefor. 3,086,828, 4-23-63, Cl. 308—243.
- Running, Clayton D.: *See*—  
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- Runswick, Wallace D.: *See*—  
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Jones, Preston A. 3,087,054.
- Runtun, Leslie A., to J. P. Stevens & Co., Inc. Method and apparatus for imparting stretch to wool fabric. 3,077,655, 2-19-63, Cl. 26—18.5.
- Runyan, Charles E.: *See*—  
Kelley, John L., and Runyan. 3,113,517.
- Runyan, Kenneth R.: *See*—  
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- Runyan, Walter R.: *See*—  
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- Runyan, Walter R., to Texas Instruments Inc. Compensated grown junction transistor. 3,082,130, 3-19-63, Cl. 148—33.
- Runyan, Walter R., J. W. Ross, and J. L. Fischer, to Texas Instruments Inc. Method for recovery and reuse of quartz containers. 3,093,456, 6-11-63, Cl. 23—301.
- Runyon, David M., to Ford Motor Co. Ball joint. 3,086,800, 4-23-63, Cl. 287—90.
- Runyon, John P.: *See*—  
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- Runyon, John P., to Bell Telephone Laboratories, Inc. Digital phase equalizer, automatically operative, in accordance with time-inverted impulse response of the transmission circuit. 3,071,739, 1-1-63, Cl. 333—18.
- Ruoff, George M., to A. B. Chance Co. Insulator tester. 3,090,912, 5-21-63, Cl. 324—54.
- Ruosch, Samuel, and L. Joris, to Lonza Ltd. Preparation of catalytically active coatings. 3,112,215, 11-26-63, Cl. 117—62.



- Ruoti, Vincenzo: *See*—  
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- Rupar, Charles B.: *See*—  
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- Rupe, Ernest S. Pipe beveling device. 3,115,054, 12-24-63, Cl. 82-1.
- Rupie, Lewis H., to Abbey Etna Machine Co. Sectional forming roll for tube mills. 3,107,718, 10-22-63, Cl. 153-54.
- Rupp, Paul P.: *See*—  
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- Rupp, William C., to The Chandler & Price Co. Automatic gauge for paper cutting machines and the like. 3,111,876, 11-26-63, Cl. 83-207.
- Ruppe, Peter P. Walking beam conveyor. 3,075,635, 1-29-63, Cl. 198-219.
- Ruppenthal, Carl R.: *See*—  
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- Ruppersberg, Hans-Klaus, to Telefunken G.m.b.H. Doppler frequency speed measuring apparatus. 3,072,901, 1-8-63, Cl. 343-8.
- Ruppert, Heinrich, H. Schnell, and L. Goerden, to Farbenfabriken Bayer Aktiengesellschaft. Flame-resistant unsaturated polyester-vinylidene monomer reaction product containing the dimethyl ester of 2-hydroxyisopropyl-phosphonic acid. 3,092,606, 6-4-63, Cl. 260-45.4.
- Ruppert, Robert G. Pump construction. 3,105,447, 10-1-63, Cl. 103-149.
- Rupprecht, Emil G.: *See*—  
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- Rusack, Karl-Heinz: *See*—  
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- Ruscetta, Ralph A., and L. E. Richards, to General Electric Co. Sealed electrolytic device. 3,114,085, 12-10-63, Cl. 317-230.
- Rusch, Helmuth R. Water bags. 3,099,308, 7-30-63, Cl. 150-21.
- Rusche, Fredric. Hose plug. 3,077,904, 2-19-63, Cl. 138-89.
- Rusche, Georg, and G. Grunwaldt, to North American Philips Co., Inc. Circuit arrangement for use in phase-sensitive control amplifiers. 3,092,777, 6-4-63, Cl. 328-13.
- Ruschig, Heinrich: *See*—  
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- Haack, Erich, Hagedorn, Adolf, Ruschig, and Korger. 3,100,208.
- Korger, Gerhard, Wagner, Aumuller, and Ruschig. 3,097,241.
- Ruschman, Frederick J., Jr. Paper bag storage receptacle. 3,111,295, 11-19-63, Cl. 248-101.
- Rusconi, Fausto. Aeromotor, 3,093,194, 6-11-63, Cl. 170-33.
- Rush, Derek A.: *See*—  
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- Rush, Elton E., to Phillips Petroleum Co. Method and apparatus for crystal purification. 3,092,673, 6-4-63, Cl. 260-67.4.
- Rush, George E., to Houston Oil Field Material Co., Inc. Apparatus for recovering objects in a well. 3,095,926, 7-2-63, Cl. 166-55.
- Rush, Hugh M.,  $\frac{1}{2}$  to S. K. Clements. Folding personnel lift. 3,072,215, 1-8-63, Cl. 182-2.
- Rush, Robert L., to Phillips Petroleum Co. Method for producing textile yarn from a monofilament of a blend of olefin polymers. 3,112,160, 11-26-63, Cl. 18-54.
- Rushing, George, Jr. Mirror view game. 3,106,402, 10-8-63, Cl. 273-144.
- Rushton, James C., to Owens-Corning Fiberglas Corp. Apparatus for melting heat softenable materials. 3,111,550, 11-19-63, Cl. 13-6.
- Rushton, John H.: *See*—  
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- Rusie, Albert E., and F. Newman, to Aetna Products Co., Inc. Eradicable carbon paper. 3,104,173, 9-17-63, Cl. 117-2.
- Rusignuolo, Vincenzo, and L. Lucchetti, to Montecatini Società Generale per l'Industria Mineraria e Chimica. Photographic films comprising a synthetic resin support. 3,091,536, 5-28-63, Cl. 96-87.
- Rusiniak, Edward S.: *See*—  
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- Ruske, Manfred: *See*—  
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- Ruskin, Dan B.: *See*—  
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- Ruskin, Simon L., Farhi, Ruskin, and Reder. 3,104,216.
- Ruskin Development & Mfg. Corp.: *See*—  
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- Ruskin, Henry. 3,114,030.
- Ruskin, Henry: *See*—  
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- Ruskin, Henry, to Ace Fastener Corp. Stapling device. 3,083,367, 4-2-63, Cl. 1-3.
- Ruskin, Henry, to Ruskin Development & Mfg. Corp. Cable cutter. 3,108,373, 10-29-63, Cl. 30-90.5.
- Ruskin, Henry, to Ruskin Development & Mfg. Corp. Resistance welding. 3,114,030, 12-10-63, Cl. 219-93.
- Ruskin, Simon L., deceased (by C. Farhi), D. B. Ruskin, and M. Reder, to Union Carbide Corp. Composition of matter containing procaine adenylate. 3,104,203, 9-17-63, Cl. 167-65.
- Ruskin, Simon L., deceased (by C. Farhi), D. B. Ruskin, and M. Reder, to Union Carbide Corp. Irradiation of metal oxides. 3,104,216, 9-17-63, Cl. 204-157.
- Rusoff, Louis L., to Commercial Solvents Corp. Process for the control of bloat in ruminants with tris(hydroxy-methyl) aminomethane. 3,096,240, 7-2-63, Cl. 167-53.
- Russbach, Walter G., and S. A. Teiser, to E. I. du Pont de Nemours and Co. Paper insulated conductor. 3,103,549, 9-10-63, Cl. 174-12.4.
- Russell, Alexander H., to Spectra-Cast Corp. Monolithic cast objects and method. 3,078,249, 2-19-63, Cl. 260-40.
- Russell, Allan M. Face mask. 3,097,642, 7-16-63, Cl. 128-146.
- Russell, Arthur O. Golf cart. 3,083,029, 3-26-63, Cl. 280-36.
- Russell, Charles D.: *See*—  
Meadors, Victor G., and Russell. 3,076,504.
- Russell, Charles R.: *See*—  
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- Russell, Charles H., to General Motors Corp. Nuclear reactor safety device. 3,085,060, 4-9-63, Cl. 204-193.2.
- Russell, Donald G.: *See*—  
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- Russell, Donald H., and A. M. Karrash, to The Atlantic Refining Co. Urethane polymer compositions. 3,103,092, 10-22-63, Cl. 260-75.
- Russell, Edgar F., to General Electric Co. Water-cooled eddy current coupling. 3,103,605, 9-10-63, Cl. 310-105.
- Russell, Edward J., and R. J. Ruhf, to Trojan Powder Co. Process for the preparation of trimethylolalkane. 3,097,245, 7-9-63, Cl. 260-635.
- Russell, Edward J., Jr.: *See*—  
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- Russell, F. L., Corp.: *See*—  
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- Russell, Felix A. Paperboard shopping bag. 3,087,669, 4-30-63, Cl. 229-54.
- Russell, Felix A. Paperboard shopping bag. 3,100,076, 8-6-63, Cl. 229-54.
- Russell, Fred J. Tailpiece protector. 3,078,706, 2-26-63, Cl. 70-419.
- Russell, Fred J. Hold back retractor. 3,097,872, 7-16-63, Cl. 292-169.
- Russell, Fred J., and G. B. Solovieff; said Solovieff assor. to said Russell. Dual driver torsion spring mechanism. 3,075,796, 1-29-63, Cl. 292-336.3.
- Russell, Fred J., and G. B. Solovieff, said Solovieff assor. to said Russell. Release of rotated locking button by push action. 3,079,189, 2-26-63, Cl. 292-359.
- Russell, George F. Impregnation by implosion. 3,092,536, 6-4-63, Cl. 162-50.
- Russell, George F. Cigarette dispenser. 3,101,157, 8-20-63, Cl. 221-227.
- Russell, Henry R., to Waldorf Paper Products Co. Frozen poultry containers. 3,079,058, 2-26-63, Cl. 229-6.
- Russell, Ira B.: *See*—  
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- Russell, Jack J. Foldable support means. 3,079,167, 2-26-63, Cl. 280-41.
- Russell, James P.: *See*—  
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- Tedeschi, Robert J., Casey, and Russell. 3,082,260.
- Vitcha, James F., and Russell. 3,089,898.
- Russell, James R., to Pittsburgh Plate Glass Co. Method of preparing an alkali metal zirconate. 3,107,143, 10-15-63, Cl. 23-51.
- Russell, James S., to Steel Heddle Mfg. Co. Balloon control ring. 3,095,688, 7-2-63, Cl. 57-106.
- Russell, John D., to Microdot Inc. Strain gages and methods of installing the same. 3,092,993, 6-11-63, Cl. 73-88.5.
- Russell, John D., to Microdot Inc. Strain gages and installation of the same. 3,105,139, 9-24-63, Cl. 219-117.
- Russell, John S.: *See*—  
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- Russell, Lawrence E., to The Forward Slant Sole Co. Slant cell shoe sole. 3,087,261, 4-30-63, Cl. 36-28.
- Russell, Lawrence E., to The Forward Slant Sole Co. Resilient shoe sole. 3,087,262, 4-30-63, Cl. 36-28.
- Russell, Lee E., and F. P. Robinson,  $\frac{1}{2}$  to I. B. Russell. Can handling process. 3,095,100, 6-25-63, Cl. 214-152.
- Russell, Linus E., to Peters & Russell, Inc. Fastening device. 3,079,657, 3-5-63, Cl. 24-73.
- Russell, Linus E., to Peters & Russell, Inc. Fume eliminator. 3,096,704, 7-9-63, Cl. 98-115.
- Russell, Louis A., to International Business Machines Corp. Magnetic core flux steering device. 3,077,583, 2-12-63, Cl. 340-174.
- Russell, Peter B.: *See*—  
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- Russell, Phillip W. Sudden pressure relay testing device. 3,106,833, 10-15-63, Cl. 73-4.
- Russell, Reuben E., Jr.: *See*—  
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- Russell, Richard E., K. L. De Penti, and D. J. Wyrrough, to National Castings Co. Material handling equipment. 3,086,807, 4-23-63, Cl. 294-67.
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- Russell, Robert G.: *See*—  
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- Russell, Robert J., and H. Hardinge, to Hardinge Co., Inc. Means and methods of supplying heat to grinding mills. 3,078,048, 2-19-63, Cl. 241-17.
- Russell, Theron W., to Weyerhaeuser Co. Carton Sealing machine. 3,077,064, 2-12-63, Cl. 53-375.
- Russell, Warren O. Cooking apparatus. 3,081,696, 3-19-63, Cl. 99-427.
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- Russell, William L. Method and apparatus for measuring the pressures of fluids in subsurface rocks. 3,115,775, 12-31-63, Cl. 73-152.
- Russell, William M., 50% to P. J. Hamm. Spinal massage apparatus. 3,113,567, 12-10-63, Cl. 128-33.
- Russell, William S.: *See*—  
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- Russo, Albert T., to The Truson Corp. Protective device for doors. 3,071,958, 1-8-63, Cl. 70-93.
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- Russo, Michael T., to Mr. Porto, Inc. Bottle carriers. 3,114,472, 12-17-63, Cl. 220-104.
- Russo, Philip J. Selector and ejector for bowling balls and pins. 3,093,373, 6-11-63, Cl. 273-43.
- Rust, Edgar C., Jr., to Crompton & Knowles Corp. Loom needle penetration counter. 3,108,353, 10-29-63, Cl. 28-4.
- Rust, John L., to Chrysler Corp. Pressure compensating valve. 3,083,733, 4-2-63, Cl. 137-625.33.
- Rust, Karl G. K., S. Mullner, and A. G. M. Gumboldt, to Hercules Powder Co., Inc. Process for preparing polymers and copolymers of vinyl chloride. 3,111,505, 11-19-63, Cl. 260-87.5.
- Rust, Noel B., to Marconi's Wireless Telegraph Co. Ltd. Range radar using sawtooth frequency modulation. 3,080,558, 3-5-63, Cl. 343-14.
- Rust-Oleum Corp.: *See*—  
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- Rutenberg, Morton W., and W. Jarowenko, to National Starch and Chemical Corp. Amylose sponges and gauze. 3,081,181, 3-12-63, Cl. 106-122.
- Rüter, Hermann, F. Weingärtner, and E. Cherdron, to Gebrüder Giuliani G.m.b.H. Process for the decomposition of titanium ores. 3,076,692, 2-5-63, Cl. 23-202.
- Ruterbusch, Milton J., to Sperry Rand Corp. Pocket for micro-film jackets. 3,071,881, 1-8-63, Cl. 40-158.
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- Ruth, Byron, to Symons Mfg. Co. Quick-release temporary articulated I-beam hanger. 3,084,893, 4-9-63, Cl. 248-228.
- Ruth, Byron, to Symons Mfg. Co. Column brace and clamp assembly. 3,084,964, 4-9-63, Cl. 287-53.5.
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- Ruthen, Milton, and A. Bisberg. Electric drill to locate marking notches in ply fabrics. 3,098,430, 7-23-63, Cl. 101-26.
- Rutherford, Sherman L., A. B. Francis, and W. A. Lloyd, to Varian Associates. Cathodes for magnetically-confined glow discharge devices. 3,091,717, 5-28-63, Cl. 313-181.
- Ruthner, Othmar: *See*—  
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- Ruthrauff, William E., Jr. Tool for fasteners. 3,071,995, 1-8-63, Cl. 81-90.
- Ruthruff, Robert F. Isomerization of aromatic polycarboxylic acids. 3,102,906, 9-3-63, Cl. 260-515.
- Ruti Machinery Works Ltd.: *See*—  
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- Gebhardt, Eugen. 3,106,229.
- Kohler, Lothar. 3,108,619.
- Zollinger, Hans. 3,101,748.
- Rutishauser, Donald E., to American Hardware Corp. Self-service refrigerated display case. 3,115,019, 12-24-63, Cl. 62-256.
- Rutishauser, Edgar. Duplicating machine. 3,097,599, 7-16-63, Cl. 101-416.
- Rutkove, Edward. Folding bicycle. 3,074,741, 1-22-63, Cl. 280-278.
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- Rutkowski, Alfred J., to Esso Research and Engineering Co. Boron compounds. 3,103,537, 9-10-63, Cl. 260-606.5.
- Rutkowski, Eugene V.: *See*—  
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- Rutledge, Ben T., 1/2 to J. M. Sansi. Chiropractor's table. 3,113,770, 12-10-63, Cl. 269-325.
- Rutledge, Fred C.: *See*—  
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- Rutledge, George E., to Munsingwear, Inc. Method for knitting panty panels for body molding garments. 3,093,988, 6-18-63, Cl. 66-177.
- Rutledge, Wyman C., to The Mead Corp. Paper strength tester. 3,099,153, 7-30-63, Cl. 73-100.
- Rütsche, Karl, to Oehler A.G. Thread control switch. 3,090,845, 5-21-63, Cl. 200-61.18.
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- Ruza, Frederick, to Continental Can Co., Inc. Method and apparatus for cooling and curling edges of polyethylene coated paper cups. 3,087,390, 4-30-63, Cl. 93-36.5.
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- Ruzicka, Jerome E., to Barry Wright Corp. Self-damped laminar structure. 3,110,369, 11-12-63, Cl. 189-34.
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- Ludlam, Richard H. 3,074,175.
- Melling, Ernest F. 3,087,0046.
- Photinos, Harry R. 3,101,437.
- Poirier, Jules H. 3,083,336.
- Wagner, Fred G. 3,085,740.
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- Ryan, Arthur H.: *See*—  
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- Ryan, Charles C.: *See*—  
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- Ryan, Eric J.: *See*—  
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- Ryan, Frederic C.: *See*—  
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- Ryan, Genevieve, and R. T. Cox. Apparatus for shaping edible products. 3,093,093, 6-11-63, Cl. 107-19.
- Ryan, Harry H. Linoleum cutter. 3,079,688, 3-5-63, Cl. 30-294.
- Ryan, Herbert A., to Westminster Laboratories Ltd. Synergistic anthelmintic containing piperazines and sennosides. 3,077,434, 2-12-63, Cl. 167-55.
- Ryan, Herl J. Line marker. 3,098,588, 7-23-63, Cl. 222-177.
- Ryan, James F., Jr., and R. L. Tichenor, to E. I. du Pont de Nemours and Co. Composite filament. 3,092,892, 6-11-63, Cl. 28-82.
- Ryan, James J., to The Regents of the University of Minnesota. Safety seat belt. 3,074,761, 1-22-63, Cl. 297-388.
- Ryan, James J., and K. E. Neumeier, to General Mills, Inc. Coding apparatus for flight recorders and the like. 3,075,192, 1-22-63, Cl. 346-23.
- Ryan, John C. Control device for brake-holding mechanism. Re. 25,498, 12-17-63, Cl. 200-82.



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- Ryan, John W. Lever action toy gun. 3,075,511, 1-29-63, Cl. 124-2.
- Ryan, John W. Phonograph tone arm and speaker. 3,082,006, 3-19-63, Cl. 274-9.
- Ryan, John W., to Dow Corning Corp. 2-phenylpropyl organosiloxanes. 3,083,964, 5-7-63, Cl. 260-448.2.
- Ryan, John W. Multiple-stage projectile. 3,091,052, 5-28-63, Cl. 46-74.
- Ryan, John W., to Mattel, Inc. Vibrator toy gun. 3,094,110, 6-18-63, Cl. 124-2.
- Ryan, John W., to Mattel, Inc. Multiple speech phonograph with improved tone arm mounting. 3,095,201, 6-25-63, Cl. 274-26.
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- Ryan, Robert F., F. R. Thomasson, and J. H. Hicks, to United States of America, Atomic Energy Commission Gaseous disposal process. 3,074,776, 1-22-63, Cl. 23-2.
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- Ryan, Wayne L., to Dundee Laboratories, Inc. Process and device for determining the sensitivity of bacteria to antibiotics. 3,083,145, 3-26-63, Cl. 195-103.5.
- Ryan, William H., and E. L. Yankowski, to Polaroid Corp. Photographic diffusion transfer process. 3,087,815, 4-30-63, Cl. 96-3.
- Ryan, William P., to Royal McBee Corp. Drive means. 3,098,398, 7-23-63, Cl. 74-321.
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- Ryck, Francis M., to General Motors Corp. Windshield wiper arm attachment. 3,085,821, 4-16-63, Cl. 287-53.
- Ryck, Frank M., and E. R. Ziegler, to General Motors Corp. Windshield cleaning system. 3,078,493, 2-26-63, Cl. 15-250.02.
- Ryckebosch, Frans K., to Bekaert Steel Card, S.A. Cut steel reinforcing wire. 3,070,871, 1-1-63, Cl. 28-80.
- Rydborg, John A., to Gustavsbergs Fabriker, Aktiebolaget. Device for intermittent combustion. 3,091,224, 5-28-63, Cl. 122-24.
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- Rye, John K., O. A. Oppertshausen, and G. Oltean, to F. Jos. Lamb Co. Feed screw arrangement for a machine tool. 3,103,835, 9-17-63, Cl. 77-32.7.
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- Rylander, Rolf E., and L. J. Ebert, to Erico Products, Inc. Welding composition. 3,116,141, 12-31-63, Cl. 75-27.
- Rylander, Rolf E., L. Gelfand, and L. J. Ebert, to Erico Products, Inc. Welding material. 3,116,142, 12-31-63, Cl. 75-27.
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- Rywak, John, to Northern Electric Co. Ltd. Detector of pulses exceeding a predetermined length. 3,093,756, 6-11-63, Cl. 307-88.5.
- Rywak, John, to Northern Electric Co. Ltd. RC-coupled monostable transistor circuit with diode shunt to provide fast recovery time. 3,097,313, 7-9-63, Cl. 307-88.5.
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- Kramer, Rolf, Breitingen, and Gerber. 3,098,345.
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- Sabins, Roland C. Electrolytic method. 3,082,160, 3-19-63, Cl. 204—96.
- Sabins, Roland C. Platinum plug-valve metal anode for cathodic protection. 3,108,939, 10-29-63, Cl. 204—196.
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- Sable, Jerome D., to United States of America, Navy. Digital time modulator. 3,078,451, 2-19-63, Cl. 340—347.
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- Sabroff, Alvin M.: *See*—  
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- Saccardo, Pietro, and F. Gozzo, to Sicedison S.p.A. Dry process for obtaining technically pure erythrite by direct contact of the reagents. 3,104,156, 9-17-63, Cl. 23—88.
- Sacco, Ernesto. Burner for liquid fuels. 3,090,420, 5-21-63, Cl. 158—26.
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- Sachnik, Norman H., to Textsteam Corp. Fluid operated pump. 3,093,122, 6-11-63, Cl. 121—158.
- Sachs, Charles M., to International Latex Corp. Brassieres. 3,078,851, 2-26-63, Cl. 128—505.
- Sachs, Charles M., to International Latex Corp. Method of making non-wrinkling brassieres. 3,108,598, 10-29-63, Cl. 128—516.
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- Sackett, A. J., & Sons Co., The: *See*—  
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- Sackinger, James P., and G. R. Feaster, to Westinghouse Electric Corp. Cathode for electron discharge device. 3,105,290, 10-1-63, Cl. 29—182.5.
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- Budney, Michael P., H. S. and T. W., and Saczawa. 3,108,791.
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- Sadler, Francis A. D., to Girling Ltd. Booster assisted actuating systems. 3,075,502, 1-29-63, Cl. 121—41.
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- Sadler, Harry J., and E. E. Cook, to Hypo Engineering, Inc. Expanded piston cup assembly. 3,092,427, 6-4-63, Cl. 309—51.
- Sadler, James E., and P. W. Hussey, to International Harvester Co. Sealed picker bar and spindle assembly. 3,092,949, 6-11-63, Cl. 56—44.
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- Sadowski, Jan Z., and R. E. Wagner, to E. I. du Pont de Nemours and Co. Color stabilized fibers and process for preparing same. 3,095,322, 6-25-63, Cl. 117—138.8.
- Sadowski, John M. Saw repair apparatus. 3,099,738, 7-30-63, Cl. 219—85.
- Sadowsky, Charles. Collapsible garment hangers. 3,082,921, 3-26-63, Cl. 223—94.
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- Saffer, Charles M., Jr., to Thiokol Chemical Corp. Explosive perforator for use on underwater bodies and structures. 3,109,373, 11-5-63, Cl. 102-54.
- Safian, Marvin M., to OPTO Mechanism Inc. Processing head for photographic mechanism. 3,115,079, 12-24-63, Cl. 95-12.
- Safir, Jacob A., to The Dentists Supply Co. of New York. Dental instruments. 3,071,861, 1-8-63, Cl. 32-27.
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- Safford, Moyer M., and R. L. Myers, to General Electric Co. Curable composition comprising cured filler, polymerized butadiene and di-*n*-cumyl peroxide and cured products thereof. 3,083,175, 3-26-63, Cl. 260-45.5.
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- Sahler, Wilhelm, to Kalle Aktiengesellschaft. Heat sensitive reproduction material. 3,097,297, 7-9-63, Cl. 250-65.
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- Sahllin, Eric A., to Otis Elevator Co. Twist resistant elevator guide linkage. 3,077,953, 2-19-63, Cl. 187-95.
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- St. John, Alexander N. T., and W. E. Titterton, to Resistoflex Corp. Dip pipe assembly. 3,085,438, 4-16-63, Cl. 73-421.
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- St. Pierre, Philippe D. S., to General Electric Co. Casting metal powders. 3,115,698, 12-31-63, Cl. 29-182.
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- Sakakibara, Kyoichi, M. Sawal, and I. Chuman, to Teikoku Zoki Selyaku Kabushiki Kaisha. 17-substituted 1,3,5(10)-estratrienes and compositions containing the same. 3,081,316, 3-12-63, Cl. 260-397.3.
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- Saldi, Ideal T., to General Electric Co. Energy conversion device and methods of making. 3,079,515, 2-26-63, Cl. 310-4.
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- Salem-Brosius, Inc.: *See*—  
Stevens, William F., and Bauer. 3,112,918.
- Salem, Joshua: *See*—  
Sharko, Sam, Salem, and Andresen. 3,089,331.
- Salem Tool Co., The: *See*—  
Adams, George L. 3,114,425.
- Adams, George L., and Govin. 3,074,703.
- Adams, George L., and Govin. 3,091,439.
- Adams, George L., and Govin. 3,107,741.
- Govin, Charles T. 3,072,205.
- Govin, Charles T. 3,077,235.
- Salera, Edmond A. Fluid flow rate detection apparatus. 3,081,628, 3-19-63, Cl. 73-204.
- Salerno, Paul G., to Vapor Heating Corp. Modulating in-line valve. 3,076,471, 2-5-63, Cl. 137-219.
- Salfishberg, Charles M., to Ivers-Lee Co. Apparatus for feeding tablets. 3,105,609, 10-1-63, Cl. 221-176.
- Salgado, Alvaro: *See*—  
Forster, Wolfgang C., and Salgado. 3,077,463.
- Salgado, Don E. Watch parts handling apparatus. 3,074,773, 1-22-63, Cl. 312-213.
- Salger, Werner, to Lumoprint Zindler K.G. Apparatus for printing an original onto a copying paper. 3,101,034, 8-20-63, Cl. 95-77.5.
- Saliba, Francois G., and N. G. Satel. Alarm system for motor vehicles. 3,074,049, 1-15-63, Cl. 340-65.
- Salick, Ralph A. Processing of strips of fur or pile fabrics. 3,081,614, 3-19-63, Cl. 69-22.
- Salick, Ralph A. Polishing disc and method of making same. 3,100,905, 8-20-63, Cl. 15-235.
- Salihli, Jalal T., to Lenkurt Electric Co., Inc. Voltage regulator. 3,074,000, 1-15-63, Cl. 321-16.
- Salihli, Jalal T., to Lenkurt Electric Co., Inc. Selective frequency detector. 3,104,373, 9-17-63, Cl. 340-147.
- Salisbury, Dale C. P.: *See*—  
Noonan, Clayton T., and Salisbury. 3,109,426.
- Salisbury, Frederick L., to Varian Associates. Tuning device for flexible wall klystron. 3,097,323, 7-9-63, Cl. 315-5.23.
- Salisbury, Frederick L., to Varian Associates. Cavity resonator structure for klystrons. 3,097,324, 7-9-63, Cl. 315-5.39.
- Salisbury, Lynn: *See*—  
Ault, Lawrence H., and Salisbury. 3,076,726.
- Salisbury, Mack L. Swimming pool. 3,078,472, 2-26-63, Cl. 4-171.
- Salisbury, Maurice B., and L. L. Ellis. Combined rock and core drill. 3,113,626, 12-10-63, Cl. 173-27.
- Salisbury, Peter F., and T. F. Wichmann. Blood pressure measurement. 3,090,377, 5-21-63, Cl. 128-2.05.
- Salkin, Ralph, to S. B. Penick & Co. Extraction of raunitidine. 3,072,664, 1-8-63, Cl. 260-294.3.
- Salkind, Alvin J., to The Electric Storage Battery Co. Storage battery electrodes and methods for making them. 3,075,033, 1-22-63, Cl. 136-24.
- Salkovitz, Edward I.: *See*—  
Schindler, Albert I., and Salkovitz. 3,113,055.
- Sallee, Aaron D., to Seymour Mfg. Co. Automatic header control means. 3,088,264, 5-7-63, Cl. 56-210.
- Saller, Erik, R. Timmerman, and C. J. Wenzke, to FMC Corp. Production of carbon tetrachloride from carbon bisulfide. 3,081,359, 3-12-63, Cl. 260-664.
- Saller, Erik, R. W. Timmerman, J. L. Bennetts, and P. E. Armstrong, to FMC Corp. Chlorination of carbon bisulfide containing mixtures to produce carbon tetrachloride. 3,109,866, 11-5-63, Cl. 260-664.
- Sallie, Stanley H., to Bird & Son, Inc. Self-sealing shingle. 3,080,683, 3-12-63, Cl. 50-103.
- Salmassy, Sherwood: *See*—  
Melill, Joseph, and Salmassy. 3,082,132.
- Salmen, Hubert. Stopcock. 3,103,948, 9-17-63, Cl. 137-375.
- Salminen, Paavo V. L. Turbine-driven irrigation device. 3,093,313, 6-11-63, Cl. 239-236.
- Salmivuori, Erkki, to Fishing Tackle Co. of America. Spinning type fishing reel. 3,085,766, 4-16-63, Cl. 242-84.21.
- Salmon, Benjamin J. M.: *See*—  
Bertin, Jean H., and Salmon. 3,105,388.
- Salmon, Clarence P., to Flexonics Corp. Transducer. 3,096,691, 7-9-63, Cl. 92-101.
- Salmon, David F., and J. T. Zinn, to Avco Corp. Blueprint folding machine. 3,083,010, 3-26-63, Cl. 270-62.
- Salmon, Donald B.: *See*—  
Salmon, Douglas A. and D. B. 3,088,486.
- Salmon, Douglas A. and D. B., to Hoke Inc. Loading arrangement for a regulator. 3,088,486, 5-7-63, Cl. 137-505.
- Salmon, John F.: *See*—  
Smith, Robert R., Mann, and Salmon. 3,081,242.



- Salmon, Warren A.: *See*—  
Gordon, William E., and Salmon. 3,080,724.  
Gordon, William E., and Salmon. 3,081,157.
- Salna, Karl, to The Frank G. Hough Co. Articulated motor vehicle. 3,101,806, 8-27-63, Cl. 180-52.
- Salo, Eric A. Mooring device. 3,101,491, 8-27-63, Cl. 9-8.
- Salo, William G. Marine speedometers. 3,095,738, 7-2-63, Cl. 73-181.
- Salomon, Phil M.: *See*—  
Birnbaum, Morris M., and Salomon. 3,114,831.
- Salomon, Salomon M.: *See*—  
Cannon, Madison M., Dick, and Salomon. 3,092,578.
- Salomone, Rynold A.: *See*—  
Hammerly, Herman J., and Salomone. 3,111,354.
- Salomonsen, Conrad. Handy extending grip. 3,112,135, 11-26-63, Cl. 294-16.
- Salom, Edward E., to Snap-Tite, Inc. Coupling. 3,097,867, 7-16-63, Cl. 285-86.
- Salsbury, Jason M.: *See*—  
Van Loo, William J., Jr., and Salsbury. 3,087,837.
- Salsinger, Frank R. Baseball bat comprising a square cross sectional striking area. 3,104,876, 9-24-63, Cl. 273-72.
- Salter, Frank S.: *See*—  
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- Salter, George, & Co. Ltd.: *See*—  
Bache, John K. 3,073,403.
- Saltman, Paul D., and P. J. Charley. Metallic complexes of non-reducing sugars. 3,074,927, 1-22-63, Cl. 260-209.
- Salton, Lewis L. Temperature control systems. 3,075,063, 1-22-63, Cl. 219-20.
- Salton, Lewis L., and F. J. Burg; said Burg assor. to said Salton. Electrically heated covered warming tray. 3,098,924, 7-23-63, Cl. 219-35.
- Saltz, Fred: *See*—  
Daly, George F., and Saltz. 3,088,398.  
Daly, George F., and Saltz. 3,107,292.
- Saltzman, George. Portable dental outfit. 3,077,665, 2-19-63, Cl. 32-22.
- Salvatore, Joseph, to Goodstein Bros. & Co., Inc. Combined coat liner and bathrobe. 3,077,605, 2-19-63, Cl. 2-97.
- Salvatori, Vincent L., to HRB-Singer, Inc. Cubic function generator. 3,086,166, 4-16-63, Cl. 323-79.
- Salvi, Alessandro: *See*—  
Perrone, Arrigo, and Salvi. 3,107,272.
- Salvin, Victor S., B. S. Sprague, and F. Fortess, to Celanese Corp. of America. Textile treating. 3,101,236, 8-20-63, Cl. 8-59.
- Salvin, Victor S., and T. W. Westarp, to Celanese Corp. of America. Discharge printing. 3,103,404, 9-10-63, Cl. 8-64.
- Salvo, Louis: *See*—  
Salvo, Raymond C., L., and N. L. 3,099,448.
- Salvo, Norman L.: *See*—  
Salvo, Raymond C., L., and N. L. 3,099,448.
- Salvo, Raymond C., L., and N. L. Arm control appliance. 3,099,448, 7-30-63, Cl. 273-54.
- Salwasser, Leslie F.: *See*—  
Salwasser, Melvin and L. F. 3,097,577.
- Salwasser, Melvin and L. F. Casing machine. 3,097,577, 7-16-63, Cl. 93-53.
- Salway-Waller, Malcolm: *See*—  
Gibbard, Thomas, Sharp, and Salway-Waller. 3,105,891.
- Salzer, Howard C., and C. A. Fletcher, to Eastman Kodak Co. Textile apparatus for bulking yarns and process. 3,103,731, 9-17-63, Cl. 28-1.
- Salzer, Ival O.: *See*—  
Herbig, James A., and Salzer. 3,092,607.  
Herbig, James A., and Salzer. 3,114,728.
- Salzer, Ival O., to Monsanto Chemical Co. Polymer vinyl and ethylene/vinyl chloride polymer compositions and processes. 3,112,290, 11-26-63, Cl. 260-45.5.
- Salzberg, Emmett R., and D. M. Goodman; said Goodman, assor., to said E. R. Salzberg. Motor control system adapted for telephone answering and message recording. 3,115,597, 12-24-63, Cl. 318-466.
- Salzberg, Paul L., to E. I. du Pont de Nemours and Co. Herbicidal method. 3,092,484, 6-4-63, Cl. 71-256.
- Salzer, Alexander. Water power conversion system. 3,084,905, 4-9-63, Cl. 253-18.
- Salzgitter Maschinen Aktiengesellschaft: *See*—  
Holtermann, Clemens. 3,111,235.
- Salzman, Paul. Ski boot holder. 3,074,085, 1-22-63, Cl. 12-120.5.
- Salzman, Samuel: *See*—  
Goulet, Fernand, and Salzman. 3,112,523.
- Salzman, Samuel, to Allied Record Mfg. Co. Method of making phonograph record blanks from composite material. 3,072,519, 1-8-63, Cl. 156-200.
- Salzmann, Ferdinand F.: *See*—  
Graber, Joseph V., and Salzmann. Re. 25,399.
- Salzmann, Ferdinand F., to Graber Mfg. Co., Inc. Adjustable support bracket for curtain rods and the like. 3,104,086, 9-17-63, Cl. 248-262.
- Salzmann, Gerhard, to Ernst Leitz, Gesellschaft mit beschränkter Haftung. Film pressure guide for motion picture cameras. 3,075,427, 1-29-63, Cl. 88-17.
- Salzmann, Helmut, to International Standard Electric Corp. Arrangement for leading flat dispatch articles round corners in conveying systems. 3,080,956, 3-12-63, Cl. 198-33.
- Salzmann, Willi E. Differential gear with locking means. 3,105,394, 10-1-63, Cl. 74-710.5.
- Sam, Joney. Sounding game mat. 3,091,454, 5-28-63, Cl. 273-1.
- Samalik, John H., Sr.: *See*—  
Rankin, John C., Russell, and Samalik. 3,073,724.
- Samans, Walter, to Sun Oil Co. Emergency pressure relief device. 3,109,555, 11-5-63, Cl. 220-89.
- Samara, Ferris A. Foldable bag and the like. 3,073,367, 1-15-63, Cl. 150-21.
- Samburoff, Serge N., and A. H. Miller, to United States of America, Navy. Missile electrical plug connector. 3,111,355, 11-19-63, Cl. 339-75.
- Samcoe Holding Corp.: *See*—  
Cohn, Eugene and J., and Catallo. 3,088,224.  
Cohn, Samuel and E., and Catallo. 3,102,006.
- Samejima, Hirotsoshi: *See*—  
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- Sameshima, Kenji: *See*—  
Rock, Jerome R., and Sameshima. 3,097,779.
- Sameshima, Kenji J., to Burroughs Corp. Tape guide apparatus for magnetic tape transports. 3,109,573, 11-5-63, Cl. 226-199.
- Sami, S. A. Societa d'Applications de Recherches Minieres et Industrielles: *See*—  
Bumiller, Jacques. 3,072,911.
- Samiran, David. Self-locking threaded fastener having a resilient wire locking member. 3,091,271, 5-28-63, Cl. 151-25.
- Sammarco, Peter, to International Harvester Co. Frameless grain wagon. 3,093,254, 6-11-63, Cl. 214-83.32.
- Samo, Harvey W., to Margon Corp. Doll eye. 3,092,931, 6-11-63, Cl. 46-169.
- Sampietro, Achilles C. Internal combustion engines. 3,085,392, 4-16-63, Cl. 60-19.
- Sampietro, Achilles C., to Thompson Ramo Wooldridge Inc. Variable ratio hydraulic vehicle drive. 3,092,970, 6-11-63, Cl. 60-53.
- Sampietro, Achilles C. Cylinder head assemblies for spark ignition internal combustion engines. 3,094,977, 6-25-63, Cl. 123-191.
- Sampietro, Achilles C., to Willys Motors, Inc. Steering linkage. 3,109,668, 11-5-63, Cl. 280-89.
- Sampietro, Achilles C., to Thompson Ramo Wooldridge, Inc. Valve rocker arm with cylindrical support. 3,112,740, 12-3-63, Cl. 123-90.
- Sampietro, Achilles C., and J. D. Grigsby, to Thompson Ramo Wooldridge Inc. Alternator drive. 3,084,324, 4-2-63, Cl. 322-32.
- Sample, Basil S., to Duff-Norton Co. Method of casting brake shoe to lining. 3,096,578, 7-9-63, Cl. 29-527.
- Sampoll, Emilio: *See*—  
Sampoll, Gabriel, Sampoll, and Sampoll. 3,105,571.
- Sampoll, Gabriel, J. A., and E. Uniflow exhaust muffler. 3,105,571, 10-1-63, Cl. 181-59.
- Sampoll, Jose A.: *See*—  
Sampoll, Gabriel, J. A., and E. 3,105,571.
- Sampson, Frederick S., to United-Carr Fastener Corp. Hole closures and the like. 3,072,287, 1-8-63, Cl. 220-59.
- Sampson, Frederick W. English muffin splitter. 3,091,270, 5-28-63, Cl. 146-203.
- Sampson, Howard J.: *See*—  
Van Utt, Damon, and Sampson. 3,092,743.
- Sampson, Merritt B., to The S-P Mfg. Corp. Quick change chuck. 3,085,813, 4-16-63, Cl. 279-119.
- Sampson, Rudolph A.: *See*—  
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- Sams, Martin. Soap guards. 3,108,392, 10-29-63, Cl. 45-28.
- Samson Cordage Works: *See*—  
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- Samson, Georges, Jr. Cleaning device for bowling balls. 3,077,623, 2-19-63, Cl. 15-21.
- Samson, Joseph: *See*—  
Klopstock, Frederick W., and Samson. 3,092,850.
- Samson, Ralph L.: *See*—  
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- Samson, Rene, to Behler, Gebrüder. Apparatus for drying macaroni products. 3,094,398, 6-18-63, Cl. 34-212.
- Samuel, Arthur J., to Gulf Research & Development Co. Combination dispensing and excess pressure relief valve. 3,081,919, 3-19-63, Cl. 222-396.
- Samuel, Claude, to Societe Indatomo. Stabilizing system for nuclear reactors, particularly those operating with boiling water. 3,080,309, 3-5-63, Cl. 204-193.2.
- Samuel, Donald G., F. G. Heck, and H. N. Hall, to E. J. Lavino and Co. Refractory unit for furnace-lining construction. 3,086,327, 4-23-63, Cl. 50-162.
- Samuel, Sergiu, to Machines Bull (Société Anonyme) Compagnie des. Monostable trigger circuits. 3,109,105, 10-29-63, Cl. 307-88.5.
- Samuel, William Y., to T. & H. Smith, Ltd. Denatured alcohol. 3,080,326, 3-5-63, Cl. 252-366.
- Samuelson, Eirik. Method for trinitrotoluene manufacture. 3,087,971, 4-30-63, Cl. 260-645.
- Samuelson, Eirik, to Aktiebolaget Chematur and Norsk Sprengstoffindustri A/S. Continuous trinitrotoluene manufacture. 3,087,973, 4-30-63, Cl. 260-645.
- Samuelson, Gilbert J., and K. J. Lissant, to Petrolite Corp. Non-aqueous deinking process. 3,072,521, 1-8-63, Cl. 162-5.
- Samuelson, Gilbert J., and A. D. Franse, to Petrolite Corp. Recovery of values from ores by use of electric fields. 3,089,750, 5-14-63, Cl. 23-14.5.



- Samulon, Henry A., and P. C. Robison, to Space Technology Laboratories, Inc. Electromagnetic radiation converter. 3,076,861, 2-5-63, Cl. 136-89.
- Samusenko, Anatol G.: *See*—
- Rubenstein, Herbert, and Samusenko. 3,087,123.
- Samways, Alfred J., and B. L. Ertsgaard, to Toro Mfg. Corp. Suspension mounting for rotary mowers. 3,077,069, 2-12-63, Cl. 56-25.4.
- Samwel, Johannes A., to North American Philips Co., Inc. Transistor common-emitter gate circuit with inductive load. 3,098,216, 7-16-63, Cl. 340-166.
- San Antonio Chemicals, Inc.: *See*—
- Berthold, Cornelius E., and Kane. 3,112,169.
- Sanbe, Yukio. Device for sewing designs on zigzag sewing machines. 3,082,720, 3-26-63, Cl. 112-102.
- Sanborn, Calvin B., Jr.: *See*—
- Schurr, Charles A., and Sanborn. 3,076,126.
- Sanborn, Calvin B., Jr., to Square D Co. Limit control for motors. 3,105,181, 9-24-63, Cl. 318-203.
- Sanborn, Daniel S., and J. L. Byrne, to McCulloch Corp. Reentry rotary fluid pump. 3,095,820, 7-2-63, Cl. 103-96.
- Sanborn, Malcolm A., to United States of America, Air Force. Apparatus for assembling electrical circuitry. 3,088,728, 5-7-63, Cl. 269-40.
- Sanborn, Phillip D. Aerosol cap and button. 3,107,033, 10-15-63, Cl. 222-41.
- Sanchez, John G., to Baker Perkins Ltd. Spacer and transfer apparatus. 3,108,681, 10-29-63, Cl. 198-34.
- Sanchez, Joseph: *See*—
- Gong, Howard, Sanchez, and Talmo. 3,089,108.
- Sanchez, Joseph C., to Micro-Systems, Inc. Semiconductor strain gauge. 3,084,300, 4-2-63, Cl. 338-2.
- Sanchez, Moises G.: *See*—
- Acker, Ellsworth G., and Sanchez. 3,081,154.
- Barrett, Wayne T., Sanchez, and Vanik. 3,097,175.
- Fitch, Frederick T., Sanchez, and Vanik. 3,091,592.
- Vanik, Milton C., Sanchez, and Smouse. 3,108,073.
- Sanchez, Jose. Pouring device. 3,104,786, 9-24-63, Cl. 222-481.
- Sand, Robert T., Sr. Vehicle traction device. 3,115,920, 12-31-63, Cl. 152-218.
- Sand, William C.: *See*—
- Brooks, Chester E., Crofutt, and Sand. 3,115,550.
- Sandacz, George U. Cigarette package construction. 3,090,482, 5-21-63, Cl. 206-41.
- Sandall Precision Co. Ltd. The: *See*—
- Brazier, Horace J. 3,082,620.
- Sandback, Irving C.: *See*—
- Cox, Arthur, and Sandback. 3,074,316.
- Sandberg, Carl L., and J. M. Mullins, to Minnesota Mining and Mfg. Co. Low molecular weight vulcanizable polymers. 3,080,347, 3-5-63, Cl. 260-80.5.
- Sandberg, Harry L.: *See*—
- Moors, Donald E., and Sandberg. 3,094,054.
- Sandberg, Irvin W., to Bell Telephone Laboratories, Inc. Multibranch circuits for translating frequency characteristics. 3,081,434, 3-12-63, Cl. 328-22.
- Sandberg, John W., and R. Balzer. Locking mechanism for telescoping members. 3,095,825, 7-2-63, Cl. 103-153.
- Sandberg, Ove H., to Elektrokemisk A/S. Process of producing carbon electrodes. 3,102,041, 8-27-63, Cl. 106-284.
- Sandberg, Robert N.: *See*—
- Hidden, William P., Steimen, and Sandberg. 3,103,142.
- Sandberg, Sara F.: *See*—
- Hidden, William P., Steimen, and Sandberg. 3,103,142.
- Sanden, Grant E.: *See*—
- Pierce, William J., and Sanden. 3,110,372.
- Sander, Howard H., M. Cowan, Jr., and S. C. Hight, to United States of America, Atomic Energy Commission. Blast yield meter. 3,108,466, 10-29-63, Cl. 73-35.
- Sander, Nils B., to Svenska Bomsregulator, Aktiebolaget. Automatically single-acting slack adjusters for vehicles. 3,091,311, 5-28-63, Cl. 188-196.
- Sanders, Albert M., and M. A. Method for treating die castings. 3,103,841, 9-17-63, Cl. 83-27.
- Sanders Associates, Inc.: *See*—
- Ayer, Donald R., Butler, and Williston. 3,095,544.
- Roothrovd, Howard W., and Bostwick. 3,102,430.
- Butler, Jesse L. 3,095,549.
- Rutler, Jesse L. 3,104,363.
- Chorney, Harry. 3,114,683.
- Dinolfo, Michael, and Farmer. 3,074,671.
- Gilbody, Roger W., and Walker. 3,080,232.
- Hayner, Paul F. 3,096,690.
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- Stearns, Thomas H., and Nalette. 3,074,043.
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- Sanders-Garland Mfg. Co.: *See*—
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- Sanders, Grady H., to Deering Milliken Research Corp. Bobbin handling arrangement. 3,090,476, 5-21-63, Cl. 198-33.
- Sanders, Guy J., to Koppers Co., Inc. Noise attenuating apparatus of circular cross-section. 3,114,431, 12-17-63, Cl. 181-50.
- Sanders, Hiram R., Jr., J. R. Kennedy, and H. F. Schroeder, to Esso Research and Engineering Co. Liquid fuel injection in blast furnaces. 3,110,584, 11-12-63, Cl. 75-42.
- Sanders, James W., to Electronic Associates Inc. Analog accumulator. 3,074,642, 1-22-63, Cl. 235-193.
- Sanders, Joseph A., to Goddard & Goddard Co. Magnetic chuck adapter plate. 3,078,565, 2-26-63, Cl. 29-529.
- Sanders, Melvin C.: *See*—
- Nelson, Gordon A., Sanders, and Casey. 3,080,826.
- Sanders, Murray A.: *See*—
- Sanders, Albert M., and M. A. 3,103,841.
- Sanders, Norman T., to Needle Industries Ltd. Shape-forming structures. 3,081,922, 3-19-63, Cl. 223-68.
- Sanders, Paul. Package for ties and the like. 3,081,012, 3-12-63, Cl. 224-45.
- Sanders, Richard B., to L & B Welding Equipment, Inc. Means for speed control of a direct current motor operating from an alternating current supply source. 3,082,366, 3-19-63, Cl. 318-331.
- Sanders, Robert G., and B. D. Church, to Warner-Lambert Pharmaceutical Co. Therapeutic composition of a 5-amino-hexahydropyrimidine and selected chelating agents. 3,072,529, 1-8-63, Cl. 167-65.
- Sanders, Robert W., and L. J. Vironda, to Dymo Industries Inc. Tape marking tool and cut-off mechanism. 3,091,319, 5-28-63, Cl. 197-67.
- Sanders, Vernon W., E. J. Georgia, and E. F. Mayeau. Aircraft tire tread. 3,111,975, 11-26-63, Cl. 152-261.
- Sanders, W. H. (Electronics) Ltd.: *See*—
- Parrish, Joseph R. 3,072,908.
- Sanders, Walter C. Drive-yourself motor vehicle contract and key recovery device. 3,101,987, 8-27-63, Cl. 346-20.
- Sanders, Wilfred E., to Houston Oil Field Material Co., Inc. Tubing rotary swivel assembly. 3,100,538, 8-13-63, Cl. 166-237.
- Sanderson, George H., to Creative Advisers, Inc. Furniture upholstery. 3,082,038, 3-19-63, Cl. 297-461.
- Sanderson, Hansel S., 50% to C. E. Anthony. Gravity actuated apparatus for weighing granular material and the like. 3,093,202, 6-11-63, Cl. 177-96.
- Sanderson, James R.: *See*—
- Mason, Harold, Sanderson, and Mason. 3,099,537.
- Sanderson, Richard H.: *See*—
- Gadd, Francis O., Sanderson, Kern, and Parshall. 3,104,746.
- Sanderson, William M., to The Goodyear Tire & Rubber Co. Flat tire warning device. 3,085,615, 4-16-63, Cl. 152-340.
- Sandgren, Marvin A.: *See*—
- Amundson, Thomas M., and Sandgren. 3,098,441.
- Sandhage, Ellsworth R., and W. H. Marlow, to American Research Co. Well packer. 3,104,717, 9-24-63, Cl. 166-187.
- Sandifer, Conrad G. Flange spreader. 3,107,419, 10-22-63, Cl. 29-239.
- Sandin, Jerome: *See*—
- Cromer, Charles F., Sandin, and Baker. 3,095,490.
- Sandison, Alexander G. Barking drums. 3,086,569, 4-23-63, Cl. 144-208.
- Sandler, William. Adjustment and control means. 3,108,487, 10-29-63, Cl. 74-424.8.
- Sandlin, Herman L., and A. Barry, to Jersey Production Cyanamid Co. Method of sealing hard shell capsules. 3,106,904, 10-15-63, Cl. 114-199.
- Sandner, Walter J.: *See*—
- Fierce, William L., and Sandner. 3,091,629.
- Fierce, William L., and Sandner. 3,116,313.
- Fierce, William L., and Sandner. 3,116,318.
- Sandner, Walter J., and W. L. Fierce, to The Pure Oil Co. Preparation of triaryltriazines. 3,071,586, 1-1-63, Cl. 260-248.
- Sandnes, Gottfred. Rope and cable vise lock or stopper. 3,073,087, 1-15-63, Cl. 53-38.
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- Sandor, William C. Bed spring construction. 3,085,259, 4-16-63, Cl. 5-247.
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- Hofmann, Albert, and Troxler. 3,072,530.
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- Sante, Daniel P., to Sylvania Electric Products Inc. Semiconductor harmonic generators. 3,085,205, 4-9-63, Cl. 328—16.
- Santeler, Donald J., to General Electric Co. Shielded thermal gradient member. 3,103,108, 9-10-63, Cl. 62—268.
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- Santi, Harris H., to Rototone, Inc. Acoustical vibrato apparatus. 3,095,940, 7-2-63, Cl. 181—27.
- Santi, John D., to Briggs & Stratton Corp. Inductance device, particularly for internal combustion engine ignition. 3,114,851, 12-17-63, Cl. 310—153.
- Santi, Louis. Ear-plugs. 3,097,643, 7-16-63, Cl. 128—152.
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- Sanzo, Sonny C. Hair bleaching appliance. 3,103,933, 9-17-63, Cl. 132—9.
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- Sarafinas, Bruno A., to United-Carr Fastener Corp. Mounting foot member. 3,092,364, 6-4-63, Cl. 248-350.
- Saraga, Wolja, to Associated Electrical Industries Ltd. Active electrical one-ports. 3,112,463, 11-26-63, Cl. 333-80.
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- Sato, Akihiko, to Nippon Electric Co. Ltd. Semiconductor pulse counting device with graded low resistivity region sandwiched between two high resistance regions. 3,114,847, 12-17-63, Cl. 307-88.5.
- Sato, Akihiko, to Nippon Electric Co. Ltd. Transistor utilizing a longitudinally directed magnetic field. 3,072,803, 1-8-63, Cl. 307-88.5.
- Sato, Akira: *See*—  
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- Sato, Ichiro, E. Okamoto, and Y. Seki, to Nippon Electric Co. Ltd. Capacitor. 3,079,537, 2-26-63, Cl. 317-258.
- Sato, Goro. Non-pressure hull type transport submarine with backbone. 3,102,504, 9-3-63, Cl. 114-16.
- Sato, Takayoshi, and A. Nakatani, to Kabushiki Kaisha Kōparu. Automatic shutter for camera. 3,096,697, 7-9-63, Cl. 95-10.
- Sato, Takeki: *See*—  
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- Sato, Takeo C.: *See*—  
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- Sato, Yasunobu: *See*—  
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- Sato, Yoshio, E. Mosettig, and N. Ikekawa, to United States of America, Health, Education and Welfare. Improved preparation of allopregnenolone and pregnadienolone from tomatidine and solasodine. 3,105,068, 9-24-63, Cl. 260-239.55.
- Sato, Zenroku: *See*—  
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- Satoda, Isao: *See*—  
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- Satoh, Shinzou. Electrolytic process for the production of metallic titanium from aqueous solution of titanium compounds. 3,074,860, 1-22-63, Cl. 204-105.
- Satre, Leland H.: *See*—  
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- Satrum, Clarence R., to Ho-Boy Corp. Fifth wheel device. 3,091,501, 5-28-63, Cl. 308-222.
- Satterfield, William T.: *See*—  
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- Satterley, Buddy L.: *See*—  
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- Satterly, Kenneth P., to Standard Brands Inc. Method of rendering starch hydrophobic and free flowing. 3,071,492, 1-1-63, Cl. 117-100.
- Sattler, Frank A., and P. A. Tierney, to Westinghouse Electric Corp. Electrical insulating coating composition, method, and coated article. 3,089,787, 5-14-63, Cl. 117-215.
- Sattler, Helmut: *See*—  
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- Sattler, Robert I., to La Salle Machine Tool, Inc. Collet chuck construction. 3,111,326, 11-19-63, Cl. 279-2.
- Satzinger, Gerhard, to Warner-Lambert Pharmaceutical Co. 5-amino derivatives of 4-thiazolidinones and process therefor. 3,072,653, 1-8-63, Cl. 260-247.1.
- Satzinger, Gerhard, to Warner-Lambert Pharmaceutical Co. Amides of substituted 4-thiazolidinones and process therefor. 3,072,670, 1-8-63, Cl. 260-306.7.
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- Sauber, John P., and R. C. Weisbrich. Game trap. 3,085,362, 4-16-63, Cl. 43-69.
- Saucy, Gabriel: *See*—  
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- Saucy, Gabriel, to Hoffmann-La Roche Inc. Octahydronaphthaleneones, alcohols and their acyl derivatives. 3,072,709, 1-8-63, Cl. 260-476.
- Sander Tank Co., Inc.: *See*—  
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- Sauer, Charles E., to Alton Box Board Co. Boat. 3,092,851, 6-11-63, Cl. 9-6.
- Sauer, Edgar: *See*—  
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- Sauer, Edgar, to Zeiss Ikon Aktiengesellschaft. Photographic camera with coupled exposure meter. 3,075,439, 1-29-63, Cl. 95-10.
- Sauer, Edgar, and H. Ebertz, to Zeiss Ikon Aktiengesellschaft. Camera viewfinder with mirror arrangement for viewing lateral indicator. 3,082,662, 3-26-63, Cl. 88-1.5.
- Sauer, Hans, to Comar Electric Co. Electromagnetic relay. 3,097,328, 7-9-63, Cl. 317-199.
- Sauer, Hans, to Carl-Stiftung Zeiss d.b.a. Carl Zeiss. Range finder device for photographic cameras. 3,107,269, 10-15-63, Cl. 88-1.5.
- Sauer, Hans, F. Köber, O. Weiss, S. Grosser, and K.-H. Wöhner, to C. Zeiss. Photographic objectives. 3,098,420, 7-23-63, Cl. 95-64.
- Sauer, Harold A., and D. R. Turner, to Bell Telephone Laboratories, Inc. Low resistance contact for semiconductor. 3,071,522, 1-1-63, Cl. 204-37.
- Sauer, Herman C., to United States Rubber Co. Apparatus for cutting belt-bands. 3,107,563, 10-22-63, Cl. 82-48.
- Sauer, Herman C., and J. A. Flint III, to United States Rubber Co. Method of forming belt teeth in reinforced positive drive belts. 3,078,205, 2-19-63, Cl. 156-137.
- Sauer, Hubert, and E. Kob, to Rutgerswerke-Aktiengesellschaft. Process for preparing unsaturated polyesters which contain an endomethylenephthalyl alcohol as a glycol component. 3,113,933, 12-10-63, Cl. 260-45.4.
- Sauer, John C., to E. I. du Pont de Nemours and Co. Process for preparing carboxylic acid halides. 3,097,237, 7-9-63, Cl. 260-544.
- Sauer, Leo P., and P. P. Frisch, to Signode Steel Strapping Co. Locating device. 3,089,576, 5-14-63, Cl. 198-29.
- Sauer, Richard W., to The Atlantic Refining Co. High viscosity synthetic lubricants from alpha-olefins. 3,113,167, 12-3-63, Cl. 260-683.15.
- Sauer, Robert C.: *See*—  
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- Sauer, Robert C., and H. D. Smith, to Sperry Rand Corp. Remaining range computer. 3,083,669, 5-7-63, Cl. 235-193.
- Saerman, Ernst C., to Gaw-O'Hara Envelope Co. Latex gumming attachment for envelope folding machines. 3,077,821, 2-19-63, Cl. 93-62.
- Sauermann, Hans D.: *See*—  
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- Sauermann, Werner, to Standard Filterbau G.m.b.H. Gaseous current separator. 3,109,807, 11-5-63, Cl. 209-136.
- Sauers, Carol K., and R. J. Cotter, to Union Carbide Corp. Process for preparing cyano-esters. 3,094,551, 6-18-63, Cl. 260-465.
- Saul, August A., to Miller Printing Machinery Co. Method and apparatus for static elimination in sheet feeding presses and the like. 3,083,011, 3-26-63, Cl. 271-26.
- Saul, August A., to Miller Printing Machinery Co. Dampener for printing presses. 3,106,154, 10-8-63, Cl. 101-148.
- Saul & Co.: *See*—  
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- Saul, Everett L., and A. J. Fiscella, to Bristol-Myers Co. Fluoride dentifrices containing calcined aluminum silicate abrasives. 3,105,013, 9-24-63, Cl. 167-93.
- Saul, Floyd E. Land leveling implement. 3,081,567, 3-19-63, Cl. 37-152.
- Saul, George A.: *See*—  
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- Eaker, Charles M., and Saul. 3,094,567.
- Saul, James J.: *See*—  
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- Saulsbury, Laforest S.: *See*—  
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- Saulson, Stanley H., to Harlan M. Buck, Inc. Anti-siphoning device. 3,107,359, 10-22-63, Cl. 4-6.
- Saunders, Arnold E., and W. E. Wagner, to Pittsburgh Plate Glass Co. Method of applying an electroconductive tin oxide film and composition therefor. 3,107,177, 10-15-63, Cl. 117-211.
- Saunders, Charles A. Foldable archery target matt stand. 3,109,618, 11-5-63, Cl. 248-199.
- Saunders, Charles F.: *See*—  
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- Saunders, Edward C. Wire line stripping apparatus. 3,100,646, 8-13-63, Cl. 277-27.
- Saunders, George T., to Kewaunee Mfg. Co. Method and means for effecting entrance into germ free enclosures and the like. 3,084,684, 4-9-63, Cl. 128-1.
- Saunders, George T., to Kewaunee Mfg. Co. Window sealing structure. 3,088,627, 5-7-63, Cl. 220-82.
- Saunders, Herbert M.: *See*—  
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- Saunders, Hugh E., and R. G. Kling, to Mast Development Co., Inc. Pump. 3,073,246, 1-15-63, Cl. 103-44.
- Saunders, James H., J. F. Szabat, and A. S. Morecroft, to Mobay Chemical Co. Preparation of polyurethane foam. 3,076,770, 2-5-63, Cl. 260-2.5.
- Saunders, John A., to Eclipse Fuel Engineering Co. Gas filter. 3,108,866, 10-29-63, Cl. 55-480.



- Saunders, Kenneth W., and N. M. Bikales, to American Cyanamid Co. Cyanoethylated cellulose solutions. 3,097,956, 7-16-63, Cl. 106-169.
- Saunders, Nelson: *See*—  
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- Saunders, Orson V.: *See*—  
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- Saunders Valve Co. Ltd.: *See*—  
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- Shand, Stanley G., and Gower. 3,102,550.
- Saunders, William C. Tray set and stand. 3,102,638, 9-3-63, Cl. 211-71.
- Saunders, William F., III, to General Precision, Inc. Transistor network voltage regulator. 3,072,841, 1-8-63, Cl. 323-22.
- Saunderson, Jason L., to Baird-Atomic, Inc. Spectroscopic apparatus with automatic correction of misalignment. 3,080,788, 3-12-63, Cl. 88-14.
- Saunderson, Jason L., to Baird-Atomic, Inc. Automatic means for aligning spectrometer components. 3,090,278, 5-21-63, Cl. 88-14.
- Saur, Gail E.: *See*—  
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- Saurenman, Paul J.: *See*—  
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- Saurenman, Phillip E., and P. J. Pneumatic gun for corrugated nails and the like. 3,087,162, 4-30-63, Cl. 1-343.
- Saurer, Adolph, Ltd.: *See*—  
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- Saurer, Curt, to Thornton Products Co. Hydraulic locking differential. 3,109,323, 11-5-63, Cl. 74-711.
- Sause, Robert, and W. E. Stephen, to Imperial Chemical Industries Ltd. Treatment of cellulosic materials. 3,074,814, 1-22-63, Cl. 117-135.5.
- Sausele, George J. H., to American Type Founders Co., Inc. Typesetting system and apparatus. 3,082,670, 3-26-63, Cl. 95-4.5.
- Sausele, George J. H., to American Type Founders Co., Inc. Photo-typographic master character plate. 3,089,402, 5-14-63, Cl. 95-55.
- Sausele, George J. H., to American Type Founders Co., Inc. Carriage escapement mechanism. 3,093,076, 6-25-63, Cl. 197-84.
- Sauter, Josef J.: *See*—  
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- Sauter, Walter H. Combined can opener and pouring device. 3,114,480, 12-17-63, Cl. 222-90.
- Sauvage, John E.: *See*—  
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- Hlavacek, Robert J., Sauvage, Dillehay, and Swift. 3,112,519.
- Sauvage, Joseph M. J. Drawing rolls for drawing frames. 3,074,122, 1-22-63, Cl. 19-293.
- Sauve, Charles, to Commissariat a l'Energie Atomique. Process and device for extrusion. 3,072,251, 1-8-63, Cl. 207-10.
- Savadellis, Ignatius C., to Bell Telephone Laboratories, Inc. Ohmic contacts to semiconductor devices. 3,087,100, 4-23-63, Cl. 317-235.
- Savage Arms Corp.: *See*—  
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- Brewer, Nicholas L. 3,106,033.
- Savage, August N., and J. Piston. Internal combustion engine. 3,092,092, 6-4-63, Cl. 123-197.
- Savage, Conwell, to Westinghouse Electric Corp. Elevator position indicator system. 3,103,645, 9-10-63, Cl. 340-21.
- Savage, Frederick T. Vibrator. 3,096,758, 7-9-63, Cl. 128-41.
- Savage, John: *See*—  
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- Savage, Kerry D., and L. E. Elliott, Jr., to Texaco Inc. Acoustical velocity well logging. 3,071,203, 1-1-63, Cl. 181-5.
- Savage, Kerry D., R. P. Mazzagatti, and G. Herzog, to Texaco Inc. Simultaneous plural spacing acoustical logging. 3,102,992, 9-3-63, Cl. 340-18.
- Savage, Robert H., to Knoll Associates, Inc. Novel wood bending method. 3,107,708, 10-22-63, Cl. 144-327.
- Savage, Robert L., to The North American Coal Corp. Method of preparing aluminum sulfate from waste sulfate pickle liquid and aluminum ore. 3,078,146, 2-19-63, Cl. 23-123.
- Savage, Vernon R. Bulldozer blade structure. 3,106,793, 10-15-63, Cl. 37-143.
- Savard, Michel: *See*—  
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- Savaria, Robert E. Dump valves for aircraft. 3,089,677, 5-14-63, Cl. 251-58.
- Savi, Paolo: *See*—  
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- Savides, Christos, to American Cyanamid Co. 1,1'-thiobis-(6-a, a-dimethylbenzyl-2-naphthol). 3,093,616, 6-11-63, Cl. 260-45.95.
- Savino, Martino F. Dialyzer chamber with capillary system. 3,074,559, 1-22-63, Cl. 210-321.
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- Savioli, Giulio V., to United States of America, Army. Auxiliary firearm trigger with integral safety. 3,091,878, 6-4-63, Cl. 42-69.
- Savioli, Giulio V., to United States of America, Army. Bolt stop for semiautomatic firearm. 3,098,311, 7-23-63, Cl. 42-18.
- Savit, Carl H., J. T. Brustad, and J. Sider, to Western Geophysical Co. of America. Method and apparatus for seismicographic exploration. 3,096,846, 7-9-63, Cl. 181-5.
- Savitsky, Daniel. Mechanical control for submerged hydrofoil systems. 3,092,062, 6-4-63, Cl. 114-66.5.
- Savolainen, Jouko E.: *See*—  
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- Savolainen, Jouko E., to United States of America, Atomic Energy Commission. Low temperature process for the removal and recovery of chlorides and nitrates from aqueous nitrate solutions. 3,075,825, 1-29-63, Cl. 23-14.5.
- Savonuzzi, Giovanni F.: *See*—  
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- Savory, Frederick R., to Steel Construction & Engineering Co. (Notts.) Ltd. Plate bending machines. 3,103,965, 9-17-63, Cl. 153-54.
- Savu, August R.: *See*—  
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- Sawa, Yoshio, S. Maeda, and N. Tsuji, to Shionogi & Co., Ltd. Novel process for elimination of 4-hydroxyl group of morphinan derivatives. 3,085,091, 4-9-63, Cl. 260-285.
- Sawada, Fred H., to General Electric Co. Electronic cooking appliance. 3,104,304, 9-17-63, Cl. 219-10.55.
- Sawai, Masanobu: *See*—  
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- Sawai, Shinichi, 1/2 to K. Seko. End closure means for containers having tubular bodies. 3,071,281, 1-1-63, Cl. 220-4.
- Sawdye, Joseph A.: *See*—  
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- Freeman, Donald C., Jr., and Sawdye. 3,093,197.
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- Sawtelle, Frank W., to Markem Machine Co. Rotary printing apparatus employing straight line type. 3,101,666, 8-27-63, Cl. 101-212.
- Sawtelle, Frank W., to Markem Machine Co. Article feeding and printing apparatus. 3,103,166, 9-10-63, Cl. 101-37.
- Sawyer, Albert K., and H. G. Kuivila, to Metals & Thermit Corp. Tetrasubstituted diacyloxydinit compounds. 3,083,217, 3-26-63, Cl. 260-414.
- Sawyer, Alice C. Separable heel and counter protector for vehicles. 3,114,272, 12-17-63, Cl. 74-564.
- Sawyer, Bobby G.: *See*—  
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- Sawyer, Bruce A., to Litton Systems, Inc. Miniaturized temperature insensitive accelerometer. 3,078,721, 2-26-63, Cl. 73-497.
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- Sawyer, Charles B., to Sawyer Research Products, Inc. Method of controlling deposition of crystalline material from solution on a seed by use of a temperature profile curve. 3,101,259, 8-20-63, Cl. 23-301.
- Sawyer, Frederick C.: *See*—  
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- Sawyer, Houghton, Jr., and K. T. Yoshiura, to Libby, McNeill & Libby. Pineapple processing machine. 3,073,366, 1-15-63, Cl. 146-6.
- Sawyer, James T. Orbit disc toy. 3,088,739, 5-7-63, Cl. 273-109.
- Sawyer, John M., to Ling-Temco-Vought, Inc. Cartridge actuated thruster. 3,109,283, 11-5-63, Cl. 60-26.1.
- Sawyer, John M., and W. R. Loewen, to Ling-Temco-Vought, Inc. Ballistic-type impulse actuator. 3,104,521, 9-24-63, Cl. 60-26.11.
- Sawyer, Lester T. Hair retaining comb and method of making the same. 3,095,610, 7-2-63, Cl. 18-34.
- Sawyer Research Products, Inc.: *See*—  
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- Sax, Karl J.: *See*—  
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- Morris, Rupert C., and Sax. 3,098,841.
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- Saxby, Richard M., to Holley Carburetor Co. Fuel filter. 3,072,238, 1-8-63, Cl. 210-94.
- Saxby, Richard M., to Holley Carburetor Co. Automatic choke adjusting means. 3,088,320, 5-7-63, Cl. 73-363.5.
- Saxe, Van Rensselaer P. Bar joist. 3,094,813, 6-25-63, Cl. 50-406.
- Saxe, Van Rensselaer P. Column erection connector. 3,097,729, 7-16-63, Cl. 189-36.
- Saxe, Walter E., to The Conveyor Co. Ice breaker. 3,089,477, 5-14-63, Cl. 125-23.
- Saxe, Walter E., to The Conveyor Co. Refrigerator car icing machine. 3,089,578, 5-14-63, Cl. 198-47.
- Saxenberg, Henry J. Skate wheel with changeable tires. 3,103,387, 9-10-63, Cl. 301-5.7.
- Saxenmeyer, George J., to International Business Machines Corp. Data input device. 3,092,811, 6-4-63, Cl. 340-172.5.
- Saxl, Karel, to Imperial Chemical Industries Ltd. Method of and apparatus for reducing the thickness of metals. 3,103,139, 9-10-63, Cl. 80-40.



- Saxton, Bristowe B.: *See*—  
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- Saxton, James H., to HRB-Singer Inc. Stellar orientation monitoring system. 3,080,485, 3-5-63, Cl. 250-203.
- Saxton, Ralph L.: *See*—  
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- Saxton, William R., M. R. H. Bolton, J. R. Rainville, and A. J. Petricola. Process of manufacturing regenerated cellulose fiber. 3,083,075, 3-26-63, Cl. 18-54.
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- Sayer, Wayne L.: *See*—  
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- Sayers, James. Transmission devices. 3,084,269, 4-2-63, Cl. 310-102.
- Sayers, James E., to James Howden & Co. Ltd. Dust separators. 3,083,516, 4-2-63, Cl. 55-338.
- Sayles, James N., to L. F. Sayles, Sr. Stabilizer plate for screed chairs. 3,115,726, 12-31-63, Cl. 50-79.
- Sayles, Leonard B. Two-way lock for sliding doors. 3,094,861, 6-25-63, Cl. 70-95.
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- Saylor, Robert F., to United States Steel Corp. Sprocket for endless pallet-type conveyor. 3,090,479, 5-21-63, Cl. 198-189.
- Sbrojavacca, Francesco. Insect-repelling device. 3,088,241, 5-7-63, Cl. 45-15.
- Scalbon, John D.: *See*—  
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- Scalera, Mario, and F. Brody, to American Cyanamid Co. Phthalocyanine-triazine derivatives. 3,116,293, 12-31-63, Cl. 260-249.
- Scalf, William R., and G. G. Stoddard, to General Motors Corp. Latch mechanism. 3,110,512, 11-12-63, Cl. 292-5.
- Scam Instrument Corp.: *See*—  
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- Sperry, Albert F. 3,107,349.
- Scammon, Henry G., to Gould & Scammon, Inc. Manufacturing preformed counters. 3,100,902, 8-20-63, Cl. 12-146.
- Scandale, Vito F., and R. Blanchard, to Raytheon Co. Automatic positioning means for machine tools. 3,097,569, 7-16-63, Cl. 90-13.
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- Scanley, Clyde S., to American Cyanamid Co. Preparation of nitrous acid. 3,113,837, 12-10-63, Cl. 23-157.
- Scanley, Clyde S., F. H. Siegle, and R. L. Webb, to American Cyanamid Co. Nitrogen containing polar monomer grafted on an isobutylene-mono-vinylether copolymer backbone. 3,088,931, 5-7-63, Cl. 260-455.
- Scanley, Clyde S., and F. H. Siegle, to American Cyanamid Co. Guanidin-imidazole compositions and methods for their preparation. 3,093,654, 6-11-63, Cl. 260-309.6.
- Scanlon, John J.: *See*—  
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- Scanlon, Robert E. Golf ball cleaner. 3,087,189, 4-30-63, Cl. 15-513.
- Scanlon, Thomas A. Light sensitive unit. 3,088,051, 4-30-63, Cl. 315-77.
- Scannell, John B., to Greene, Tweed & Co. Fluid pressure seals. 3,071,386, 1-1-63, Cl. 277-177.
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- Scantlin, John R., to Scantlin Electronics, Inc. Securities quotation apparatus. 3,082,402, 3-19-63, Cl. 340-152.
- Scantlin, John R., and R. W. Haas, to Lear-Siegler, Inc. L-C transistor oscillator having transformer feedback. 3,090,013, 5-14-63, Cl. 331-117.
- Scapple, Robert Y.: *See*—  
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- Scapple, Robert Y., and J. I. Stillman, to Hughes Aircraft Co. High temperature flexible hollow tube waveguide. 3,103,454, 9-10-63, Cl. 148-12.3.
- Scaramucci, Domer. Swing check valve. 3,075,547, 1-29-63, Cl. 137-516.29.
- Scaramucci, Domer. Swivel joint or coupling for pipe lines. 3,089,713, 5-14-63, Cl. 285-14.
- Scaramucci, Domer. Mud valve with removable head and seat unit interlocking the bonnet. 3,107,683, 10-22-63, Cl. 137-327.
- Scarber, Joseph D., to Gulf Oil Corp. Electrolytic cell. 3,116,227, 12-31-63, Cl. 204-258.
- Scarborough Associates, Inc.: *See*—  
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- Scarborough, Homer C., to Mead Johnson & Co. 3-pyrrolidyl-methyl-4-quinazolones. 3,073,826, 1-15-63, Cl. 260-256.4.
- Scarborough, William E., to Dresser Industries, Inc. Drill bit nozzle. 3,084,751, 4-9-63, Cl. 175-340.
- Scarborough, William M.: *See*—  
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- Slater, John M., Scarborough, Boltinghouse, and Freebairn. 3,078,727.
- Scarbrough, Abb L.: *See*—  
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- Scarbrough, Alfred D.: *See*—  
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- Scarbrough, John: *See*—  
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- Scarcelli, Albert F.: *See*—  
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- Scardiglia, Frank, W. O. Ranky, and E. A. Knaggs, to Keynolds Metals Co. Process for ethoxylating polyvinyl alcohol. 3,099,646, 7-30-63, Cl. 260-91.3.
- Scarf, Alberto: *See*—  
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- Scarince, William. Stackcutting machine with cutterfollowing stack clamping means. 3,071,360, 1-1-63, Cl. 266-23.
- Scarnato, Thomas J., to International Harvester Co. Mower guard structure. 3,083,519, 4-2-63, Cl. 56-309.
- Scarnato, Thomas J., and R. A. Johnson, to International Harvester Co. Yieldable pendulum mower mounting. 3,092,947, 6-11-63, Cl. 56-25.
- Scarpa, Thomas J., to Gulton Industries, Inc. Ultrasonic device. 3,075,097, 1-22-63, Cl. 310-8.1.
- Scarpelli, August F.: *See*—  
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- Scarpelli, August F., to General Motors Corp. Electrical stock removal apparatus. 3,109,120, 10-29-63, Cl. 314-68.
- Scarpellino, Richard J.: *See*—  
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- Scarpini, Franco, to Ri-Ri Werke A.G. Slide fastener with terminal member. 3,104,438, 9-24-63, Cl. 24-205.11.
- Scarves By Vera, Inc.: *See*—  
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- Scerbo, Alfonso E., to United States of America, Air Force. Material dispenser. 3,081,907, 3-19-63, Cl. 221-15.
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- Schaab, Rudolph S., and R. E. Brandt, to Amphenol-Borg Electronics Corp. Electrifiers for the processing of fur and pile fabrics. 3,114,957, 12-24-63, Cl. 26-2.
- Schaad, Theodore A.: *See*—  
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- Schaadt, Franz, to Rheinmetall G.m.b.H., Firma. Self-destructing fuze for a spinning projectile. 3,112,704, 12-3-63, Cl. 102-71.
- Schaaf, Edward J.: *See*—  
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- Schaafsma, Willem, to United Aircraft Corp. Propellant mixing. 3,092,527, 6-4-63, Cl. 149-19.
- Schaafsma, Willem, to Aerojet-General Corp. Rocket motor. 3,107,487, 10-22-63, Cl. 60-35.6.
- Schaafsma, Ype, to Shell Oil Co. Heating fluids by a spinning body. 3,090,674, 5-21-63, Cl. 23-277.
- Schaal, George H., to Schaal Industries Corp. Ore pulverizer. 3,103,316, 9-10-63, Cl. 241-258.
- Schaal Industries Corp.: *See*—  
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- Schaar, Charles H., to The Kendall Co. Perforated adhesive tapes. 3,073,303, 1-15-63, Cl. 128-156.
- Schaar, Charles H., to The Kendall Co. Perforated adhesive tape and bandage formed therewith. 3,073,304, 1-15-63, Cl. 128-156.
- Schaar, Charles H., to The Kendall Co. Method of perforating. 3,088,843, 5-7-63, Cl. 117-10.
- Schaar, Charles H., to The Kendall Co. Baby nipple. 3,092,276, 6-4-63, Cl. 215-11.
- Schaarschmidt, Edward C.: *See*—  
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- Schacht, Gunter H., and L. A. Wilson, to International Business Machines Corp. Incremental drive mechanism. 3,078,732, 2-26-63, Cl. 74-125.
- Schacht, Kenneth N., and F. S. Panetta, to The Garrett Corp. Escape slide. 3,102,623, 9-3-63, Cl. 193-25.
- Schacht, Roy A. Credit card punching and printing apparatus. 3,108,742, 10-29-63, Cl. 234-35.
- Schachter, Ozjasz, and A. Daniel, to M. Israel. Production of ethylene dibromide. 3,095,459, 6-25-63, Cl. 260-660.



- Schachter, Ozjasz, and A. Baniel, to M. Israel. Process for the production of elementary bromine from aqueous briner. 3,107,154, 10-15-63, Cl. 23-217.
- Schade, Frank S., to National Blank Book Co. Fastener for expandable loose leaf binder. 3,073,315, 1-15-63, Cl. 129-41.
- Schade, Frank S., to National Blank Book Co. Masking device for "program teaching" use in ring binder assemblies. 3,111,774, 11-26-63, Cl. 35-9.
- Schade, Frank S., to National Blank Book Co. Masking flap structure for removable attachment to notebook covers. 3,111,775, 11-26-63, Cl. 35-9.
- Schade, Frank S., to National Blank Book Co. Masking apparatus for program teaching. 3,111,776, 11-26-63, Cl. 35-9.
- Schade, Otto H., Sr., to Radio Corp. of America. Wire guide for grid making machine. 3,100,005, 8-6-63, Cl. 140-71.5.
- Schaefer, Johann A., and R. Schmidt, to Franz Morat K.G., Firma. Pattern control arrangement for a circular knitting machine. 3,079,775, 3-5-63, Cl. 66-50.
- Schaefer, Johann A., and B. Streu, to Fritz Hellige & Co. G.m.b.H. Recording apparatus with spaced pigment carrier. 3,090,663, 5-21-63, Cl. 346-105.
- Schaeffer, Alwin A. Hair vacuum line and induction nozzle for hair clippers. 3,073,026, 1-15-63, Cl. 30-133.
- Schaefer, Charles F. Coating applying apparatus. 3,097,968, 7-16-63, Cl. 118-259.
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- Schaefer, Edward E. Support for display rack or the like. 3,100,099, 8-6-63, Cl. 248-194.
- Schaefer, Edward J. Shaft coupling. 3,073,635, 1-15-63, Cl. 287-108.
- Schaefer, Edward J. Reversible motor drive mechanism. 3,078,407, 2-19-63, Cl. 318-475.
- Schaefer, F. & M., Brewing Co., The: *See*—  
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- Schaefer, George E.: *See*—  
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- Schaefer, George E., to Brunswick Corp. Wall hung spectator seating. 3,072,434, 1-8-63, Cl. 297-248.
- Schaefer, Hans F., Jr., and F. B. Jennings, to United Shoe Machinery Corp. Power transmission. 3,091,979, 6-4-63, Cl. 74-640.
- Schaefer, John J., and H. B. Patrick, to Reynolds Metals Co. Flat plate printing apparatus having accurate register. 3,101,050, 8-20-63, Cl. 101-252.
- Schaefer, John W., to A. O. Smith and Harvestore Products, Inc. Bottom unloader for storage structures. 3,084,814, 4-9-63, Cl. 214-17.
- Schaefer, John W., to A. O. Smith Harvestore Products, Inc. Sweep arm unloader shield means. 3,088,606, 5-7-63, Cl. 214-17.
- Schaefer, John W., to A. O. Smith Corp. Tension control apparatus. 3,098,397, 7-23-63, Cl. 74-242.14.
- Schaefer, Knut. Shutter stopping means in motion picture cameras. 3,079,836, 3-5-63, Cl. 88-16.
- Schaefer, Reuben W. Jack assembly. 3,093,362, 6-11-63, Cl. 254-86.
- Schaefer, Robert H.: *See*—  
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- Christenson, Howard W., and Schaefer. 3,106,268.
- Schaefer, Stephen, to McPhibben Mfg. Co., Inc. Pivotal support means for pendant lighting fixtures including globe attaching means. 3,090,589, 5-21-63, Cl. 248-318.
- Schaefer, Werner: *See*—  
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- Schaefer, Werner, and W. Siebert, to Hartmann & Braun Aktiengesellschaft. Apparatus for the analysis of gas mixtures by absorption of radiation. 3,116,413, 12-31-63, Cl. 250-43.5.
- Schaeffer, Benjamin B., and M. C. Blaich, to Olin Mathieson Chemical Corp. Controlling the growth of aquatic weeds. 3,107,993, 10-22-63, Cl. 71-2.3.
- Schaeffer, Hans A.: *See*—  
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- Schaeffer, Marvin G., to General Motors Corp. Voltage regulator for generators. 3,074,004, 1-15-63, Cl. 322-77.
- Schaeffer, Paul F., and D. D. Perry, to Thiokol Chemical Corp. Solid composite propellant containing acetylenic polyurethane and process of making. 3,086,895, 4-23-63, Cl. 149-19.
- Schaeffer, Robert O.: *See*—  
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- Schaeffer, Thomas C. Rotary saw blade. 3,082,524, 3-26-63, Cl. 30-347.
- Schaeffer, William D., to Union Oil Co. of California. Resolution of  $\beta$ - and  $\gamma$ -picoline mixtures. 3,095,420, 6-25-63, Cl. 260-290.
- Schaeffer, Georg, to Industriewerk Schaeffer oHG. Cage for cylindrical rolling elements, more particularly needle cage. 3,110,529, 11-12-63, Cl. 308-217.
- Schaer, Glenn R., to General Development Corp. Power supply for chromium plating. 3,111,479, 11-19-63, Cl. 204-228.
- Schaeren, Sidney F.: *See*—  
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- Schaeren, Sidney F., R. Schlapfer, H. Spiegelberg, and B. P. Vaterlaus, to Hoffmann-La Roche Inc. Method of isomerizing stereoisomeric xanthene and thioxanthene compounds via the use of oxalic acid. 3,113,137, 12-3-63, Cl. 260-328.
- Schaerer, Willy: *See*—  
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- Friedman, Milton, and Magasiny. 3,078,356.
- Schafer, Earl J.: *See*—  
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- Schäfer, Fridolin, and K. Wick, to Robert Bosch, G.m.b.H. Commutator and process and apparatus for manufacturing the same. 3,079,520, 2-26-63, Cl. 310-235.
- Schafer, Kugelfischer Georg, & Co.: *See*—  
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- Schafer, Richard V., and E. S. Hill, to Shell Oil Co. Disintegrating freshly polymerized olefins with polymerization inhibitor. 3,096,944, 7-9-63, Cl. 241-15.
- Schafer, Robert J., and M. Quatinetz. Size reduction of metal particles. 3,090,567, 5-21-63, Cl. 241-22.
- Schäfer, Wilhelm, to Ernst Leitz G.m.b.H. Optische Werke. Objective mounting in cameras. 3,074,334, 1-22-63, Cl. 95-45.
- Schaffel, Gerson S.: *See*—  
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- Schaffer, Allan B., and S. L. Ridgway, to Thompson Ramo Wooldridge Inc. Afterburner control method and apparatus. 3,106,820, 10-15-63, Cl. 60-30.
- Schaffer, Robert H.: *See*—  
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- Schaffernak, Friedrich: *See*—  
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- Schaffert, Justin C., and J. N. Libby, to United States of America, National Aeronautics and Space Administration. Ultra-long monostable multivibrator employing bistable semiconductor switch to allow charging of timing circuit. 3,085,165, 4-9-63, Cl. 307-88.5.
- Schaffert, Roland M., to International Business Machines Corp. Apparatus for reproducing images. 3,077,150, 2-12-63, Cl. 95-1.7.
- Schaffert, Roland M., to International Business Machines Corp. Method for developing latent field images with liquid inks. 3,096,198, 7-2-63, Cl. 117-37.
- Schaffner, Georg, and K. Fichtl, to Keller & Knappich G.m.b.H. Garbage disposal means. 3,104,022, 9-17-63, Cl. 214-507.
- Schaffranke, Rolf: *See*—  
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- Schaffroth, Werner. Flap lifter. 3,070,801, 1-1-63, Cl. 1-260.
- Schaffner, Stuart P., and L. W. Anderson. Car top tent. 3,093,150, 6-11-63, Cl. 135-1.
- Schaich, Wilbur A., to Owens-Illinois Glass Co. Dispensing and applying device. 3,088,161, 5-7-63, Cl. 15-572.
- Schail, William S., to The Reading Laboratory, Inc. Tachistoscopic device. 3,105,310, 10-1-63, Cl. 35-35.
- Schaler, Rudolf, to Vereinigte Österreichische Eisen- und Stahlwerke Aktiengesellschaft. Brake means for a cable railway car assembly. 3,097,723, 7-16-63, Cl. 188-42.
- Schalkwijk, Jan, to North American Philips Co., Inc. Signal transition detector. 3,088,057, 4-30-63, Cl. 317-138.
- Schall, Louis H., to Raytheon Co. Microwave heating apparatus. 3,106,629, 10-8-63, Cl. 219-10.55.
- Schall, Myron R. Device to aid in the stringing of an archery bow. 3,082,756, 3-26-63, Cl. 124-23.
- Schallenberg, Elmer E.: *See*—  
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- Schalm, Oscar W., and D. O. Noorlander, to The Regents of the University of California. Method for testing for polymorphonuclear leukocytes. 3,102,418, 9-3-63, Cl. 73-53.
- Schamel, Clyde H.: *See*—  
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- Schanne, Lothar, to Saarbergwerke Aktiengesellschaft. Apparatus for use in coal washing tanks. 3,073,450, 1-15-63, Cl. 209-455.
- Schantz, Spencer C. Fire extinguisher. 3,093,193, 6-11-63, Cl. 169-1.
- Schanz, Hans, to Alfred Teves Maschinen- und Armaturenfabrik KG. Fluid pressure servomotor. 3,083,694, 4-2-63, Cl. 121-38.
- Schanz, Joseph L., to General Electric Co. Nuclear reactor containment apparatus. 3,115,450, 12-24-63, Cl. 204-193.2.
- Schaob, Fred O.: *See*—  
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- Schapel, Rodney E.: *See*—  
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- Schaper, Otto F. Line following servosystem. 3,111,615, 11-19-63, Cl. 318-31.
- Schapiro, Abraham, to Roto-Dry Corp. Agglomerated food product and method for making the same. 3,100,909, 8-20-63, Cl. 99-78.
- Schapiro, Eugene: *See*—  
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- Schardt, Rudolf. Turret tool block. 3,088,351, 5-7-63, Cl. 82-36.
- Scharf, Alfred: *See*—  
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- Scharf, Walter G., to Metal Film Co., Inc. Metallized synthetic spun yarn. 3,099,066, 7-30-63, Cl. 28-72.
- Scharfe, Gerhard: *See*—  
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- Scharfenberger, Friedrich, to Obermaier & Cie. Apparatus for the liquid treatment of skeins of yarn. 3,093,991, 6-18-63, Cl. 68-188.
- Scharf, Leon, to International Business Machines Corp. Wire printer. 3,110,884, 11-12-63, Cl. 340-146.1.
- Scharfman, Howard, to Raytheon Co. Electrical phase shifters. 3,090,015, 5-14-63, Cl. 333-24.1.
- Scharfman, Howard, and F. J. O'Hara, to Raytheon Co. Electrical shifters utilizing variable delay imparted to circularly polarized electric waves by variably magnetized ferrite material. 3,100,287, 8-6-63, Cl. 333-24.1.
- Scharmer, Edward H., Jr., to Minneapolis Sewing Machine, Inc. Bag closing and thread cutting device. 3,082,718, 3-26-63, Cl. 112-11.
- Scharmer, Herman P., and W. H. Jackson, to The Udyllite Corp. Plating barrels. 3,084,916, 4-9-63, Cl. 259-89.
- Scharrer, Erich, and G. Kossow, to North American Philips Co., Inc. Electric discharge tube. 3,108,906, 10-29-63, Cl. 117-226.
- Scharres Harry J. Damper assembly and blade construction. 3,084,715, 4-9-63, Cl. 137-601.
- Schaschl, Edward: *See*—  
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Marsh, Glenn A., and Schaschl, 3,116,117.
- Schaschl, Edward, to The Pure Oil Co. Apparatus for detecting hydrogen embrittlement. 3,102,419, 9-3-63, Cl. 73-86.
- Schaschl, Edward, to The Pure Oil Co. Apparatus for measuring corrosion having probe with cathodically protected, temperature compensating element. 3,102,979, 9-3-63, Cl. 324-71.
- Schaschl, Edward, and G. A. Marsh, to The Pure Oil Co. Corrosion and fluid-velocity test probe and method. 3,073,154, 1-15-63, Cl. 73-86.
- Schaschl, Edward, and R. L. Littler, to The Pure Oil Co. Corrosion test probe and method. 3,101,413, 8-20-63, Cl. 250-106.
- Schat, Martinus L. Ships' gravity davits for launching lifeboats from stowed positions between decks. 3,086,227, 4-23-63, Cl. 9-36.
- Schatz, Karl, and J. Baxrainer. Device for transporting granular material. 3,099,369, 7-30-63, Cl. 222-238.
- Schaub, Benton H. Automatic transmission and improved braking systems. 3,076,530, 2-5-63, Cl. 188-181.
- Schaub, Benton H. Automatic transmission control. 3,077,121, 2-12-63, Cl. 74-472.
- Schaub, Franz, to Ruhrchemie Aktiengesellschaft. Apparatus for treating solids in a gas stream. 3,075,298, 1-29-63, Cl. 34-166.
- Schaub, Franz, H. Kolling, T. Notthoff, E. Stiebling, and H. R. Rugeberg, to Ruhrchemie Aktiengesellschaft. Treatment of solids with liquids. 3,100,694, 8-13-63, Cl. 23-270.
- Schaub, Robert E., and M. J. Weiss, to American Cyanamid Co. 7-substituted thio steroids. 3,074,932, 1-22-63, Cl. 260-239.5.
- Schaub, Robert E., and M. J. Weiss, to American Cyanamid Co. New 16-substituted 1,3,5,(10)-estratrienes. 3,091,609, 5-28-63, Cl. 260-239.5.
- Schauer, George W., Jr., to General Motors Corp. Domestic appliance. 3,077,529, 2-12-63, Cl. 219-20.
- Schauer, George W., Jr., to General Motors Corp. Domestic heating appliance. 3,093,722, 6-11-63, Cl. 219-20.
- Schauer, Paul J., and R. N. Weston, to Monsanto Chemical Co. Process of preparing dry granular compositions. 3,096,291, 7-2-63, Cl. 252-99.
- Schauer, Siegfried, to Pfeiffer Barbarosawerke A.G., Gebr. Grinding mill. 3,083,920, 4-2-63, Cl. 241-114.
- Schauer, Wilbert E. Pivotal and vertically movable shelf structure. 3,078,133, 2-19-63, Cl. 312-223.
- Schauer, Ulrich. Device for steplessly varying the speed of rotation of tools and other rotating elements. 3,115,045, 12-24-63, Cl. 74-230.17.
- Schaum, Gustav: *See*—  
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- Schaurer, Gustav, and A. Heinzel, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of heavy hydrogen. 3,100,188, 8-6-63, Cl. 23-210.
- Schaus, Bernard J., to Beed Co. Easy opening carton. 3,097,784, 7-16-63, Cl. 229-51.
- Schauss, Otto, to Nederlandse Organisatie voor Toegepast-Natuurwetenschappelijk onderzoek ten Behoeve van de Volksgezondheid. Aeration apparatus. 3,115,334, 12-24-63, Cl. 259-110.
- Schauwecker, Harry E., to Valor Electronics Inc. Transistorized electronically regulated power supply. 3,105,187, 9-24-63, Cl. 323-22.
- Schawlow, Arthur L.: *See*—  
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- Schechter, Alfred, to Phillips Petroleum Co. Container provided with cover seal and tray-closure. 3,079,037, 2-26-63, Cl. 220-60.
- Schechter, Alfred, to Phillips Petroleum Co. Formed container with paper label. 3,115,245, 12-24-63, Cl. 206-56.
- Schechter, Bernard, to North American Aviation, Inc. Thermal wire stripper. 3,107,287, 10-15-63, Cl. 219-29.
- Schechter, William H., to Callery Chemical Co. Method of preparing dialkoxxyorganoboranes, diaryloxyorganoboranes and dihydroxyorganoboranes. 3,093,674, 6-11-63, Cl. 260-462.
- Schechter, William H., to Callery Chemical Co. Purification of sodium borohydride. 3,105,746, 10-1-63, Cl. 23-312.
- Schechter, William H., to Callery Chemical Co. Cyclic process for preparation of diborane. 3,109,709, 11-5-63, Cl. 23-204.
- Scheck, Ronald W.: *See*—  
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- Schechter, Aaron F. Headlamp having an adjustable switch. 3,087,049, 4-23-63, Cl. 240-6.4.
- Scheel, Ernst J.: *See*—  
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- Scheel, Henry A., to A. Wimpfheimer & Bro. Inc. Resin molded fabric. Re. 25,429, 7-30-63, Cl. 28-80.
- Scheel, Jerold W.: *See*—  
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- Scheel, Walther F., to Rockwell-Standard Corp. Flat, tapered horseshoe type return spring and brake shoe assembly. 3,095,950, 7-2-63, Cl. 188-78.
- Scheel, Wolfgang, to Deutsche Solvay-Werke Gesellschaft m.b.H. Filter cake washing device. 3,108,951, 10-29-63, Cl. 210-199.
- Scheer, C. F., & Cie: *See*—  
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- Scheer, Charles L., to Foote Mineral Co. Stripping cathodes of electrodeposits. 3,094,437, 6-18-63, Cl. 134-16.
- Scheer, Dean D.: *See*—  
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- Scheerbarth, Maximilian, to North American Philips Co., Inc. Scanning arm for scanning records having stereophonically associated signals recorded in one groove. 3,108,811, 10-29-63, Cl. 274-23.
- Scheerer, Wolfgang: *See*—  
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- Schefer, Eli I., to Sylvania Electric Products Inc. Swage plate. 3,074,299, 1-22-63, Cl. 80-1.
- Scheffel, John W., and P. W. Fischer, to Union Oil Co. of California. Processing of bituminous sands. 3,075,913, 1-29-63, Cl. 208-11.
- Scheffel, Kurt, to International Standard Electric Corp. Line-at-a-time printer. 3,110,251, 11-12-63, Cl. 101-93.
- Scheffler, Heinz, and R. Engelhorn, to Dr. Karl Thomae, G.m.b.H. Choleric compositions and methods of using same. 3,084,100, 4-2-63, Cl. 167-55.
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- Scheitlin, George E., and C. F. Draut, to Arvin Industries, Inc. Catalytic converter. 3,090,677, 5-21-63, Cl. 23-288.
- Schekulin, Hans, to Bolkow-Entwicklungen Kommanditgesellschaft. Rotary wing aircraft rotor constructions. 3,109,497, 11-5-63, Cl. 170-160.26.
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- Scheller, Wilfred R., to AMP Inc. Electrical connector. 3,083,345, 3-26-63, Cl. 339—47.
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- Schilberg, Arnold G., to A. O. Smith Corp. Motor vehicle having increased ground clearance level floor space. 3,084,971, 4-9-63, Cl. 296-28.
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- Schill, Hermann. Machine for skinning and cutting meat and bacon sides. 3,100,515, 8-13-63, Cl. 146-130.
- Schiller, Francis, and J. G. Smith, to Burroughs Corp. Sheet stacker. 3,084,932, 4-9-63, Cl. 271-63.
- Schiller, Frederick C.: *See—*
- Maierson, Theodore, Schiller, and Vosmer. 3,099,571.
- Schiller, Georg: *See—*
- Boehm, Hans, Fischer, Haubach, Schiller, Umlauf, and Weber. 3,116,274.



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- Schilling, Clarence J., and L. C. Claitor, to Air Products and Chemicals, Inc. Fractionation of gaseous mixtures. 3,086,371, 4-23-63, Cl. 62-13.
- Schilling, Edward A., to Synco Corp. Generator and regulator. 3,092,767, 6-4-63, Cl. 322-90.
- Schilling Electric Co.: See—
- Schilling, Lorell J., and Oanes. 3,115,116.
- Schilling, Hans: See—
- Mosig, Willy, Meiszahl, Schilling, and Kohler. 3,115,023.
- Schilling, Karl: See—
- Gross, Richard, Hertel, Mohr, and Schilling. 3,073,813.
- Schilling, Karl, Kudder control arrangement. 3,101,693, 8-27-63, Cl. 114-163.
- Schilling, Karl, and E. Dietz, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Water-insoluble benzeneazo-5-acetoacetylaminobenzimidazolone dyes. 3,109,842, 11-5-63, Cl. 260-157.
- Schilling, Lorell J., and O. Oanes, to Schilling Electric Co. Milker. 3,115,116, 12-24-63, Cl. 119-1408.
- Schilling, Robert J. Tonometer. 3,095,731, 7-2-63, Cl. 73-80.
- Schilly, Ralph C., to E. I. du Pont de Nemours and Co. Heat sealable coated organic film and process. 3,082,117, 3-19-63, Cl. 117-76.
- Schiltnecht, Adolf, to Rieter Machine Works Ltd. Top roller holder. 3,079,648, 3-5-63, Cl. 19-295.
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- Schimek, Robert, to Globe-Union Inc. Automatic control for battery charger. 3,097,334, 7-9-63, Cl. 320-40.
- Schimkat, Erwin H.: See—
- Aidlín, Samuel S., and Schimkat. 3,105,610.
- Schimke, Edwin J. Combine attachment. 3,071,246, 1-1-63, Cl. 209-27.
- Schinkus, Kurt E., to Acme Steel Co. Protective coatings on metals. 3,076,734, 2-5-63, Cl. 148-616.
- Schimmel, Howard, and C. S. Clay, Jr., to United States of America, Navy. Variable-delay, rotating, signal-delay and time compression device. 3,106,705, 10-8-63, Cl. 340-174.1.
- Schimmel, Morry L., to McDonnell Aircraft Corp. Valve device. 3,088,478, 5-7-63, Cl. 137-68.
- Schimmelschmidt, Kurt: See—
- Schultheis, Werner, Schimmelschmidt, Hoffmann, Baier, and Bode. 3,088,790.
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- Ulmer, Hans, Karacsonyi, Schimmelschmidt, and Baier. 3,100,673.
- Schimmelschmidt, Kurt, and W. Denk, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for making vinyl phosphonic acid dichloride, vinyl phosphonic acid, and esters thereof. 3,098,865, 7-23-63, Cl. 260-461.
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- Schimming, Walter, to Herman Schwabe, Inc. Wrapper-attaching machine for shoe manufacture. 3,102,281, 9-3-63, Cl. 12-1.
- Schimming, Walter, and W. Kohler, to Siemens-Schuckertwerke Aktiengesellschaft. Partitioned gas-filled electrical apparatus. 3,097,280, 7-9-63, Cl. 200-148.
- Schindel, Arnold, to General Precision Inc. Variable ratio mechanism. 3,079,810, 3-5-63, Cl. 74-600.
- Schindelin, Walter: See—
- Enk, Edward, Leicher, and Schindelin. 3,104,158.
- Schindelka, John C. Stone picking machine. 3,082,828, 3-26-63, Cl. 171-63.
- Schindler, Albert I., and E. I. Salkovitz, to United States of America, Navy. Method for producing rectangular hysterisis loop materials. 3,113,055, 12-3-63, Cl. 148-103.
- Schindler, Frank S., and R. K. Titus, to Flexonics Corp. Apparatus for making flexible tubing. 3,103,244, 9-10-63, Cl. 153-73.
- Schindler, Harvey D.: See—
- Malley, Thomas J., Schindler, and Pennell. 3,086,845.
- Schindler, Mark. Capacitor acousto-electric transducer and method of making the same. 3,108,162, 10-22-63, Cl. 179-111.
- Schindler, Ted A. Piggy back saddle. 3,112,592, 12-3-63, Cl. 54-44.
- Schindler, Walter, to Geigy Chemical Corp. Certain 1-imidazolyl methyl, 2-aryl benzimidazoles. 3,073,841, 1-15-63, Cl. 260-309.2.
- Schinkel, Gerrit, to Koninklijke Nederlandsche Zoutindustrie, N.V. Process for the preparation of common salt by the evaporation of solutions. 3,095,281, 6-25-63, Cl. 23-300.
- Schinn, Ernst, to Escher Wyss Aktiengesellschaft. Apparatus for treating fibrous materials in the production of cellulose or semi-cellulose. 3,076,501, 2-5-63, Cl. 162-237.
- Schinnerer, Roy L., to The Garrett Corp. Variable area nozzle device. 3,071,347, 1-1-63, Cl. 253-97.
- Schinske, William G., to Ideal Industries, Inc. Connector assembly. 3,075,038, 1-22-63, Cl. 174-87.
- Schinske, William G., to Ideal Industries, Inc. Connector with indicator. 3,113,553, 12-10-63, Cl. 116-114.
- Schinske, William G., and A. F. Swanson, to Ideal Industries, Inc. Insulating cap for electrical connectors. 3,107,273, 10-15-63, Cl. 174-138.
- Schinz, Erich: See—
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- Schipper, Robert J., and J. L. Coddington, to Avco Corp. Three-dimensional display. 3,097,261, 7-9-63, Cl. 178-6.5.
- Schippers, Heinz, to Barmer Maschinenfabrik AG. Process and apparatus for producing tubular products from plastic materials. 3,099,860, 8-6-63, Cl. 18-14.
- Schirmer, Maximilian, to Hermsdorf Fixture Mfg. Co., Inc. Finger pull. 3,070,830, 1-1-63, Cl. 16-124.
- Schirmer, Maximilian, to Hermsdorf Fixture Mfg. Co., Inc. Cable float. 3,074,083, 1-22-63, Cl. 9-8.
- Schirmer, Robert M.: See—
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- Schjolin, Hans O., to General Motors Corp. Refrigerating apparatus. 3,075,685, 1-29-63, Cl. 230-38.
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- Schjolin, Hans O., L. N. Kern, and M. V. Parshall, to General Motors Corp. Transmission. 3,090,257, 5-21-63, Cl. 74-78.1.
- Schlachter, Anton: See—
- Siegel, Edgar, and Schlachter. 3,074,963.
- Schlachter, Hans, and O. Kunze, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Apparatus for the manufacture of filaments or other shaped structures from thermoplasts. 3,090,992, 5-28-63, Cl. 18-12.
- Schlack, Paul: See—
- Graf, Roderich, Schlack, and Lohaus. 3,093,618.
- Koller, Walter, and Schlack. 3,078,276.
- Schlack, Paul, and W. Göltnar, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. Process for the manufacture of shaped structures from acroline polymers. 3,084,992, 4-9-63, Cl. 18-54.
- Schlage, Ernest L., to Schlage Lock Co. Combination latch bolt and friction latch. 3,089,720, 5-14-63, Cl. 292-169.
- Schlage, Ernest L., to Schlage Lock Co. Release device for hold open door closers. 3,094,200, 6-18-63, Cl. 189-50.
- Schlage, Ernest L., to Schlage Lock Co. Pin tumbler cylinder key system. 3,095,726, 7-2-63, Cl. 70-383.
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- Schlage, Ernest L., to Schlage Lock Co. Latch bolt unit. 3,107,112, 10-15-63, Cl. 292-192.
- Schlage, Ernest L., and A. H. Green, to Schlage Lock Co. Strike plate mortising tool. 3,095,021, 6-25-63, Cl. 145-251.
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- De Vines, Hollis. 3,072,427.
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- Schlanger, Albert. Valve cap pressure indicator for tires. 3,106,183, 10-8-63, Cl. 116-34.
- Schlapfer, Hans, and J. Bindler, to J. R. Geigy, A-G. Water soluble basic resins containing nitrogen. 3,096,309, 7-2-63, Cl. 260-67.5.
- Schlapfer, Reinhard: See—
- Doebel, Karl, Rey-Bellet, Schlapfer, and Spiegelberg. 3,073,847.
- Schaeren, Sidney F., Schlapfer, Spiegelberg, and Vaterlaus. 3,113,137.
- Schlappfer, Reinhard, and H. Spiegelberg, to Hoffmann-La Roche Inc. Method of isomerizing basically substituted stereoisomeric thioxanthenes. 3,115,502, 12-24-63, Cl. 260-328.
- Schlapp, Werner, to Ernst Leitz Gesellschaft mit beschränkter Haftung. Adjustable objective camera. 3,092,001, 6-4-63, Cl. 95-45.
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- Schlappich, Arthur V., Jr. Priming attachment for shell loaders. 3,105,409, 10-1-63, Cl. 86-38.
- Schlappich, Stuart A. Reconditioned firearms. 3,110,223, 11-12-63, Cl. 89-196.
- Schlarb, James A., to American Air Filter Co., Inc. Filamentous mat and method for making same. 3,072,513, 1-8-63, Cl. 154-54.
- Schlatter, Charles-Emile: See—
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- Schlatter, H. A., A.G.: See—  
Denzler, Emil, 3,115,570.  
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- Schlatter, Maurice J., to California Research Corp. Preparation of alkyl o-carboxybenzyl sulfones. 3,098,870, 7-23-63, Cl. 260—515.
- Schlecht, Charles H., to The National Drying Machinery Co. Drying machine. 3,111,251, 11-19-63, Cl. 226—105.
- Schlecht, Charles H., and F. W. Drobil, to National Drying Machine Co. Adjustable nozzle. 3,099,291, 7-30-63, Cl. 138—45.
- Schlecht, Frederick H., to H. H. Brown Shoe Co., Inc. Cushion boot. 3,076,274, 2-5-63, Cl. 36—54.
- Schlecht, Leo, G. Trageser, and R. Staeger, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process for the recovery of metals from scraps by a sulfidizing and oxidizing treatment. 3,082,068, 3-19-63, Cl. 23—203.
- Schlee, Matthew, to General Electric Co. Cathode ray tube socket. 3,099,508, 7-30-63, Cl. 339—193.
- Schlegel, Horst, to Patent-Treuhand-Gesellschaft für elektrische Glühlampen m.b.H. Discharge lamp with magnetic stabilization. 3,113,234, 12-3-63, Cl. 313—153.
- Schlegel, John C.: See—  
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- Schleich, Fritz, to C. Zeiss. Source of beams for producing a high intensity charge carrier beam. 3,071,707, 1-1-63, Cl. 313—84.
- Schleicher, Allen K., and E. J. Schell, to Andre-Matic Machinery Co. Multi-container packaging apparatus and method. 3,108,414, 10-29-63, Cl. 53—48.
- Schleifer, Carlo, to Sant' Andrea Novara Officine Meccaniche e Fonderie S.p.A. Rectilinear combing frame for long fibres. 3,074,118, 1-22-63, Cl. 19—215.
- Schleifer, Carlo, to Sant' Andrea Novara Officine Meccaniche e Fonderie S.p.A. Dust removing device for combing frames. 3,084,400, 4-9-63, Cl. 19—218.
- Schleifer, Carlo, to Sant' Andrea Novara Officine Meccaniche e Fonderie S.p.A. Adjustment of nippers for combining frames. 3,108,333, 10-29-63, Cl. 19—235.
- Schleifer, Josef, to Eugen Bauer G.m.b.H. Exhaust arrangement. 3,071,059, 1-1-63, Cl. 98—115.
- Schleifer, Josef, to Eugen Bauer G.m.b.H. Illuminating arrangement. 3,095,155, 6-25-63, Cl. 240—52.
- Schlein, Seymour N., to The Fanner Mfg. Co. Line protector. 3,075,037, 1-22-63, Cl. 174—5.
- Schlein, Seymour N., to The Fanner Mfg. Co., a division of Textron, Inc. Puller device. 3,075,745, 1-29-63, Cl. 254—51.
- Schlein, Seymour N., to Fanner Mfg. Co., a Division of Textron, Inc. Radius chill. 3,076,240, 2-5-63, Cl. 22—174.
- Schlein, Seymour N., to The Fanner Mfg. Co. Plastic bellows elbow with spigot and socket ends. 3,076,669, 2-5-63, Cl. 285—179.
- Schleiss, Fritz. Thermonuclear reactor. 3,072,551, 1-8-63, Cl. 204—193.2.
- Schlemmer, Aubrey R. Overhead loader. 3,076,572, 2-5-63, Cl. 214—140.
- Schlenker, Felix, to Chemische Werke Albert. Aluminum-containing phenolic resins. 3,071,563, 1-1-63, Cl. 260—50.
- Schlenker, Hans, to Junghans A.G., Gebrüder. Stop watch. 3,077,729, 2-19-63, Cl. 58—126.
- Schlepperwerk Nordhausen, VEB: See—  
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- Schler, Eli. Expandable step-up folder. 3,113,573, 12-10-63, Cl. 129—15.
- Schlesinger, Albert, and S. M. Gordon, to Endo Laboratories Inc. 1,1-diphenyl-1-hydrocarboxy, 4-tertiary amino 2-butanones. 3,073,842, 1-15-63, Cl. 260—326.5.
- Schlesinger, Heinz, to Azoplate Corp. Material for electro-photographic and electroradiographic purposes. 3,114,633, 12-17-63, Cl. 96—1.
- Schlesinger, Kurt, to Motorola, Inc. Cathode ray tube with low velocity deflection and post deflection beam acceleration. 3,102,212, 8-27-63, Cl. 315—12.
- Schlesman, Carleton H., to United States of America, Navy. Fluid driven gyroscope. 3,078,728, 2-26-63, Cl. 74—5.
- Schless, Robert A., Jr., deceased (S. E. Schless and W. R. La Flure, executors of said R. A. Schless, Jr.). Modular storage facilities. 3,087,764, 4-30-63, Cl. 321—107.
- Schless, Robert A., Jr., deceased; by W. R. La Flure, and S. Schless, co-executors. Molded drawers for modular storage facilities. 3,097,901, 7-16-63, Cl. 312—330.
- Schless, Shirley: See—  
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- Schless, Shirley E.: See—  
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- Schley, Delmar D.: See—  
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- Schlicht, Le Roy G., to Packard-Bell Electronics Corp. Transistorized television camera. 3,077,517, 2-12-63, Cl. 178—7.2.
- Schlichtig, Ralph C. Reversible heat engines. 3,076,316, 2-5-63, Cl. 60—59.
- Schlichtig, Ralph C. Reversible heat pumps. 3,076,321, 2-5-63, Cl. 62—270.
- Schlichting, Frederick P., to ACF Industries, Inc. Carburetor. 3,077,341, 2-12-63, Cl. 261—39.
- Schlichting, John, and T. S. Sprague, to The Babcock & Wilcox Co. Liquid metal heated vapor generator. 3,112,735, 12-3-63, Cl. 122—32.
- Schlichting, Kurt, and H. Müller, to Deere & Co. Hitch device. 3,110,509, 11-12-63, Cl. 287—3.
- Schlichtkrull, Jorgen, to Novo Terapeutisk Laboratorium A/S. Quick acting insulin preparation. 3,091,573, 5-28-63, Cl. 167—75.
- Schlicke, Heinz M., H. J. Rey, and H. E. Weidmann, to Allen-Bradley Co. Filter having lumped resonance elements spaced along length of shielding enclosure with adjustable magnetic coupling between elements. 3,093,803, 6-11-63, Cl. 333—73.
- Schlidt, Rudolf H., and F. K. Pauli. Method of converting automobile bodies to a compact form for transport as scrap. 3,101,044, 8-20-63, Cl. 100—42.
- Schlieder, Harold A., to Blaw-Knox Co. Means for generating electric functions. 3,078,713, 2-26-63, Cl. 73—205.
- Schliekelmann, Robert J., to Koninklijke Nederlandse Vliegtuigenfabriek Fokker, N.V. Method of forming an aircraft part having a pliable deicer boot thereon. 3,085,925, 4-16-63, Cl. 156—285.
- Schlieker, Willy H., K.G.: See—  
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- Schliephacke, Fridtjof F., to A. Lorenz. Head-rest and control arrangement for multiple position chair. 3,074,758, 1-22-63, Cl. 297—61.
- Schliephacke, Fridtjof F., to A. Lorenz. Leg rest mechanism for tilting seating units. 3,076,676, 2-5-63, Cl. 297—88.
- Schliephacke, Fridtjof F., to A. Lorenz. Multiple position reclining chair. 3,081,128, 3-12-63, Cl. 297—88.
- Schliephacke, Fridtjof F., to A. Lorenz. Underslung leg-rest for reclining chair. 3,086,816, 4-23-63, Cl. 297—89.
- Schliephacke, Fridtjof F., to A. Lorenz. Underslung leg-rest control means for reclining chairs. 3,092,415, 6-4-63, Cl. 297—89.
- Schliephacke, Fridtjof F., to A. Lorenz. Reclining chair and control arrangement. 3,100,126, 8-6-63, Cl. 297—89.
- Schliephacke, Fridtjof F., to A. Lorenz. Multiple position reclining chair. 3,101,216, 8-20-63, Cl. 297—88.
- Schliephacke, Fridtjof F., to A. Lorenz. Multiple position reclining chair with extendible head-rest. 3,102,753, 9-3-63, Cl. 297—61.
- Schliephacke, Fridtjof F., to A. Lorenz. Reclining chair. 3,103,381, 9-10-63, Cl. 297—84.
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- Schliephacke, Fridtjof F., to A. Lorenz. Multiple position reclining chair with extendible head-rest. 3,104,912, 9-24-63, Cl. 297—61.
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- Schlig, Eugene S.: See—  
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- Schlitters, Esther M.: See—  
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- Schlitters, Michael J., deceased by H. S. Derderian, and E. M. Schlitters, co-executors. Self-adjusting tool holders. 3,071,997, 1-8-63, Cl. 82—35.
- Schlitiz, Jos., Brewing Co.: See—  
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- Schloemann Aktiengesellschaft: See—  
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- Schloemann, Ernst F. R. A., to Raytheon Co. Ferrite isolator utilizing aligned crystals with a specific anisotropy constant. 3,100,288, 8-6-63, Cl. 333—24.2.
- Schloemer, Clyde J., to Kasten Mfg. Corp. Feed troughs. 3,082,739, 3-26-63, Cl. 119—61.
- Schloen, Hans G.: See—  
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- Schlosser, Clemens, to Spinnbau G.m.b.H. Thread braking device for use in connection with ring spinning and twisting machines. 3,104,514, 9-24-63, Cl. 57—73.
- Schlopperwerk Nordhausen, VEB: See—  
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- Schlor, Hanshelmut, and G. Schrader, to Farbenfabriken Bayer Aktiengesellschaft. Phosphoric acid, thionophosphoric acid, phosphonic acid, thiophosphonic acid, phosphinic acid and thionophosphinic acid derivatives of alkyl-sulfonamides. 3,086,974, 4-23-63, Cl. 260—247.1.
- Schlor, Hans-Helmut, and G. Schrader, to Farbenfabriken Bayer Aktiengesellschaft. Thio- and dithio-phosphorus acid alkyl esters and process for the production thereof. 3,094,550, 6-18-63, Cl. 260—461.
- Schlor, Karl, to NSU Motorenwerke Aktiengesellschaft and Wankel G.m.b.H. Multi-pair rotor for rotary mechanisms. 3,102,520, 9-3-63, Cl. 123—8.



- Schloss, Fred, and A. O. Sykes, to United States of America, Navy. Mechanical impedance meter. 3,070,996, 1-1-63, Cl. 73—67.1.
- Schlosser & Co. G.m.b.H.: *See*—  
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- Schlosser, Edward P.: *See*—  
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- Schlosser, Peter. Process for preparing a water-soluble sodium salt of acetylsalicylic acid. 3,109,019, 10-29-63, Cl. 260—480.
- Schlotmann, Karl, to Maschinenfabrik Stromag G.m.b.H. Flexible couplings. 3,095,714, 7-2-63, Cl. 64—11.
- Schlottterbeck, Earl S., to General Motors Corp. Control for refrigerating system. 3,084,521, 4-9-63, Cl. 62—192.
- Schlottger, Gustav. Method for the manufacture of hollow bodies. 3,101,401, 8-20-63, Cl. 219—67.
- Schlottmann, Herman: *See*—  
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- Schluderberg, Donald C., to The Babcock & Wilcox Co. Nuclear reactor containment system. 3,098,023, 7-16-63, Cl. 204—193.2.
- Schlueter, Ernest. Trailer drawbar hitch. 3,084,954, 4-9-63, Cl. 280—475.
- Schlueter, Robert J.: *See*—  
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- Schlumberger, Etienne M., to Conch International Methane Ltd. Container for storing liquefied gases at very low temperatures. 3,099,362, 7-30-63, Cl. 220—9.
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- Schlumberger Well Surveying Corp.: *See*—  
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Codrington, Robert S. 3,113,087.  
Cubberly, Walter E., Jr. 3,097,433.  
Dewan, John T. 3,095,505.  
Dewan, John T., and Johnstone. 3,108,188.  
Doll, Henri-Georges. 3,072,844.  
Dueker, Stanley T. 3,106,130.  
Johnson, Frank F. 3,089,954.  
Kisling, James W., III. 3,095,930.  
Kokesh, Frank P. 3,088,540.  
Lebourg, Maurice P. 3,080,925.  
Lebourg, Maurice P. 3,104,713.  
Lebourg, Maurice P. 3,107,730.  
Lebourg, Maurice P. 3,110,257.  
Moran, James H. 3,090,910.  
Pohoriles, Eugene M. 3,100,443.  
Schneider, William P. 3,093,811.  
Schuster, Nick A. 3,083,335.  
Schuster, Nick A. 3,114,876.  
Whitten, Frank R. 3,104,712.
- Schlumbohm, Peter. Centrifugal friction pump. 3,071,311, 1-1-63, Cl. 230—113.
- Schlumbohm, Peter. Centrifugal pump. 3,071,312, 1-1-63, Cl. 230—118.
- Schluter, Herbert P., to Burroughs Corp. Device for removing coverings from elongated articles. 3,089,367, 5-14-63, Cl. 81—9.5.
- Schmadebeck, John H., to Hooker Chemical Corp. Preparation of stabilized sulfur dichloride. 3,071,441, 1-1-63, Cl. 23—205.
- Schmadebeck, John H., to Hooker Chemical Corp. Preparation of stabilized sulfur dichloride. 3,071,442, 1-1-63, Cl. 23—205.
- Schmahl, George. Electric inhaler. 3,115,134, 12-24-63, Cl. 128—192.
- Schmalenbach, Adolf. Process for the production of naphthalene. 3,113,161, 12-3-63, Cl. 260—674.
- Schmalfeldt, Alfred H.: *See*—  
Neufeld, Leonard C., and Schmalfeldt. 3,114,167.
- Schmall, Charles, to Continental Can Co., Inc. Two component printing ink and method. 3,091,546, 5-28-63, Cl. 117—45.
- Schmalz, James H.: *See*—  
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- Schmalz, William H., to United States Rubber Co. Boat hull structure and method of producing same. 3,080,267, 3-5-63, Cl. 154—43.
- Schmanke, George W., Jr., and J. V. D. Southworth, Jr., to Carrier Corp. Refrigeration system supports. 3,081,603, 3-19-63, Cl. 62—77.
- Schmauch, Lorenz J., to Standard Oil Co. Thermal conductivity cell apparatus. 3,075,379, 1-29-63, Cl. 73—27.
- Schmaus, Siegfried H. A., to Ametek, Inc. Measuring dispenser for liquids. 3,080,097, 3-5-63, Cl. 222—189.
- Schmeckenbecher, Arnold, to General Aniline & Film Corp. Process of removing nickel carbonyl vapor from gases containing the same. 3,086,340, 4-23-63, Cl. 55—66.
- Schmeckenbecher, Arnold F., to General Aniline & Film Corp. Preparation of iron and nickel carbonyls. 3,112,179, 11-26-63, Cl. 23—203.
- Schmerling, Louis: *See*—  
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- Schmerling, Louis, to Universal Oil Products Co. Polyhalooctahydroalkanonaphthalenedicarboxylic acids, anhydrides and method of preparation thereof. Re. 25,430, 7-30-63, Cl. 260—346.3.
- Schmerling, Louis, to Universal Oil Products Co. Organic substances stabilized with a metal deactivator. 3,071,451, 1-1-63, Cl. 44—73.
- Schmerling, Louis, to Universal Oil Products Co. Partial dehydrohalogenation of haloalkylhalobicycloalkenic compounds. 3,090,817, 5-21-63, Cl. 260—648.
- Schmerling, Louis, to Universal Oil Products Co. Production of salicylaldehydes. 3,098,875, 7-23-63, Cl. 260—600.
- Schmerling, Louis, to Universal Oil Products Co. Nitration of aromatic compounds. 3,110,738, 11-12-63, Cl. 260—645.
- Schmerling, Louis, and W. G. Toekelt, to Universal Oil Products Co. Preparation of acid from diolefins. 3,075,010, 1-22-63, Cl. 260—533.
- Schmerling, Louis, and H. S. Bloch, to Universal Oil Products Co. Insecticidal compositions containing polyoxyalkylene glycol monoethers of phenolic derivatives of halocycloalkanes. 3,091,566, 5-28-63, Cl. 167—30.
- Schmermund, Alfred. Machines for handling cigarettes. 3,106,282, 10-8-63, Cl. 198—59.
- Schmertz, Charles B. Electronic gavel. 3,072,898, 1-8-63, Cl. 340—384.
- Schmerzler, Lawrence J., to General Instrument Corp. Thermoelectric device for controlling the psychrometric condition of a flowing fluid. 3,073,127, 1-15-63, Cl. 62—3.
- Schmettow, Erich, to Siemens-Elektrogerate Aktiengesellschaft. Automatic washing machine having a variable speed drive. 3,088,303, 5-7-63, Cl. 68—12.
- Schmid, Alois, and H. Hofer. Method for carrying out endothermic processes in a shaft furnace. 3,074,706, 1-22-63, Cl. 263—52.
- Schmid, August. Skittle game with arrangement for automatically indicating the fallen pins. 3,102,724, 9-3-63, Cl. 273—52.
- Schmid, Bruce K.: *See*—  
Odioso, Raymond C., Schmid, and Zabor. 3,085,952.
- Schmid, Bruce K., to Gulf Research & Development Co. Recovery of commercial grade naphthalene by azeotropic distillation of crude naphthalenes with a glycol. 3,071,632, 1-1-63, Cl. 260—674.
- Schmid, Christian O., and A. J. Fischer, to Infileo Inc. Apparatus for removing settled solids from liquid treating basins. 3,102,094, 8-27-63, Cl. 210—528.
- Schmid, Christoph, and R. Gedenk, to Deutsche Erdöl-Aktien-gesellschaft. Method of treating waters to be introduced into geological formations. 3,106,525, 10-8-63, Cl. 210—57.
- Schmid, Erich: *See*—  
Graf, Wilfried, and Schmid. 3,082,212.
- Schmid, Hans: *See*—  
Bernauer, Karl, Karrer, and Schmid. 3,073,832.
- Schmid, Hans, and H. R. Mühlemann, to GABA A.G. Fluorides of organic bases as well as of amphoteric compounds, a method for their preparation, including the application of such new compounds, in the caries prophylaxis, new dentifrices and mouth wash as well as a method for their preparation. 3,083,143, 3-26-63, Cl. 167—93.
- Schmid, Heinrich. Firma: *See*—  
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- Schmid, Heinrich, to Heinrich Schmid, Firma. Drive mechanism, particularly for picking system for looms. 3,083,739, 4-2-63, Cl. 139—147.
- Schmid, Heinrich, to Almatic A.G. Hydraulically controlled punching machine. 3,084,580, 4-9-63, Cl. 83—123.
- Schmid, Hermann, to Daimler-Benz Aktiengesellschaft. Control arrangement for a heating and ventilating system, especially of motor vehicles. 3,086,440, 4-23-63, Cl. 98—2.
- Schmid, Hermann, to General Precision, Inc. Transistor switch having impedance means effecting negligible drop between emitter and collector. 3,112,410, 11-26-63, Cl. 307—88.5.
- Schmid, Johannes: *See*—  
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- Schmid, John H., and L. J. Macinkiewicz, to Zurn Industries, Inc. Wall closet carrier. 3,078,477, 2-26-63, Cl. 4—252.
- Schmid, Leopold F., and H. H. Honick, to Firma, Dr. Ing. h.c.F., Porsche, K.G. Internal combustion engine arrangement. 3,077,870, 2-19-63, Cl. 123—44.
- Schmid, Paul F., and J. E. Muller, to Acme Air Appliance Co., Inc. Core for pneumatic valve. 3,078,864, 2-26-63, Cl. 137—223.
- Schmid, Paul F., and J. E. Muller, to Acme Air Appliance Co., Inc. Dispensing and relief valve. 3,083,882, 4-2-63, Cl. 222—396.
- Schmid, Ulrich J.: *See*—  
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- Schmid, Ulrich J., to Foremost Dairies, Inc. Case filling machine. 3,082,584, 3-26-63, Cl. 53—62.
- Schmid, Ulrich J., to Foremost Dairies, Inc. Case stacking and conveying apparatus. 3,086,665, 4-23-63, Cl. 214—6.



- Schmider, Henry R.: *See*—  
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- Schmidlapp, Kurt, to Wintershall Aktiengesellschaft. Method and apparatus for purifying potassium salt-containing materials. 3,096,034, 7-2-63, Cl. 241-14.
- Schmidlin, Fred W.: *See*—  
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- Schmidlin, Frederick W.: *See*—  
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- Schmidlin, Frederick W., to Space Technology Laboratories, Inc. Information handling arrangement. 3,096,431, 7-2-63, Cl. 235-61.11.
- Schmidlin, Julius: *See*—  
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- Schmidt, Adolf: *See*—  
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- Schmidt, Alfred, and E. Nonninger, to Bohler, Gebr., & Co. Hard facing. 3,109,917, 11-5-63, Cl. 219-76.
- Schmidt, Arnold, to Siemens-Schuckertwerke Aktiengesellschaft. Electric current inverter. 3,097,335, 7-9-63, Cl. 321-45.
- Schmidt, Benjamin F. Multiple production pump. 3,076,416, 2-5-63, Cl. 103-191.
- Schmidt, Benjamin F. Sand trapping sucker-rod for piston type oil well pump. 3,090,324, 5-21-63, Cl. 103-220.
- Schmidt, Benjamin F. Sand and gas deflector for oil well pumps. 3,106,526, 10-8-63, Cl. 210-188.
- Schmidt, Carl O., Jr., to The Cincinnati Butcher's Supply Co. Bleeding conveyor. 3,076,996, 2-12-63, Cl. 17-1.
- Schmidt, Carl O., Jr., to The Cincinnati Butcher's Supply Co. Injection apparatus for the treatment of meat. 3,081,691, 3-19-63, Cl. 99-257.
- Schmidt, Chester W.: *See*—  
Hilsley, Ralph W., Schmidt, Highley, and Hutchins. 3,076,488.
- Schmidt, Chester W., E. L. Highley, and K. A. Hutchins, to Chemetron Corp. Communiting apparatus. 3,076,489, 2-5-63, Cl. 146-182.
- Schmidt, Dale V.: *See*—  
McIntyre, Robert L., Saunders, and Schmidt. 3,106,636.
- Schmidt, Daniel. Supplementary lighting arrangement for vehicles. 3,088,022, 4-30-63, Cl. 240-7.1.
- Schmidt, Edward C., to E. L. Pucel. Tilting arc device. 3,100,123, 8-6-63, Cl. 294-103.
- Schmidt, Edward M., to Borg-Warner Corp. Static inverter. 3,091,729, 5-28-63, Cl. 321-5.
- Schmidt, Erich A., 1/2 to Universal Button Co. Stapling machine with reinforcing tape dispensing means. 3,084,344, 4-9-63, Cl. 1-121.
- Schmidt, Ernst H. W. Pump. 3,088,411, 5-7-63, Cl. 103-1.
- Schmidt, Fred J., to Elliott Machine Corp. Electric-hydraulic dredge. 3,094,795, 6-25-63, Cl. 37-67.
- Schmidt, Ferenc J.: *See*—  
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- Schmidt, George A., and E. Hindin, to Strick Trailers, a division of Fruehauf Trailer Co. Means for securing a wheeled unit to a trailer body. 3,080,191, 3-5-63, Cl. 296-35.
- Schmidt, George J.: *See*—  
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- Schmidt, Gerhard: *See*—  
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- Schmidt, Gerhard, and H. Feindt, to Licentia Patent-Verwaltungs-G.m.b.H. Flashlights. 3,097,798, 7-16-63, Cl. 240-10.65.
- Schmidt, Gunther, to Dr. Karl Thomas G.m.b.H. 2-hydroxy-methyl-8-hydroxy-1,4-benzodioxane. 3,101,345, 8-20-63, Cl. 260-34.30.
- Schmidt, Heinz: *See*—  
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- Strugala, Alfred, Sporenberg, and Schmidt. 3,105,399.
- Schmidt, Heinz, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for accelerating the peroxidic hardening of unsaturated, phosphorus-containing poly-esters by means of an isocyanate. 3,079,364, 2-26-63, Cl. 260-45.4.
- Schmidt, Herbert. Machine and method of making brushes. 3,093,416, 6-11-63, Cl. 300-21.
- Schmidt, Horst: *See*—  
Schoppmeyer, Werner R. L., and Schmidt. 3,112,985.
- Schmidt, Jack H., to The Flintkote Co. Flue covering process. 3,089,805, 5-14-63, Cl. 156-187.
- Schmidt, John H.: *See*—  
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- Schmidt, John W.: *See*—  
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- Schmidt, Jørgen: *See*—  
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- Schmidt, Karl, and H. Flaig, to J. M. Voith Maschinenfabrik G.m.b.H. Stock inlet for paper making machines and the like. 3,092,539, 6-4-63, Cl. 162-259.
- Schmidt, Karl-Ludwig: *See*—  
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- Schmidt, Karol, to Vyzkumny ustav energeticky. Separation of solid substances from liquids. 3,093,579, 6-11-63, Cl. 210-117.
- Schmidt, Lewis W., to Blockwelder Mfg. Co. Plant thinning implement. 3,101,123, 8-20-63, Cl. 172-556.
- Schmidt, Lothar M., to General Precision, Inc. High speed tape memory system. 3,092,810, 6-4-63, Cl. 340-172.5.
- Schmidt, Marion A. Razor blade stropping holder. 3,088,252, 5-7-63, Cl. 51-218.
- Schmidt, Max. Package, in particular for hollow bodies sensitive to pressure such as Christmas tree balls. 3,093,241, 6-11-63, Cl. 206-45.31.
- Schmidt, Max. Extruder having an interchangeable injector head. 3,109,196, 11-5-63, Cl. 18-12.
- Schmidt, Oltmann G. Hydraulically operated land contouring machine. 3,097,440, 7-16-63, Cl. 37-129.
- Schmidt, Oswald: *See*—  
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- Stilz, Walter, Pommer, Gehm, Schmidt, Mertens, Hehl, and Grunwald. 3,076,020.
- Schmidt, Paul: *See*—  
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- Schmidt, Richard: *See*—  
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- Schmidt, Richard, to Franz Morat G.m.b.H. Pattern wheel. 3,076,325, 2-5-63, Cl. 66-50.
- Schmidt, Richard, to Franz Morat, G.m.b.H. Feeding mechanism for yarn winding and processing machines. 3,093,330, 6-11-63, Cl. 242-45.
- Schmidt, Richard, to Franz Morat, G.m.b.H. Feeder arrangement for circular knitting machines. 3,115,761, 12-31-63, Cl. 66-131.
- Schmidt, Robert A.: *See*—  
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- Schmidt, Ronald G., and J. G. Tomkinson, to Minneapolis-Honeywell Regulator Co. Photoflash apparatus. 3,071,681, 1-1-63, Cl. 240-1.3.
- Schmidt, Theodor: *See*—  
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- Schmidt, Theodor, to Indugas, Gesellschaft für Industrielle Gasverwendung m.b.H., Firma. Cooled furnace transport rollers. 3,100,631, 8-13-63, Cl. 263-6.
- Schmidt, Theodore W.: *See*—  
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- Schmidt, Thomas R., to Shell Oil Co. Eddy current type pipeline flaw testing and flaw location marking device. 3,116,452, 12-31-63, Cl. 324-40.
- Schmidt, Ulrich, to E. Merck Aktiengesellschaft. Mercapto-methyl-pyridine derivatives and their production. 3,075,987, 1-29-63, Cl. 260-294.8.
- Schmidt, Walter: *See*—  
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- Schmidt, Warren E.: *See*—  
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- Schmidt, Wilhelm: *See*—  
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- Schmidt, Wilhelm, to Forschungszentrum der Luftfahrtindustrie. Driving arrangement for land, water- and aircraft. 3,111,928, 11-26-63, Cl. 115-5.
- Schmidt, William. Cervical brace. 3,103,215, 9-10-63, Cl. 128-75.
- Schmidt, William C. Corncob material cigarette. 3,100,492, 8-13-63, Cl. 131-2.
- Schmidt, William P.: *See*—  
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- Schmidt-Kastner, Günter, J. Schmid, F. Grewe, and V. Fluck, to Farbenfabriken Bayer Aktiengesellschaft. Antibiotic phyllomycin and a process for the production thereof. 3,107,202, 10-15-63, Cl. 167-65.
- Schmidt-Neuhaus, Hermann-Dietrich: *See*—  
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- Schmidt'sche Heissdampf-Gesellschaft: *See*—  
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- Schmiedel, Ulrich, and H. Fischer. Process of developing electrostatic images. 3,083,117, 3-26-63, Cl. 117-17.5.
- Schmieder, Felix, J. Hildebrandt, and W. Krombach, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process for the manufacture of crimped filament yarns. 3,112,551, 12-3-63, Cl. 28-72.
- Schmieding, Warren H. F.: *See*—  
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- Vogel, Arthur E. 3,104,114.
- Schmier, Jacob, to Rodale Mfg. Co., Inc. (also known as Rodale Manufacturing Co., Inc. and Rodale Manufacturing Company, Inc.). Duplex receptacle and method of manufacturing. 3,094,367, 6-18-63, Cl. 339-122.
- Schmier, Jacob, and H. P. Lewis, to Rodale Mfg. Co., Inc. Electric switch. 3,073,933, 1-15-63, Cl. 200-156.
- Schmiermann, Franciscus X. A., to Van Doorne's Aahangwagenfabriek N.V. Tank vehicle of the semitrailer type. 3,081,104, 3-12-63, Cl. 280-5.



- Schmitt, Justin M., and H. L. Andrews, to The Chun King Corp. Method of harvesting wild rice. 3,111,799, 11-26-63, Cl. 56-1.
- Schmitt, Leo T.: *See—*  
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- Schmitt, Arthur J., to The West Bend Co. Percolator cover. 3,104,604, 9-24-63, Cl. 99-312.
- Schmitt, George E.: *See—*  
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- Schmitt, Hubert A., to Boeing Airplane Co. Portable dimpler. 3,091,277, 5-28-63, Cl. 153-21.
- Schmitt, Hubert A. Portable hydraulic torque wrench. 3,097,551, 7-16-63, Cl. 81-56.
- Schmitt, Jean, to Societe Alsacienne de Constructions Mecaniques. Frame printing machine. 3,106,890, 10-15-63, Cl. 101-123.
- Schmitt, Johannes: *See—*  
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- Schmitt, Karl: *See—*  
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- Schmitt, Karl, E. Lindner, and W. Meixner, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning. N-(B-tertiaryamino-lower alkyl-B-methoxy-phenyl)-lower alkyl alkenyl and aryl amides. 3,103,516, 9-10-63, Cl. 260-294.
- Schmitt, Leo C., to American Potash & Chemical Corp. Production of a non-caking borax. 3,109,705, 11-5-63, Cl. 23-59.
- Schmitt, Robert O., to The Proctor & Gamble Co. Process for the purification of glyceride oils. 3,102,898, 9-3-63, Cl. 260-425.
- Schmitt, Roland W., and M. D. Fiske, to General Electric Co. Superconducting circuits. 3,088,077, 4-30-63, Cl. 330-62.
- Schmitt, Werner, R. Purrmann, P. Jochum, to Espe Fabrik Pharmazeutischer Präparate G.m.b.H. Filling of dental cavities and fastening substitute tooth members with admixture of a polyethyleneimine compound and an alkyl or aryl sulfonic acid ester. 3,107,427, 10-22-63, Cl. 32-15.
- Schmitter, A. Louise: *See—*  
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- Schmitter, Walter P., deceased, by A. Louise, and R. V. Abendroth, co-executors, to The Falk Corp. Coupling. 3,079,773, 3-5-63, Cl. 64-15.
- Schmittmann, Hans-Richard, to Farbenfabriken Bayer Aktiengesellschaft. Braided combined cordage. 3,090,277, 5-21-63, Cl. 87-8.
- Schmittmann, Hans-Richard, and K. Hartmann, to Farbenfabriken Bayer Aktiengesellschaft. Stranded rope of endless fully synthetic plastic filaments. 3,111,001, 11-19-63, Cl. 57-144.
- Schmitt-Matzen, John G., to Gorman-Rupp Industries, Inc. Dishwasher recirculating assembly. 3,103,225, 9-10-63, Cl. 134-58.
- Schmitt-Thomas, Karlheinz, and F. Fischer, to Stahl- und Walzwerke Rasselstein/Andernach AG. Process for testing the suitability of a material for shaping without cutting and device for use in this process. 3,086,391, 4-23-63, Cl. 73-87.
- Schmitz, Earl F. Miniature vehicle and control system therefor. 3,082,699, 3-26-63, Cl. 104-247.
- Schmitz, Ewald F., to A. O. Smith Corp. Closure for Metal tanks. 3,088,625, 5-7-63, Cl. 220-64.
- Schmitz, Hugo, to Polysius G.m.b.H. Device for sorting material according to granular size and weight. 3,113,099, 12-3-63, Cl. 209-135.
- Schmitz, John V., and R. J. Blackinton, to California Research Corp. Thixotropic coating solutions. 3,098,052, 7-16-63, Cl. 260-22.
- Schmitz, Mattheus J.: *See—*  
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- Schmitz, Paul: *See—*  
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- Schmitz, Rudolf, and R. Brettschneider, to Gardisette-Werk Dr. Baier & Co. Warp knit fabric and method. 3,073,140, 1-15-63, Cl. 66-193.
- Schmitz, Werner E. Elastic covering for use in ironing apparatus and the like. 3,115,717, 12-31-63, Cl. 38-66.
- Schmitz, William F.: *See—*  
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- Schmitzer, Karl. Conveyor for dung. 3,103,276, 9-10-63, Cl. 198-226.
- Schmitz-Josten, Robert, to Farbenfabriken Bayer Aktiengesellschaft. Reaction products of ethylenically unsaturated polymers and phenolic compounds. 3,110,699, 11-12-63, Cl. 260-62.
- Schmoock, Roy F., to Fischer & Porter Co. Damping control for rebalancing motors. 3,081,423, 3-12-63, Cl. 318-448.
- Schmoock, Edward, Jr., to Oscar Mayer & Co., Inc. Meat comminutor. 3,095,022, 6-25-63, Cl. 146-192.
- Schmoock, Edward, Jr., to Oscar Mayer & Co., Inc. Method of forming casing stuffed products. 3,107,392, 10-22-63, Cl. 17-45.
- Schmoock, Edward, Jr., and A. H. Vedvik, to Oscar Mayer & Co., Inc. Continuous chopper. 3,108,626, 10-29-63, Cl. 146-192.
- Schmoockler, Martin S., to International Business Machines Corp. Three level logical circuits. 3,099,753, 7-30-63, Cl. 307-88.5.
- Schmueller, Kalman, to Cryogenics, Inc. Cryogenic liquid level detector. 3,085,433, 4-16-63, Cl. 73-295.
- Schmuldt, Karl A.: *See—*  
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- Schmulling, Donald W.: *See—*  
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- Schmutte, Charles T. Smoking pipe accessory. 3,112,756, 12-3-63, Cl. 131-232.
- Sehn, Francis J., and M. M. Clemons; said Clemons assor. to said Sehn. Device for loading and unloading production parts. 3,091,347, 5-28-63, Cl. 214-1.
- Schnabel, Harry, Jr. Method and structure for underpinning. 3,091,938, 6-4-63, Cl. 61-51.
- Schnabolk, Morris. Sealing strip guide. 3,079,036, 2-26-63, Cl. 220-52.
- Schnack, Otto N., and R. De Coene, to Solvic Societe Anonyme. Vinyl chloride polymerization process with metal alkyl catalyst. 3,076,794, 2-5-63, Cl. 260-92.8.
- Schnadig Corp.: *See—*  
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- Schnaible, Albert P.: *See—*  
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- Schott, Andrew F. Educational work sheet. 3,084,457, 4-9-63, Cl. 35-66.
- Schott, Arthur K., to Houdaille Industries, Inc. Punching device having a spring biased stripper. 3,079,824, 3-5-63, Cl. 83-140.
- Schott, Arthur K., to Houdaille Industries, Inc. Punching device. 3,114,280, 12-17-63, Cl. 83-140.
- Schott, Donald E., to Thomas C. Wilson, Inc. Pneumatic motor with overspeed safety device. 3,071,115, 1-1-63, Cl. 121-34.
- Schott, Hans, to E. I. du Pont de Nemours and Co. Sheet forming binder particles composed of thermoplastic polymer dispersed in a polysaccharide matrix. 3,114,672, 12-17-63, Cl. 162-157.
- Schott, Stuart, and V. L. Hansley, to National Distillers and Chemical Corp. Boron production. 3,086,847, 4-23-63, Cl. 23-209.
- Schotte, Kurt T.: *See*—  
Messwarb, Gunther, Schotte, and Dummer. 3,108,017.
- Schöttle, Hans, to Electrostär G.m.b.H. Food slicer. 3,085,607, 4-16-63, Cl. 146-124.
- Schöttle, Ulrich, and G. Reinicke, to Standard Elektrik Lorenz Aktiengesellschaft. Cash register safeguard for use in a system for automatically controlling the movement of goods. 3,072,324, 1-8-63, Cl. 235-11.



- Schou, Carl E., to Rockwell-Standard Corp. Drive mechanism. 3,099,166, 7-30-63, Cl. 74-359.
- Schouteden, Ferdinand L., to Gevaert Photo-Producten N.V. Process for improving the dyeability of polymeric material. 3,083,070, 3-26-63, Cl. 8-1155.
- Schouteden, Ferdinand L., to Gevaert Photo-Production N.V. Process for the preparation of polymers containing amidoxime groups. 3,087,914, 4-30-63, Cl. 260-78.4.
- Schouten, Frank, to United States of America, Army. Remote control isotope manipulator. 3,087,632, 4-30-63, Cl. 214-1.
- Schouw, Arthur C., and R. R. Mosher, to Ferro-Fab, Inc. Cleaning machine. 3,094,999, 6-25-63, Cl. 134-132.
- Schraber, Henry A., and R. O. Barrows. Multiple purpose spotting gun. 3,091,403, 5-28-63, Cl. 239-413.
- Schrader, Gerhard: *See*—  
Lorenz, Walter, and Schrader. 3,081,328.  
Lorenz, Walter, and Schrader. 3,082,240.  
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Schicke, Hans-Gerd, and Schrader. 3,076,012.  
Schlor, Hanshelmut, and Schrader. 3,086,974.  
Schlor, Hans-Helmut, and Schrader. 3,094,550.
- Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Dithiophosphonic acid esters and a process for their production. 3,074,991, 1-22-63, Cl. 260-461.
- Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Process for production of dithiophosphoric acid esters. 3,078,295, 2-19-63, Cl. 260-461.
- Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Thionophosphonic acid esters and process for their production. 3,081,330, 3-12-63, Cl. 260-461.
- Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Pyrophosphonic acid esters and process for their production. 3,088,965, 5-7-63, Cl. 260-461.
- Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Thiophosphoric acid esters and process for their production. 3,092,649, 6-4-63, Cl. 260-461.
- Schrader, Gerhard, to Farbenfabriken Bayer Aktiengesellschaft. Thiophosphonic acid ester amides. 3,099,674, 7-30-63, Cl. 260-461.
- Schrader, Gerhard, and A. Dörken, to Farbenfabriken Bayer Aktiengesellschaft. Thiophosphoric acid esters and production. 3,076,009, 1-29-63, Cl. 260-461.
- Schrader, Hansgeorg: *See*—  
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- Schrader, Harold D., to Sullivan Valve and Engineering Co. Gas burner construction. 3,105,541, 10-1-63, Cl. 158-104.
- Schram, Cornelius J., to Lever Brothers Co. Process for making oil containing compositions. 3,085,015, 4-9-63, Cl. 99-118.
- Schramel, Franz J., to North American Philips Co. Inc. Telecommunication system comprising transducers. 3,112,368, 11-26-63, Cl. 179-15.
- Schramel, Franz J., C. G. Den Hertog, and W. F. Brok, to North American Philips Co., Inc. Device to shift a block signal to a given mean phase and to hold it therein with respect to the pulse instants of an incoming pulse sequence. 3,112,363, 11-26-63, Cl. 178-53.1.
- Schramm, Albert A. Portable platform step for stepladders. 3,078,950, 2-26-63, Cl. 182-120.
- Schramm, Arthur G. Self-loading and dumping trailer. 3,092,273, 6-4-63, Cl. 214-504.
- Schramm, Arthur G. Steerable dolly. 3,105,704, 10-1-63, Cl. 280-443.
- Schramm, Elmer H.: *See*—  
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- Schramm, Harry B.: *See*—  
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- Schramm, Jacob H., to Westinghouse Electric Corp. Non-magnetic iron-base alloys. 3,081,164, 3-12-63, Cl. 75-123.
- Schramm, James N., and P. A. Wolf, to The Dow Chemical Co. Microbiocidal resinous compositions. 3,105,060, 9-24-63, Cl. 260-45.75.
- Schramm, Paul, L. Fecht, J. K. Baars, and J. Muskat, to Nederlandse Organisatie voor Toegenast-Natuurwetenschappelijk Onderzoek ten behoeve van de Volksgezondheid. Aeration apparatus. 3,109,875, 11-5-63, Cl. 261-92.
- Schrank, Harry P. Tubeless tire with puncture sealing device. 3,090,416, 5-21-63, Cl. 152-347.
- Schraufstatter, Ernst: *See*—  
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- Schraufstatter, Ernst, and R. Gonnert, to Farbenfabriken Bayer Aktiengesellschaft. Method of combating gastropods. 3,079,297, 2-26-63, Cl. 167-31.
- Schreffler, Robert Z.: *See*—  
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- Schreiber, Bruno: *See*—  
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- Schreiber, Carl W., to Owens-Illinois Glass Co. Universal automatic ware loading machine and method. 3,100,051, 8-6-63, Cl. 214-1.
- Schreiber, Carl W., to Owens-Illinois Glass Co. Universal automatic ware loading machine. 3,101,151, 8-20-63, Cl. 214-1.
- Schreiber, Franz: *See*—  
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- Schreiber, Peter, and E. Egid, to O. H. Drager. Narcosis apparatus. 3,107,689, 10-22-63, Cl. 137-599.1.
- Schreiber, Robert E., to Boeing Airplane Co. Shock relief plates. 3,070,998, 1-1-63, Cl. 73-147.
- Schreiner, John R.: *See*—  
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- Schreiner, Kenneth E.: *See*—  
Havens, Byron L., Fleming, and Schreiner. 3,076,180.
- Schreiner, Kenneth E., to International Business Machines Corp. Information-handling apparatus and method. 3,071,738, 1-1-63, Cl. 33-11.
- Schreiner, Kenneth E., to International Business Machines Corp. Storage register. 3,108,193, 10-22-63, Cl. 307-88.
- Schrenk, Walter J., and K. J. Cleereman, to The Dow Chemical Co. Backflow restrictor for extruders. 3,115,674, 12-31-63, Cl. 18-12.
- Schreter, Arnold H. Bow tie construction. 3,106,720, 10-15-63, Cl. 2-151.
- Schreuder, Thomas R., and H. G. Reichel, to Swift & Co. Classifying means. 3,075,289, 1-29-63, Cl. 33-121.
- Schreur, Clarence: *See*—  
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- Schrewe, Hans: *See*—  
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- Schrewe, Hans, and W. Stellmacher, to Mannesmann Aktiengesellschaft. Mechanism for guiding a burner for cutting metal lengths in continuous casting. 3,078,083, 2-19-63, Cl. 266-23.
- Schreyer & Co.: *See*—  
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Girz, Alexander. 3,115,845.
- Schreyer, Kenneth D., to Columbus McKinnon Corp. Free link conveyor power chain. 3,074,355, 1-22-63, Cl. 104-172.
- Schreyer, Kenneth D., to Columbus McKinnon Corp. Trolley track. 3,086,478, 4-23-63, Cl. 104-108.
- Schreyer, Kenneth D., and C. J. Manney, to Columbus McKinnon Corp. Loose material feeder. 3,071,238, 1-1-63, Cl. 198-172.
- Schreyer, Kenneth D., and R. W. Farren, to Columbus McKinnon Corp. Conveyor trolley interlocking pusher and cam system. 3,081,712, 3-19-63, Cl. 104-172.
- Schreyer, Kenneth D., and H. F. Parker, to Columbus McKinnon Corp. Combination rail for trolley conveyors. 3,103,184, 9-10-63, Cl. 104-108.
- Schreyer, Ralph C., to E. I. du Pont de Nemours and Co. Stabilized tetrafluoroethylene-fluoroolefin copolymers having —CF<sub>2</sub>H end groups. 3,085,083, 4-9-63, Cl. 260-87.5.
- Schreyer, Ralph C., to E. I. du Pont de Nemours and Co. Preparation of dicarboxylic acid nitriles. 3,092,654, 6-4-63, Cl. 260-465.8.
- Schrier, Israel, to Bausch & Lomb Inc. Mold construction for casting thermosetting plastics of accurately controlled shape. 3,070,846, 1-1-63, Cl. 18-39.
- Schriesheim, Alan: *See*—  
Glaser, Marvin B., and Schreisheim. 3,071,635.
- Schrimpf, Henry W., to Minneapolis-Honeywell Regulator Co. Electrical apparatus for certifying magnetic tape. 3,088,101, 4-30-63, Cl. 340-174.1.
- Schroder, Allen S. Water timing distributing valve. 3,108,609, 10-29-63, Cl. 137-119.
- Schröder, Hubert, to Jenaer Glaswerk Schott & Gen. Transparent, conductive, reflection-reducing coatings on non-conductive objects and method. 3,094,436, 6-18-63, Cl. 117-215.
- Schröder, Johann F., to C. C. Egelhaaf, Kommanditgesellschaft. Threading and guiding means for the weft thread in shuttles with automatic ejection of the cop residue. 3,082,796, 3-26-63, Cl. 139-198.
- Schroder, William J.: *See*—  
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- Schroedel, Rudolf: *See*—  
Tartel, Arnold, Rohland, Ludsteck, and Schroedel. 3,096,340.
- Schroeder, Carl E., to Continental Oil Co. Storage installation. 3,096,902, 7-9-63, Cl. 220-18.
- Schroeder, Carl J., and T. F. Doll, to Standard Oil Co. Skimming apparatus. 3,081,879, 3-19-63, Cl. 210-523.
- Schroeder, Collin H.: *See*—  
Wiener, Charles, Schroeder, and Link. 3,097,213.
- Schroeder, Collin H., and K. P. Link, to Wisconsin Alumni Research Foundation. Warfarin sodium. 3,077,481, 2-12-63, Cl. 260-343.2.
- Schroeder, Earle E.: *See*—  
Lipe, Bruce R., and Schroeder. 3,079,865.
- Schroeder, Earle E., to Allis-Chalmers Mfg. Co. Transformer oil circulating pump. 3,073,247, 1-15-63, Cl. 103-87.
- Schroeder, Earle E., to Allis-Chalmers Mfg. Co. Adjustable seal for pumps. 3,101,671, 8-27-63, Cl. 103-103.
- Schroeder, Elmer F., to G. D. Searle & Co. 3,6,8-triketopyrimido [5,4-] 1,4-thiazines and process. 3,080,364, 3-5-63, Cl. 260-243.
- Schroeder, Elmer F., to G. D. Searle & Co. 5-carbamoylmethylthio-6-aminouracil and derivatives thereof. 3,080,370, 3-5-63, Cl. 260-256.5.
- Schroeder, Everett H., to Kollsman Instrument Corp. Integrated flight instrument system. 3,112,644, 12-3-63, Cl. 73-178.
- Schroeder, Frederick R., to Trico Products Corp. Wiper arm testing device or the like. 3,115,035, 12-24-63, Cl. 73-141.
- Schroeder, George, and R. Y. Paradise, to General Precision Inc. Synchro to digital converter. 3,071,324, 1-1-63, Cl. 235-154.
- Schroeder, George O., to American Can Co. Container. 3,099,378, 7-30-63, Cl. 229-5.5.
- Schroeder, Hansjuergen A., to Olin Mathieson Chemical Corp. Alkyl, aryl substituted melems. 3,089,875, 5-14-63, Cl. 260-249.6.



- Schroeder, Herbert F.: *See*—  
Sanders, Hiram R., Jr., Kennedy, and Schroeder. 3,110,584.
- Schroeder, Herbert M., and J. A. Pawlak, to Textron Inc. Liquid condensation product of a drying oil, a polyalkandl, and a polyoxyethylene polyol. 3,100,157, 8-6-63, Cl. 106—287.
- Schroeder, John O., to Radio Corp. of America. Radio signal receivers. 3,114,004, 12-10-63, Cl. 179—15.
- Schroeder, Lester A. Snow and ice removal tool. 3,091,790, 6-4-63, Cl. 15—105.
- Schroeder, Manfred R.: *See*—  
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Logan, Benjamin F., Jr., and Schroeder. 3,110,771.
- Schroeder, Manfred R., to Bell Telephone Laboratories, Inc. Time domain vocoder. 3,071,652, 1-1-63, Cl. 179—15.55.
- Schroeder, Manfred R., to Bell Telephone Laboratories, Inc. Autocorrelation vocoder equalizer. 3,091,665, 5-28-63, Cl. 179—15.55.
- Schroeder, Manfred R., to Bell Telephone Laboratories, Inc. Vocoder excitation generator. 3,109,928, 9-3-63, Cl. 179—1.
- Schroeder, Manfred R., to Bell Telephone Laboratories, Inc. Automatic measurement of reverberation time. 3,111,186, 11-19-63, Cl. 181—5.
- Schroeder, Robert: *See*—  
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- Schroeder, Robert C., and D. D. Wood, to Sparton Corp. Freight bracing apparatus. 3,114,335, 12-17-63, Cl. 105—369.
- Schroeder, Robert C., and D. D. Wood, to Sparton Corp. Simplified freight bracing apparatus. 3,114,336, 12-17-63, Cl. 105—369.
- Schroeder, Robert C., and D. D. Wood, to Sparton Corp. Freight-bracing apparatus. 3,114,338, 12-17-63, Cl. 105—369.
- Schroeder, Robert E., and F. E. Smithberg, to Dukane Corp. Recording-reproducing machine. 3,097,907, 7-16-63, Cl. 346—17.
- Schroeder, Robert J., to Allis-Chalmers Mfg. Co. Bucket structure. 3,093,917, 6-18-63, Cl. 37—141.
- Schroeder, Samuel A.: *See*—  
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- Schroeder, Wayne A., to Chase Bag Co. Plastic liner insert-ing machine. 3,074,325, 1-22-63, Cl. 93—8.
- Schroeder, William: *See*—  
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- Schroeder, William, to Acme Steel Co. Pallet rack. 3,106,297, 10-8-63, Cl. 211—148.
- Schroeder, William, C. Lewis, H. Hoeksema, T. E. Eble, and B. Bannister, to The Upjohn Co. Acylated psicofuranosyladenines. 3,079,378, 2-26-63, Cl. 260—211.5.
- Schroeder, William F. Tide indicator. 3,099,159, 7-30-63, Cl. 73—322.
- Schroemges, Henry. Fold-down extension table. 3,080,832, 3-12-63, Cl. 108—13.
- Schroer, Charles A., D. C. Swanson, and F. Steedly, to Kaiser Aluminum Chemical Corp. Metallurgy. 3,111,732, 11-26-63, Cl. 22—209.
- Schröer, Karl, and W. Bratunyl, to Kieler Howaldtswerke Aktiengesellschaft. Mounting hatch for submarine vessels. 3,090,341, 5-21-63, Cl. 114—201.
- Schroeter, Louis C., and G. A. Boyack, to The Upjohn Co. Antifungal cycloheximide starch inclusion compositions. 3,092,546, 6-4-63, Cl. 167—42.
- Schrom, Archie M. Dispensing carton. 3,102,675, 9-3-63, Cl. 229—20.
- Schroter, Fritz, to Ringsdorf-Werke G.m.b.H. Impulse counter. 3,077,546, 2-12-63, Cl. 310—49.
- Schroter, Kurt, and F. Grosse-Scharmann. Walker-type motor vehicle. 3,109,506, 11-5-63, Cl. 180—8.
- Schrougham, Benton. Bird restraining and releasing device. 3,080,850, 3-12-63, Cl. 119—15.6.
- Schrougham, Benton. Heel splash guard. 3,102,346, 9-3-63, Cl. 36—70.
- Schubert, Bernhard: *See*—  
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- Schubert, Dale L., ½ to Industrial Development Co., Inc. Disc-type wood reducer with multiple feed. 3,101,756, 8-27-63, Cl. 144—176.
- Schubert, Dale L., ½ to Industrial Development Co., Inc. Continuous ball-bearing-type press for making composition board, plywood and like products. 3,111,149, 11-19-63, Cl. 144—281.
- Schubert, Francis L.: *See*—  
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- Schubert, Frank R.: *See*—  
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- Schubert, Friedrich: *See*—  
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- Schubert, Friedrich, K. Lang, W. Schabacher, and A. Burger, to Farbenfabriken Bayer Aktiengesellschaft. Method for preparing alkali-metal borohydrides. 3,077,376, 2-12-63, Cl. 23—14.
- Schubert, Karl P.: *See*—  
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Beacom, Robert, and Schubert. 3,103,840.
- Schubert, Kurt, and W. Brill, to Siemens & Halske Aktiengesellschaft. Device for cooling high capacity transmitter tubes. 3,113,614, 12-10-63, Cl. 165—67.
- Schuchardt, Lee F., to Merck & Co., Inc. Preparing a mixed polio, pertussis, tetanus, and diphtheria vaccine with benze-thonium chloride. 3,097,140, 7-9-63, Cl. 167—78.
- Schuchardt, Lee F., and S. M. Zulick, to Merck & Co., Inc. Benzyl alcohol stabilized polio vaccines and production thereof. 3,097,142, 7-9-63, Cl. 167—78.
- Schuchardt, Lee F., and S. M. Zulick, to Merck & Co., Inc. Myristyl-gamma-picolinium chloride preserved polio vaccine and its production. 3,097,143, 7-9-63, Cl. 167—78.
- Schuck, Charles W.: *See*—  
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- Schuck, Oscar H., to Minneapolis-Honeywell Regulator Co. Aeronautical apparatus and method. 3,082,324, 3-19-63, Cl. 250—83.3.
- Schuck, Oscar H., to Minneapolis-Honeywell Regulator Co. Variable focus transducer. 3,090,030, 5-14-63, Cl. 340—16.
- Schucke, Horst: *See*—  
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- Schuder, Charles B., to Fisher Governor Co. Pneumatic valve positioner. 3,082,782, 3-26-63, Cl. 137—85.
- Schudt, Hans. Machine for peeling cucumbers or other elongated vegetables or fruits. 3,115,914, 12-31-63, Cl. 146—43.
- Schueler, Arthur W., to Precision Welder and Flexopress Corp. Magnetic force welders. 3,099,739, 7-30-63, Cl. 219—86.
- Schueller, Otto, to United States of America, Air Force. Multi-purpose space capsule. 3,073,040, 1-15-63, Cl. 53—12.
- Schueller, Otto, to United States of America, Air Force. Aerospace environment simulator. 3,084,454, 4-9-63, Cl. 35—12.
- Schuermann, Fritz, and R. Novotny. Method of fixing anchor bolts in the drill holes. 3,108,443, 10-29-63, Cl. 61—45.
- Schuessler Knitting Mills, Inc.: *See*—  
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- Schuessler, Levyn R. Mailing unit. 3,073,509, 1-15-63, Cl. 229—73.
- Schuessler, Levyn R. Bookkeeping sheet and units. 3,081,112, 3-12-63, Cl. 283—66.
- Schuessler, Walter E., to Schuessler Knitting Mills, Inc. Cap and tie cord combination. 3,109,176, 11-5-63, Cl. 2—201.
- Schuetz, John H., to Invincible Metal Furniture Co. Desk with detachable leg portions. 3,088,785, 5-7-63, Cl. 312—195.
- Schuetz, Harold F.: *See*—  
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- Schuetz, James W., to Blaw-Knox Co. Mandrel bar steadier. 3,101,015, 8-20-63, Cl. 80—11.
- Schuetze, Bryan D.: *See*—  
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- Schuffler, Max: *See*—  
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- Schuffman, Oscar: *See*—  
Wilson, Christopher L., and Schuffman. 3,093,525.
- Schufte, Joseph A., to Aqua-Lonics, Inc. Electrodialysis cell. 3,091,583, 5-28-63, Cl. 204—301.
- Schuftan, Paul M., to The British Oxygen Co. Ltd. Improved process for the separation of air to produce a desired separation product in the gaseous phase under pressure. 3,110,155, 11-12-63, Cl. 62—30.
- Schuhmann, Hans: *See*—  
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- Schuhmaschinen-Gesellschaft Hanke & Co. m.b.H.: *See*—  
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- Schulenberg, Franz, to Gea-Luftkühler-Gesellschaft m.b.H. Air-cooled surface condenser. 3,073,575, 1-15-63, Cl. 165—146.
- Schulde, Felix: *See*—  
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- Schuler, Emil H.: *See*—  
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- Schuler, Robert C. and E. H. Bookmaking machine. 3,089,534, 5-14-63, Cl. 156—357.
- Schulerud, Albert L.: *See*—  
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- Schulkes, Johannes A.: *See*—  
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- Schuller, James T.: *See*—  
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- Schuller, Kurt, to Fichtel & Sachs A.G. Three-speed coaster brake. 3,102,436, 9-3-63, Cl. 74—750.
- Schuller, Walter H., and R. V. Lawrence, to United States of America, Agriculture. Dibasic acid from photolevo-pimaric acid. 3,086,989, 4-23-63, Cl. 260—514.
- Schuller, Werner H. W.: *See*—  
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- Schuller, Werner H. W. Method and apparatus for produc-ing a dry mat sheet. 3,087,830, 4-30-63, Cl. 117—32.
- Schulman, Daniel, to Caldwell Research, Inc. Target and circuit. 3,112,110, 11-26-63, Cl. 273—102.2.
- Schulman, James H. Thermoluminescent radiation dosimeter. 3,115,578, 12-24-63, Cl. 250—71.
- Schulman, Norman. Knee cap brace. 3,074,400, 1-22-63, Cl. 128—165.
- Schulstad, Robert J. Tooth banding mechanism. 3,081,543, 3-19-63, Cl. 32—63.
- Schult, Joachim C. E., and M. O. Shrader, deceased (L. H. Shrader, administratrix), to Pittsburgh Chemical Co. Preparation of terephthalaldehyde from xylene dichloride. 3,089,908, 5-14-63, Cl. 260—599.



- Schulte, Erich, and E. Hein, to Siemens, Siegener Maschinenbau G.m.b.H. Continuous rolling mill. 3,110,204, 11-12-63, Cl. 80-35.
- Schulte, Harry J. Jr., to Bell Telephone Laboratories, Inc. Magnetic comparison circuit. 3,072,800, 1-8-63, Cl. 307-8.8.
- Schulte, Harry J., Jr., to Bell Telephone Laboratories, Inc. Sequential circuits employing magnetic elements. 3,086,124, 4-16-63, Cl. 307-8.8.
- Schulte-Huermann, Werner, and H. Schnell,  $\frac{1}{2}$  to Farbenfabriken Bayer Aktiengesellschaft, and  $\frac{1}{2}$  to Mobay Chemical Co. Polyethers from aryl halides and organic diols. 3,076,784, 2-5-63, Cl. 260-47.
- Schulte, Karl: See—
- Enenkel, Hans J., Muller, and Schulte. 3,104,241.
- Schulte, Karl, H. Müller, and H.-G. Kraft, to E. Merck Aktiengesellschaft. Cyclohexane derivatives. 3,100,205, 8-6-63, Cl. 260-247.2.
- Schulte, Rudolf R. Drainage device. 3,111,125, 11-19-63, Cl. 128-350.
- Schulten, Rudolf, W. Guth, A. Setzwein, H. Braun, and G. Berberich, to Brown, Boveri & Cie Aktiengesellschaft. Heterogeneous nuclear reactor. 3,089,835, 5-14-63, Cl. 201-193.2.
- Schultes, A. C., & Sons, Inc.: See—
- Schultes, James F. 3,092,189.
- Schultes, James F., to A. C. Schultes & Sons, Inc. Core device. 3,092,189, 6-4-63, Cl. 175-77.
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- Schultz, Alfred W.: See—
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- Schultz, Arnold J. Floating marine fuel supply terminal. 3,076,205, 2-5-63, Cl. 9-8.
- Schultz, Arnold J. Floating off-shore terminal. 3,077,615, 2-19-63, Cl. 9-8.
- Schultz, Arthur D.: See—
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- Schultz, Carl E. Variable strength permanent magnets. 3,079,535, 2-26-63, Cl. 317-201.
- Schultz, Curtis J., to Motorola, Inc. Tape feeding and storage device. 3,094,293, 6-18-63, Cl. 242-55.01.
- Schultz, Daniel A.: See—
- Davis, Curtis W., Jr., Carney, Kurick, and Schultz. 3,107,463.
- Schultz, Donald E.: See—
- Kauffman, William M. Metzger, and Schultz. 3,114,358.
- Schultz, Earl K., Jr. Battery and clamp protector. 3,105,567, 10-1-63, Cl. 180-68.5.
- Schultz, Edward H., Jr., to Nagel-Chase Mfg. Co. Sheave. 3,094,881, 6-25-63, Cl. 74-230.8.
- Schultz, Eugene A., to Crane Packing Co. Automatic lap sensing and correcting device. 3,101,575, 8-27-63, Cl. 51-129.
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- Schultz, Forrest O. E., to Midland-Ross Corp. Moisture ejection valve. 3,101,091, 8-20-63, Cl. 137-204.
- Schultz, Franklin G. Roll feed device. 3,095,130, 6-25-63, Cl. 226-108.
- Schultz, Fred J., and S. S. Kershaw, Jr., to McGraw-Edison Co. Lightning arrester isolator devices. 3,111,606, 11-19-63, Cl. 317-70.
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- Schultz, Frederick J.: See—
- Parmele, Harris B., Schultz, and Jensen. 3,112,755.
- Schultz, Gerald W. Apparatus for extracting buried objects. 3,103,076, 9-10-63, Cl. 37-2.
- Schultz, Gunter: See—
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- Schultz, Harold B., to The Bendix Corp. Full power hydraulic servomotor. 3,074,333, 1-22-63, Cl. 121-38.
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- Schultz, Harold R., Sr., and R. E. Mason, to Hughes Aircraft Co. TWT arcing suppressor using temporary shunting thyatron and long duration disabling circuit. 3,084,284, 4-2-63, Cl. 328-9.
- Schultz, Herbert C., to Raymond International Inc. Lining of pipes including lining machine with belt drive trowels. 3,108,348, 10-29-63, Cl. 25-38.
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- Schultz, Herman S., J. P. Copes, and R. L. Mayhew, to General Aniline & Film Corp. Process of preparing 4-substituted-2-morpholones. 3,073,822, 1-15-63, Cl. 260-247.7.
- Schultz, Jerald. Cam generating mechanism. 3,080,795, 3-12-63, Cl. 90-18.
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- Schultz, Julius B., to Ford Motor Co. Independent vehicle suspension. 3,073,617, 1-15-63, Cl. 280-96.2.
- Schultz, Julius B., to Ford Motor Co. Vehicle suspension system. 3,086,792, 4-23-63, Cl. 280-96.2.
- Schultz, Melvin L., and W. E. Hart, to Radio Corp. of America. Germanium silicon alloy semiconductor detector for infrared radiation. 3,105,906, 10-1-63, Cl. 250-83.3.
- Schultz, Mortimer A., and G. W. Nagel, to Westinghouse Electric Corp. Indicational system for electromagnets. 3,103,653, 9-10-63, Cl. 340-248.
- Schultz, Moses R., to Knoll Associates, Inc. Table and top with petal-simulating sections. 3,073,660, 1-15-63, Cl. 311-101.
- Schultz, Ralph L., to Victor Adding Machine Co. Record tape feed mechanism for business machines. 3,075,626, 1-29-63, Cl. 197-114.
- Schultz, Raymond F., E. J. O'Toole, and R. E. Widdowson, to General Motors Corp. Automobile refrigerating apparatus. 3,107,503, 10-22-63, Cl. 62-217.
- Schultz, Robert A., to United States Steel Corp. Apparatus for synchronizing the speed of strip sampling punch and continuously travelling strip. 3,075,419, 1-29-63, Cl. 83-295.
- Schultz, Robert A., to United States Steel Corp. Cable reel for a continuously travelling strip sampling apparatus. 3,075,420, 1-29-63, Cl. 83-298.
- Schultz, Robert A., to United States Steel Corp. Strip clamping and cam mechanisms for a strip sampling punch. 3,075,422, 1-29-63, Cl. 83-319.
- Schultz, Robert A., to United States Steel Corp. Breaker-block system for mill rolls. 3,101,636, 8-27-63, Cl. 80-57.
- Schultz, Robert D., to Aerojet-General Corp. Method for the preparation of diborane. 3,112,180, 11-26-63, Cl. 23-204.
- Schultz, Robert G., and V. R. Gaertner, to Monsanto Chemical Co. Dielectric compositions and process. 3,089,987, 5-14-63, Cl. 317-258.
- Schultz, Robert S., to American Can Co. Collapsible tube. 3,073,485, 1-15-63, Cl. 222-92.
- Schultz, Robert S., and A. K. Grimsley, to American Can Co. Dispenser and applicator. 3,106,742, 10-15-63, Cl. 15-565.
- Schultz, Silas L. Illuminated sprinkler. 3,104,815, 9-24-63, Cl. 239-19.
- Schultz, Warner W., to General Electric Co. Identifying plant and animal deficiencies by radioactive means. 3,094,621, 6-18-63, Cl. 250-83.3.
- Schultz, Werner F., and W. G. Herridge, Jr., to General Motors Corp. Safety switch. 3,110,780, 11-12-63, Cl. 200-61.5.
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- Schulz, Charles M., to American Can Co. Can divider. 3,098,552, 7-23-63, Cl. 198-31.
- Schulz, Donald F., to Hewlett-Packard Co. Transistor amplifier having low output noise. 3,100,876, 8-13-63, Cl. 330-17.
- Schulz, Eugen: See—
- Finsterwalder, Ulrich. 3,114,302.
- Schulz, Eugene K. Propulsion unit for boats. 3,105,353, 10-1-63, Cl. 60-35.54.
- Schulz, George, to Gits Bros. Mfg. Co. Shaft seal. 3,093,381, 6-11-63, Cl. 277-8.
- Schulz, George A. Baseball game device. 3,101,197, 8-20-63, Cl. 273-89.
- Schulz, Guenther, to Joh A. Benckiser, G.m.b.H. Chemische Fabrik. Process of producing citric acid. 3,086,928, 4-23-63, Cl. 204-72.
- Schulz, Johan G. D.: See—
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- Schulz, Kathryn M. Container assembly for plant husbandry. 3,082,575, 3-26-63, Cl. 47-37.
- Schulz, Kurt W. Acoustical tile or the like and its manufacture. 3,074,505, 1-22-63, Cl. 181-33.
- Schulz, Otto: See—
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- Schulz, Paul, and G. Janus, to Siemens & Halske Aktiengesellschaft. Television receiver comprising an optical filter. 3,078,343, 2-19-63, Cl. 178-7.85.



- Schulz, Peter R., to International Business Machines Corp. Electrical circuit board with component standoff. 3,089,062, 5-7-63, Cl. 317-101.
- Schulz, Richard, to Voigt & Haefner A.G. Air blast circuit breakers. 3,072,767, 1-8-63, Cl. 200-148.
- Schulz, Richard, to Voigt & Haefner A.G. Pneumatic controls for high-voltage air blast circuit breakers. 3,073,932, 1-15-63, Cl. 200-148.
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- Schulz, Wolfgang. Wood impregnating compositions and process. 3,083,138, 3-26-63, Cl. 167-38.5.
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- Schulze and Burch Biscuit Co.: See—  
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- Schulze, Eleonore B. K.: See—  
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- Schulze, Herman H.: See—  
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- Schulze, Herman H., to Avco Corp. Snapping bars for corn picker snapping rolls. 3,090,388, 5-21-63, Cl. 130-5.
- Schulze, Karl L. Tricking filter. 3,113,102, 12-3-63, Cl. 210-150.
- Schulze, Robert E., D. J. Dicktel, and E. G. Kreusch, to Culligan, Inc. Hydrosulfite and chlorine treatment of ion exchange material in an iron removal unit. 3,078,224, 2-19-63, Cl. 210-30.
- Schulze, Robert E., and D. J. Dicktel, to Culligan, Inc. Water conditioning tank and liner therefor. 3,081,905, 3-19-63, Cl. 220-63.
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- Schulze, Robert E., and E. J. Heartstedt, to Culligan, Inc. Chemical solution tank and means for controlling chemical dosage. 3,089,508, 5-14-63, Cl. 137-433.
- Schulze, William A., and D. B. Speed, to E. I. du Pont de Nemours and Co. Preparation of aqueous potassium silicate solutions. 3,077,889, 2-12-63, Cl. 23-312.
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- Schumacher, Fred J. Mitten holding, stretching and shaping device. 3,096,008, 7-2-63, Cl. 223-78.
- Schumacher, Rudolf, to Basic Products Corp. Power supply apparatus. 3,091,730, 5-28-63, Cl. 321-16.
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- Schumann, Robert H. Tractor wheel mover. 3,070,877, 1-1-63, Cl. 29-267.
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- Schunk, Henry F., and J. M. Welty, to Automatic Records, Inc. Data processing system. 3,084,854, 4-9-63, Cl. 224-33.
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- Schupp, Arthur A., Jr., and H. K. Forsen, to General Dynamics Corp. Resistor. 3,075,162, 1-22-63, Cl. 338-280.
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- Schur, Milton O., to Olin Mathieson Chemical Corp. Packaging film. 3,097,787, 7-16-63, Cl. 229-53.
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- Schurr, Charles A., to Square D Co. Control circuit. 3,084,310, 4-2-63, Cl. 317-123.
- Schurr, Charles A., and C. B. Sanborn, Jr., to Square D Co. Motor control. 3,076,126, 1-29-63, Cl. 318-207.
- Schurr, Charles A., and F. A. Manners, to Square D Co. Rolling mill control. 3,104,566, 9-24-63, Cl. 80-56.
- Schussler, Mortimer, and W. R. Benn, to Union Carbide Corp. Production of titanium-base alloy. 3,071,461, 1-1-63, Cl. 75-135.
- Schussler, Robert J. Automatic punch can opener. 3,100,341, 8-13-63, Cl. 30-4.
- Schustack, Robert. Anti-backlash device for knitting machines. 3,099,418, 7-30-63, Cl. 242-129.8.
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- Schuster, William T., 1/2 to A. G. Schuster. Water-supplying device for storage batteries. 3,082,286, 3-19-63, Cl. 136-162.
- Schut, Robert N., to Miles Laboratories, Inc. Hydroindole [2,3]quinolizines. 3,087,930, 4-30-63, Cl. 260-288.
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- Schutte, Rudolf, to North American Philips Co., Inc. Arrangement for the stereophonic reproduction of signals. 3,087,994, 4-30-63, Cl. 179-15.
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- Schutz, Gerald C., to United States of America, Air Force. Radar map guidance system. 3,071,765, 1-1-63, Cl. 343-7.
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- Schutz, Thomas A., Co., Inc.: See—  
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- Schutze, Henry G., and A. D. Suttle, Jr., to Esso Research and Engineering Co. Reactions of olefins by radiation. 3,071,524, 1-1-63, Cl. 204-154.
- Schutze, Henry G., A. T. Watson, and A. D. Suttle, Jr., to Esso Research and Engineering Co. Catalytic olefin polymerization method. 3,105,024, 9-24-63, Cl. 204-162.
- Schwab, Bruno, to Hergeth K.G. Maschinenfabrik u. Apparatebau. Apparatus for regulating the density of cotton fed to cleaning and opening machines in cotton and fibre spinning. 3,070,847, 1-1-63, Cl. 19-204.
- Schwab, Carl E., to Hazeltine Research, Inc. Radar testing apparatus. 3,083,361, 3-26-63, Cl. 343-17.7.
- Schwab, Carl M., G. G. Grimmer, and T. G. Garwood, to Otis Engineering Corporation. Nipple with lateral port control. 3,075,586, 1-29-63, Cl. 166-224.
- Schwab, Charles L.: See—  
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- Schwan, Judith A.: *See*—  
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- Schwaneke, Fred C., and E. J. Sheehan; said Sheehan assor. to W. D. Harbaugh. Sail rigging. 3,099,976, 8-6-63, Cl. 114-91.
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- Schwartz, Albert B., to Socony Mobil Oil Co., Inc. Isomerization catalyst and method for manufacture thereof. 3,115,532, 12-24-63, Cl. 260-683.65.
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- Schwartz, Daniel M., T. N. Hackett, and D. I. McCallum, deceased (by L. C. McCallum, administratrix), to The Elmco Corp. Material handling machine. 3,081,890, 3-19-63, Cl. 214-131.
- Schwartz, Daniel M., T. N. Hackett, and J. Rosenblatt, to The Elmco Corp. Endless tread vehicle having a pump mounted thereon. 3,085,643, 4-16-63, Cl. 180-53.
- Schwartz, Daniel S., to Gulton Industries, Inc. Piezoelectric transducer. 3,076,903, 2-5-63, Cl. 310-8.3.
- Schwartz, Daniel S., to Gulton Industries, Inc. Device for measurement of high temperature. 3,115,779, 12-31-63, Cl. 73-362.
- Schwartz, Earl S., to H. Kramer & Co. Ingot and package utilizing same. 3,097,741, 7-16-63, Cl. 206-65.
- Schwartz, Ernest H. Conveyor door and loading platform. 3,104,748, 9-24-63, Cl. 193-33.
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- Schwartz, Frederick W., to Cable Electric Products, Inc. Electrical connector. 3,099,505, 7-30-63, Cl. 339-95.
- Schwartz, Harold O., A. C. Ippolito, and W. V. Machanian, to The Wurlitzer Co. Sound generating means. 3,095,467, 6-25-63, Cl. 84-1.25.
- Schwartz, Hyman. Metal cleaning compositions. 3,095,379, 6-25-63, Cl. 252-101.
- Schwartz, Ira, to Techniservice Corp. Strand-crimping apparatus. 3,090,096, 5-21-63, Cl. 28-1.
- Schwartz, Ira W., to Sayco Doll Corp. Movable doll's hand. 3,071,893, 1-8-63, Cl. 46-163.
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- Schwartz, Jerry H.: *See*—  
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- Schwartz, Kenneth, and R. E. Sussman, to Medallion Corp. Webbing strip connector for metallic furniture. 3,088,517, 5-7-63, Cl. 160-184.
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- Schwartz, Louis J., C. and I. Cangelosi. Button holder for sewing machine. 3,099,971, 8-6-63, Cl. 112-114.
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- Schwartz, Marcus, to S. & S. Industries, Inc. Adjusting strap buckle. 3,075,268, 1-29-63, Cl. 24-200.
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- Schwartz, Murray. Amusement toy. 3,083,970, 4-2-63, Cl. 273-99.
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- Schwartz, Nathan R., to Swiveller Co., Inc. Recessible lighting fixture for lamp having plug terminals. 3,097,800, 7-16-63, Cl. 240-78.
- Schwartz, Norman J., to Heinemann Electric Co. Interconnected circuit breakers. 3,098,910, 7-23-63, Cl. 200-106.
- Schwartz, Norman J., A. D. Lisnay, and R. B. Heilman, to Heinemann Electric Co. Circuit breaker. 3,079,479, 2-26-63, Cl. 200-106.
- Schwartz, Norman J., and H. H. Goldblatt, to Heinemann Electric Co. Interconnected circuit breakers. 3,098,911, 7-23-63, Cl. 200-106.
- Schwartz, Norman O. Corn picker. 3,070,939, 1-1-63, Cl. 56-18.
- Schwartz, Robert. Pinless diaper. 3,089,494, 5-14-63, Cl. 128-284.
- Schwartz, Robert A. D., and S. W. Lindheim. Lighting fixture with ceiling panel supporting element. 3,085,152, 4-9-63, Cl. 240-51.11.
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- Schwartz, Samuel. Ventriculo-venous shunt device for treatment of hydrocephalus. 3,109,429, 11-5-63, Cl. 128-350.
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- Schwarz, Adolf, to General Motors Corp. By-pass valve thermostat. 3,092,322, 6-4-63, Cl. 236-34.5.
- Schwarz, Arthur H., and R. W. Wallace, to United States of America, Navy. Self-winding arming and sterilizing mechanism for a mine. 3,115,834, 12-31-63, Cl. 102-18.
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- Schwarz, Frank, to Barnes Engineering Co. Radiation detector systems. 3,081,399, 3-12-63, Cl. 246-169.
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- Schwarz, Paul. Knife cleaner. 3,094,730, 6-25-63, Cl. 15-210.
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- Schwarze, Werner, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Novel amino chlorosulfonyl-s-triazines, their hydrochlorides and process for their production. 3,106,555, 10-8-63, Cl. 260—249.5.
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- Schwieler, Willi, and W. Wolf, to Ford Motor Co. Motor vehicle front end structure. 3,086,606, 4-23-63, Cl. 180—68.
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- Schyns, Pierre, to Etablissements Callebaut-De Blicquy, société anonyme. Apparatus for treating textile products by means of liquids. 3,092,990, 6-11-63, Cl. 68—189.
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- Scognamiglio, Frank. Rotary machine. 3,098,451, 7-23-63, Cl. 103—136.
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- Scott, Edward L. Handle construction for ski poles. 3,085,814, 4-16-63, Cl. 280—11.37.
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- Scott, Joseph D., W. W. Toy, and D. E. Madge, to Rohm & Haas Co. Graft copolymer of an acrylic ester with poly(vinyl acetate). 3,083,172, 3-26-63, Cl. 260—29.6.
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- Scott, Michael W.: *See*—  
Cook, William W., Gibson, Roberts, and Scott. 3,072,999.
- Scott, O. M., & Sons Co., The: *See*—  
Peoples, Virgil H. 3,101,975.  
Rausch, Clarence W. 3,097,459.  
Renner, Victor. 3,083,089.  
Renner, Victor A. 3,076,699.  
Renner, Victor A. 3,076,700.  
West, John R. 3,114,481.
- Scott Paper Co.: *See*—  
Conrad, Frank G., Jr. 3,096,948.  
Dudley, Elizabeth. 3,106,207.
- Scott, Paul T.: *See*—  
McCord, Eugene B., and Scott. 3,091,510.
- Scott, Paul T., to E. I. du Pont de Nemours and Co. Melt spinning process for producing hollow-core filament. 3,095,258, 6-25-63, Cl. 18—54.
- Scott, Paul T., to E. I. du Pont de Nemours and Co. Textile. 3,110,617, 11-12-63, Cl. 117—138.8.
- Scott, Peter J.: *See*—  
Weinstein, Sidney M., and Scott. 3,097,047.
- Scott, Richard, B. Brightman, and J. C. Perkins, Jr., to General Dynamics Corp. Time division multiplex transmission system. 3,111,557, 11-19-63, Cl. 179—15.
- Scott, Robert G., to Brasco Mfg. Co. Locking mechanism and panic actuating device. 3,083,560, 4-2-63, Cl. 70—92.
- Scott, Robert G., to Brasco Mfg. Co. Two-way locking device. 3,086,383, 4-23-63, Cl. 70—156.
- Scott, Roland J. Drawing board table support clamp. 3,106,376, 10-8-63, Cl. 248—226.



- Scott Testers, Inc.: *See*—  
Rogers, Robert W., and Cardoz. 3,077,772.
- Scott, Troy A., to Minneapolis-Honeywell Regulator Co. Silver halide print-out emulsions combining cadmium iodide. 3,109,737, 11-5-63, Cl. 96—108.
- Scott, Vernon B., and C. M. Peters, to U.S. Industries, Inc. Integrating fluid meter. 3,071,002, 1-1-63, Cl. 73—224.
- Scott, Vernon B., and W. J. Rapson, Jr., to The Scott Corp. Method and apparatus for locating leaks. 3,106,089, 10-8-63, Cl. 73—40.5.
- Scott, Warren H., to Minneapolis-Honeywell Regulator Co. Thermal control apparatus. 3,098,138, 7-16-63, Cl. 200—122.
- Scott, William F., and A. E. Burkall, to Whirlpool Corp. Home appliance. 3,080,059, 3-5-63, Cl. 210—144.
- Scott, William L. Arm sling. 3,103,216, 9-10-63, Cl. 128—94.
- Scott, William M., Jr., to I-T-E Circuit Breaker Co. Circuit connection for circuit breakers having current limiting fuses. 3,116,385, 12-31-63, Cl. 200—114.
- Scott & Williams, Inc.: *See*—  
Browne, Lindsay H. 3,080,820.  
Browne, Lindsay H. 3,080,821.  
McDonough, John J. 3,080,741.  
Sinclair, George E. 3,099,143.
- Scott, Willard L. Pipette construction. 3,084,592, 4-9-63, 88—14.
- Scott, Willard R., Jr.: *See*—  
Holmes, Elmond A., Rohrbach, and Scott. 3,104,355.
- Scott, Willard R., Jr., to Magna Products Inc. Corrosion detecting probe. 3,108,242, 10-22-63, Cl. 338—13.
- Scotti, Arthur L., to Prod-O-Matic, Inc. Machine for intermittent application of adhesive. 3,091,216, 5-28-63, Cl. 118—406.
- Scotti, Filippo. Device for drying hair. 3,105,501, 10-1-63, Cl. 132—9.
- Scottish Agricultural Industries Ltd.: *See*—  
Harris, Frederick J., and Boughey. 3,097,833.  
MacDonald, John P. A., and Whyte. 3,104,988.
- Scott-Maxwell, Peter D., to Cooke, Troughton & Simms Ltd. Spore growth prevention in optical instruments. 3,101,412, 8-20-63, Cl. 250—106.
- Scovill Mfg. Co.: *See*—  
Andrews, Hugh H. 3,091,773.  
Barlow, Edward H. 3,086,217.  
Blake, John T. 3,094,757.  
Huelster, Otto J. 3,070,865.  
Huelster, Otto J. 3,099,059.  
Huelster, Otto J., and Scott. 3,107,408.
- Izzo, Prima L. 3,102,270.
- Jensen, Philip B., and Humiston. 3,079,659.
- Kachergis, Henry J. 3,091,866.
- Lengyel, John F., and Barlow. 3,076,973.
- Peck, Alice L. 3,084,836.
- Rinaldi, Nicholas. 3,078,898.
- Scott, John F. 3,102,571.
- Seaver, Donald A. 3,073,320.
- Seaver, Donald A. 3,102,650.
- Seyfried, Arthur W. 3,088,260.
- Seyfried, Arthur W., and Mudge. 3,075,309.
- Taylor, Donald O. 3,086,269.
- Scoville, Ray R. Solderless terminal. 3,104,926, 9-24-63, Cl. 339—254.
- Scoville, Rene J. E.: *See*—  
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- Scowen, Kenneth J., to Chrysler Corp. Integral light housing and socket. 3,104,831, 9-24-63, Cl. 240—11.2.
- Scozzafava, Milton V., and R. E. Busch, to Clary Corp. Calculating machine. 3,101,896, 8-27-63, Cl. 235—136.
- Scragg, Ernest, and Sons Ltd.: *See*—  
Scragg, Ernest P. R. 3,071,838.  
Scragg, Ernest P. R. 3,074,225.
- Scragg, Ernest P. R., to Ernest Scragg & Sons Ltd. Apparatus for heat treating thermoplastic yarns. 3,071,838, 1-8-63, Cl. 28—62.
- Scragg, Ernest P. R., to Ernest Scragg and Sons Ltd. Textile spindle machine mounting. 3,074,225, 1-22-63, Cl. 57—77.45.
- Scray, Peter J., and C. Crews. Bird insecticide dispenser. 3,105,464, 10-1-63, Cl. 119—160.
- Screen Heating Transformers, Inc.: *See*—  
Riesbeck, La Verne J. 3,080,055.
- Screen Products, Inc.: *See*—  
Smith, Richard G., and McMahon. 3,096,281.
- Screw Conveyor Corp.: *See*—  
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Geberin, Arthur R. 3,111,216.  
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- Scriba, Gottfried, W. Graulich, and P. Schneider, to Farbenfabriken Bayer Aktiengesellschaft. Composition of modified elastomeric butadiene-acrylonitrile copolymers and of modified thermoplastic-acrylonitrile copolymers. 3,103,498, 9-10-63, Cl. 260—45.5.
- Scriba, Gottfried, and A. R. Heinz, to Farbenfabriken Bayer Aktiengesellschaft. Coagulation of aqueous polymer emulsion. 3,115,484, 12-24-63, Cl. 260—83.3.
- Scribens, Peter, to Barber Machinery Ltd. Rotatable base assembly. 3,093,215, 6-11-63, Cl. 189—29.
- Scribner, Albert W. Continuous casting process. 3,089,208, 5-14-63, Cl. 22—200.1.
- Scribner, Albert W. Metal extrusion. 3,107,787, 10-22-63, Cl. 207—17.
- Scribner, Harold F.: *See*—  
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- Scrimshaw, Frank H.: *See*—  
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- Scripto, Inc.: *See*—  
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Daugherty, Phillip M. 3,085,411.  
Lovejoy, Charles K. 3,092,080.  
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Ransom, Frederick J., and Lovejoy. 3,095,860.
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- Scrubby, Charles C., to Ladders, Inc. Ladder. 3,103,258, 9-10-63, Cl. 182—163.
- Scruton, Christopher, and D. E. J. Walshe, to National Research Development Corp. Stabilisation of wind-excited structures. 3,076,533, 2-5-63, Cl. 189—34.
- Scudder, John. Hand drawn vehicle with power assist. 3,090,459, 5-21-63, Cl. 180—19.
- Scudder, William C.: *See*—  
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- Scudieri, William A., to Atlas Corp. Portable swaging device. 3,096,876, 7-9-63, Cl. 205—4.
- Scuito, Thomas J., to General Electric Co. Feed rate control system. 3,110,865, 11-12-63, Cl. 328—71.
- Sculin, James P., to Heyden Newport Chemical Corp. Vinyl halide compositions stabilized with melamine. 3,084,135, 4-2-63, Cl. 260—41.
- Scully-Anthony Corp.: *See*—  
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- Scully, Frank P., to Scully Signal Co. Signaling and venting unit for use in filling tanks. 3,081,789, 3-19-63, Cl. 137—238.
- Scully, John T. Safety razors with a flexible blade and relative blade and guard adjustment. 3,079,685, 3-5-63, Cl. 30—72.
- Scully-Jones and Co.: *See*—  
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Lehde, John W., Jr., and Hertelendy. 3,092,859.
- Scully Signal Co.: *See*—  
Rowell, William G. 3,109,415.  
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- Scurlock, Arch C.: *See*—  
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- Scurlock, Arch C., to Atlantic Research Corp. Thixotropic monopropellants. 3,095,334, 6-25-63, Cl. 149—21.
- Scurlock, Arch C., to Atlantic Research Corp. Catapult launcher. 3,115,004, 12-24-63, Cl. 60—26.1.
- Scurlock, Arch C., K. E. Rumbel, and R. Friedman, to Atlantic Research Corp. Process for generating gases and apparatus therefor. 3,092,959, 6-11-63, Cl. 60—35.4.
- Scurlock, Arch C., K. E. Rumbel, and R. Friedman, to Atlantic Research Corp. Process for generating gases and apparatus therefor. 3,092,968, 6-11-63, Cl. 60—39.47.
- Scurlock, Arch C., K. E. Rumbel, and M. L. Rice, to Atlantic Research Corp. Solid polyvinyl chloride propellants containing metal. 3,107,186, 10-15-63, Cl. 149—19.
- Scutt, Alfred F., and A. A. Bourne, to Johnson, Matthey & Co. Ltd. Production of composite metal sheet or strip. 3,115,702, 12-31-63, Cl. 29—497.5.
- Scyocurka, Stephen, to Waters Mfg., Inc. Torque gauge. 3,108,472, 10-29-63, Cl. 73—139.
- Sdruzeni podnikni textilního strojírenství: *See*—  
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Javorek, Jaroslav. 3,089,323.  
Kubelka, Alois, and Svoboda. 3,079,778.  
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- Seaboard Allied Milling Corp.: *See*—  
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- Seaborne, Thomas L. Vacuum compensator valve for milking machines. 3,101,092, 8-20-63, Cl. 137—270.
- Seabright-Oswego Falls Corp.: *See*—  
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- Seader, Leonard D., to International Business Machines Corp. Switching circuit. 3,114,134, 12-10-63, Cl. 340—172.5.
- Seagram, Joseph E., & Sons, Inc.: *See*—  
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Adams, Stuart L., and Niesen. 3,100,706.
- Seal, Inc.: *See*—  
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- Seal, John D., to General Electric Co. Dishwashing apparatus. 3,072,129, 1-8-63, Cl. 134—57.
- Sea-Land Service Inc.: *See*—  
Tantlinger, Keith W. 3,085,707.
- Seale, George H. R. S. Method of protecting the walls of an oven from becoming fouled. 3,070,879, 1-1-63, Cl. 29—423.
- Seale, Virgil L.: *See*—  
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Kirkpatrick, Willard H., and Seale. 3,108,087.  
Kirkpatrick, Willard H., Seale, Walker, and Law. 3,098,827.
- Sealectro Corp.: *See*—  
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- Sealed Power Corp.: *See*—  
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- Sealed Unit Parts Co., Inc.: *See—*  
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- Sealey, Harold D. Grain metering device. 3,110,351, 11-12-63, Cl. 177-92.
- Sealol Corp.: *See—*  
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- Sealol, Inc.: *See—*  
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- Seaman, Benjamin C. Denture measurement device. 3,106,779, 10-15-63, Cl. 33-174.
- Seamless Rubber Co., The: *See—*  
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- Seanon, Rex C., to Adamson United Co. Roll dropping calendar. 3,115,672, 12-31-63, Cl. 18-2.
- Seasquitt, James J., to McGraw-Edison Co. Rotary current interchange structure. 3,089,112, 5-7-63, Cl. 339-5.
- Seasquitt, Nels W.: *See—*  
Braun, Harry L. and A. R. 3,085,753.
- Sear, Arthur W., and R. L. Stert, to Minneapolis-Honeywell Regulator Co. Integrating accelerometer. 3,083,276, 3-26-63, Cl. 200-61.45.
- Searer, Harold J. Container-dispenser for infant feeding. 3,097,757, 7-16-63, Cl. 215-11.
- Searight, Charles E., to Cataphote Corp. Method and apparatus for making glass beads. 3,074,257, 1-22-63, Cl. 65-21.
- Searight, Charles E., and E. M. Alexander, to Cataphote Corp. Glass composition for beads. 3,071,480, 1-1-63, Cl. 106-52.
- Searle, G. D., & Co.: *See—*  
Atwater, Norman W. 3,080,380.
- Baran, John S. 3,096,355.
- Baran, John S. 3,107,241.
- Bible, Roy H., Jr. 3,081,315.
- Brown, Edward A. 3,095,412.
- Brown, Edward A., and Chinn. 3,101,346.
- Cella, John A. 3,098,098.
- Chinn, Leland J. 3,102,133.
- Counsell, Raymond E. 3,076,802.
- Counsell, Raymond E. 3,105,841.
- Counsell, Raymond E. 3,107,257.
- Counsell, Raymond E., and Klimstra. 3,078,284.
- Counsell, Raymond E., and Klimstra. 3,084,156.
- Counsell, Raymond E., and Klimstra. 3,098,851.
- Counsell, Raymond E., and Klimstra. 3,104,244.
- Counsell, Raymond E., and Klimstra. 3,107,255.
- Cusic, John W., and Le Von. 3,091,615.
- Cusic, John W., and Le Von. 3,101,341.
- Cusic, John W., and Lowrie. 3,112,309.
- Cusic, John W., and Lowrie. 3,112,310.
- Jiu, James, and Mueller. 3,079,390.
- Johns, William F. 3,087,943.
- Johns, William F. 3,098,852.
- Kalm, Max J. 3,074,941.
- Kalm, Max J. 3,081,308.
- Kalm, Max J. 3,098,853.
- Kalm, Max J., and Rorig. 3,074,944.
- Kraychy, Stephen. 3,079,386.
- Krimmel, Carl P. 3,086,979.
- Lowrie, Harman S. 3,112,308.
- Mueller, George P. 3,079,408.
- Nicholson, Robert T. 3,092,645.
- Nysted, Leonard N., and Pappo. 3,109,016.
- Papesch, Viktor. 3,113,944.
- Pappo, Raphael. 3,080,360.
- Pappo, Raphael. 3,080,381.
- Pappo, Raphael. 3,087,926.
- Pappo, Raphael. 3,093,658.
- Pappo, Raphael. 3,101,350.
- Pappo, Raphael, and Jung. 3,101,349.
- Robinson, Richard A. 3,101,338.
- Rorig, Kurt J. 3,071,588.
- Rorig, Kurt J. 3,073,835.
- Rorig, Kurt J. 3,081,303.
- Rorig, Kurt J. 3,081,310.
- Rorig, Kurt J. 3,098,857.
- Rorig, Kurt J. 3,100,775.
- Rorig, Kurt J. 3,101,340.
- Rorig, Kurt J. 3,101,371.
- Rorig, Kurt J. 3,101,372.
- Schroeder, Elmer F. 3,080,364.
- Schroeder, Elmer F. 3,080,370.
- Tyner, David A. 3,090,792.
- Searle, Lloyd V., and R. L. Henderson. Radar integrating system. 3,113,311, 12-3-63, Cl. 343-17.1.
- Searle, Walter W. R., to The Hoover Co. Timer control for automatic washing and drying machines. 3,111,017, 11-19-63, Cl. 68-12.
- Searles, Le Roy D. Combination line reel and line anchoring device. 3,093,907, 6-18-63, Cl. 33-85.
- Searles, William G.: *See—*  
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- Sears, Anthony. Centrifugal direct current electric generator. 3,096,454, 7-2-63, Cl. 310-178.
- Sears, Chester G., and G. J. Butterworth, to Poor & Co. Crushing and screening plant. 3,112,078, 11-26-63, Cl. 241-76.
- Sears, Frank L., Sr. Tree loader. 3,115,256, 12-24-63, Cl. 214-3.
- Sears, George W., Jr.: *See—*  
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- Sears, Howard V., to St. Joseph Lead Co. Down-hole drill. 3,084,673, 4-9-63, Cl. 121-28.
- Sears, Roebuck & Co.: *See—*  
Doak, Gordon J. 3,109,182.
- Gall, John C. 3,102,691.
- Golec, Edward J. 3,097,813.
- Henyan, Clare A. 3,075,454.
- Luhrs, Gilbert W. 3,094,007.
- Nishigami, Teiichi. 3,111,099.
- Searly Mfg. Co.: *See—*  
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- Seas, Ltd.: *See—*  
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- Sease, Will S., to Chicago Pneumatic Tool Co. Jet nozzle protector. Re. 25,452, 10-1-63, Cl. 175-340.
- Seasholtz, Elwood F.: *See—*  
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- Seaton, Norman T., to Beckman Instruments, Inc. Improved high-sensitivity trigger circuits. 3,090,924, 5-21-63, Cl. 328-203.
- Seaton-Wilson Mfg. Co.: *See—*  
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- Seattle Door Co., Inc.: *See—*  
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- Seattle University: *See—*  
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- Seaver, Donald A., to Scovill Mfg. Co. Make-up kits. 3,073,320, 1-15-63, Cl. 132-79.
- Seaver, Donald A., to Scovill Mfg. Co. Adjustable perfume bottle container. 3,102,650, 9-3-63, Cl. 215-12.
- Seavey, Alton W., to General Electric Co. Fan blade hub connector. 3,084,852, 4-9-63, Cl. 230-272.
- Seavey, Frederick R., to Olin Mathieson Chemical Corp. Detonator seal. 3,099,957, 8-6-63, Cl. 102-28.
- Seaview Industries, Inc.: *See—*  
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- Seaward, Carl R., to General Electric Co. Electrodeposition cell. 3,113,094, 12-3-63, Cl. 204-206.
- Sebban, Jeanne: *See—*  
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- Sebek, Oldrich K., to The Upjohn Co. Process for the  $\alpha$ -hydroxylation of steroids with ascochyta. 3,116,220, 12-31-63, Cl. 195-51.
- Sebens, Carl R.: *See—*  
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- Sebok, Albert L.: *See—*  
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- Sebok, Albert L., and F. Z. Daugherty, to Ametek, Inc. Vacuum cleaner motor fan unit. 3,096,929, 7-9-63, Cl. 230-117.
- Sechrist, Walter L.: *See—*  
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- Seck, Charles F., to Corning Glass Works. Shear with rotating laterally flexible blades. 3,094,029, 6-18-63, Cl. 83-341.
- Seck, Robert N.: *See—*  
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- Secord Robert N., and C. B. Wendell, to Cabot Corp. Production of silicon tetrachloride. 3,094,389, 6-18-63, Cl. 23-205.
- Secunde, Richard R., and A. W. Pratt, to Lear Siegler, Inc. Alternating current frequency sensing and indicating circuit. 3,075,127, 1-22-63, Cl. 317-147.
- Security Aluminum Corp.: *See—*  
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- Riegelman, Harry M. 3,088,177.
- Riegelman, Harry M. 3,091,008.
- Riegelman, Harry M. 3,097,401.
- Riegelman, Harry M. 3,110,935.
- Riegelman, Harry M. 3,111,209.
- Sedberry, J. B., Inc.: *See—*  
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- Seddon, Jeffrey W., to Gullick Ltd. Roof support in mines. 3,097,829, 7-16-63, Cl. 262-1.
- Seddon, John, L. Haverty, deceased; by E. V. Haverty, administratrix to Power Jets (Research and Development) Ltd. High speed aerodynamic body. 3,072,368, 1-8-63, Cl. 244-41.
- Seddon, Richard I.: *See—*  
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- Sedgley, Robert H., to Arthur S. Brown Mfg. Co. Improved V-beit. 3,103,124, 9-10-63, Cl. 74-234.
- Sedgwick, Robert K., and H. W. Kippers, to Kearney & Trecker Corp. Machine tool for removing a mass of material from a container and method. 3,104,989, 9-24-63, Cl. 134-8.
- Sedlak, John A., to American Cyanamid Co. Process for preparing  $\alpha$ -fluoroacrylates. 3,075,002, 1-22-63, Cl. 260-486.
- Sedlatschek, Karl: *See—*  
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- Kieffer, Richard, and Sedlatschek. 3,110,101.
- Sedlmeier, Josef: *See—*  
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- Smidt, Jürgen, Jira, Hafner, Sedlmeier, and Maier. 3,086,052.
- Sedlock, Jack. Play-pen crib combination. 3,088,131, 5-7-63, Cl. 5-99.



- Seeburg Corp., The: *See*—  
 Breitenstein, Charles T. 3,102,455.  
 Breitenstein, Charles T. 3,103,159.  
 Breitenstein, Charles T. 3,103,873.  
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 Croteau, Thomas H., and Groueten. 3,097,427.  
 Jensen, Herman G. 3,095,115.
- Seecamp, Louis W. Lever action firearm. 3,092,924, 6-11-63, Cl. 42-22.
- Seeco, Inc.: *See*—  
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- Seed, Aniese E., to Toledo Scale Corp. Load cells. 3,096,644, 7-9-63, Cl. 73-141.
- Seed, Aniese E., to Toledo Scale Corp. Load cell. 3,110,175, 11-12-63, Cl. 73-141.
- Seedlock, Walter F., J. Gurskis, Jr., L. C. Coombs, and T. P. Buckman, to Lockheed Aircraft Corp. Missile transporter-launcher. 3,106,864, 10-15-63, Cl. 89-17.
- Seedorf, Ralph F., to Carthage Mills Inc. Printed materials for covering floors, walls and the like. 3,109,746, 11-5-63, Cl. 117-15.
- Seefelder, Matthias, and D. Leuchs, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of chlorine-substituted nitrogenous heterocyclic compounds. 3,108,104, 10-22-63, Cl. 260-251.
- Seefelder, Matthias, and G. Neubauer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process for the production of carbo-di-imides. 3,108,138, 10-22-63, Cl. 260-551.
- Seefeld, Edgar W., F. J. Buchmann, and H. E. Stanley, to Esso Research and Engineering Co. Stripping and creaming butyl rubber latices within a specific pH range. 3,083,173, 3-26-63, Cl. 260-297.
- Seefuth, Charles L., to Phillips Petroleum Co. Method of sealing thermoplastic film overwrap. 3,084,489, 4-9-63, Cl. 53-39.
- Seeger, Earl B. Haberdashery hanger. 3,081,881, 3-19-63, Cl. 211-13.
- Seeger, Ernst, and A. Kottler, to Dr. Karl Thomae, G.m.b.H. 1-(4-methoxyphenyl)-1-dimethylamino-2-phenyl ethane, acid addition salts and quaternary ammonium salts. 3,091,640, 5-28-63, Cl. 260-570.8.
- Seeger, Ernst, and A. Kottler, to Dr. Karl Thomae G.m.b.H. 1-cyclohexyl, 1-cyclohexenyl, 1-furyl, and 1-thienyl, tertiary amino substituted methanes. 3,109,845, 11-5-63, Cl. 260-293.
- Seeger, Fritz. Silo closure. 3,103,083, 9-10-63, Cl. 50-1.
- Seeger, Nelson V., to Diamond Alkali Co. Process of wet spinning stereoregular polyvinyl alcohol. 3,102,775, 9-3-63, Cl. 18-54.
- Seeger-Wanner Corp.: *See*—  
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- Seehof, Jerrold M., M. S. Armstrong, and S. B. Smithberg, to The National Cash Register Co. Automatic reading apparatus. 3,089,122, 5-7-63, Cl. 340-146.3.
- Seekonk Lace Co.: *See*—  
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- Seel, Howard J., to Harris-Intertype Corp. Rotary printing press. 3,112,695, 12-3-63, Cl. 101-137.
- Seelbach, Charles W.: *See*—  
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- Seeler, Henry W. Device for treatment of pulmonary diseases. 3,083,707, 4-2-63, Cl. 128-29.
- Seeler, Henry W., to United States of America, Air Force. Quick release mechanism. 3,099,870, 8-6-63, Cl. 24-230.
- Seeley, Donald C.: *See*—  
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- Seeley, Elwin W., to United States of America, Navy. Inductively loaded folded antenna. 3,103,011, 9-3-63, Cl. 343-749.
- Seeley, Harold T., to General Electric Co. Electric rectifying and filtering system. 3,088,066, 4-30-63, Cl. 321-10.
- Seeley, Robert D.: *See*—  
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- Seelig, Albert F., Jr.: *See*—  
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- Seelig, Herman S.: *See*—  
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- Seelig, Oliver N., to The Narrow Fabric Co. Combination creel and warper apparatus. 3,110,951, 11-19-63, Cl. 28-362.
- Seeloff, Melvin M.: *See*—  
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- Seeloff, Melvin M., to The Taylor-Winfield Corp. Screw operated expander. 3,102,502, 9-3-63, Cl. 113-48.
- Seeloff, Melvin M., to The Taylor-Winfield Corp. Rotary current conductor. 3,105,728, 10-1-63, Cl. 330-5.
- Seem, Warren A.: *See*—  
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- Seemann, Andrew M.: *See*—  
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- Seener, George E., to The Multiplex Faucet Co. Beverage dispenser. 3,108,718, 10-29-63, Cl. 222-129.1.
- Sees, Myron M., to General Electric Co. Flange construction. 3,083,863, 4-2-63, Cl. 220-80.
- Seestrom, Frank E., to Collins Radio Co. Positive blanking circuit with isolation capacitor to prevent input overload. 3,109,944, 11-5-63, Cl. 307-88.5.
- Seewack, Benjamin. Drain for plumbing. 3,071,781, 1-8-63, Cl. 4-286.
- Seewalt, Raphael. Catcher attachment for vehicles. 3,104,907, 9-24-63, Cl. 293-34.
- Seff, Frederic A. Reels or the like. 3,089,585, 5-14-63, Cl. 206-53.
- Seffens, William E., to Petrolite Corp. Valve adapted to have positioned therein a corrosion measuring probe assembly. 3,087,506, 4-30-63, Cl. 137-319.
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- Seft, Max M.: *See*—  
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- Segall, Louis H., and J. C. Pelton, Jr., to The Bendix Corp. Electrical pulse divider. Re. 25,347, 3-12-63, Cl. 315-277.
- Segel, Edward, to Veliscol Chemical Corp. Hexachlorotetrahydromethanoindene amine compounds. 3,088,977, 5-7-63, Cl. 260-563.
- Segel, Joseph M., to Jordan-Edwards Co., Inc. Carrying handle actuated recorder. 3,104,289, 9-17-63, Cl. 179-100.1.
- Segerberg, Åke T. G., to Aktiebolaget Bofors. Gun turret. 3,091,994, 6-4-63, Cl. 89-36.
- Segerlund, Glenn K.: *See*—  
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- Segers, John P.: *See*—  
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- Seggebruch, Ernie G.: *See*—  
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- Seglin, Leonard, G. Sklar, and R. A. White, to FMC Corp. Preparation of triarylphosphates. 3,077,491, 2-12-63, Cl. 260-461.
- Segraves, Charles H., and H. A. Sutton, Jr. Apparatus and method for improving uniformity of zinc coatings on the threaded ends of galvanized pipes. 3,105,774, 10-1-63, Cl. 117-97.
- Segrest, Frank. Quick float life preserver. 3,090,979, 5-28-63, Cl. 9-318.
- Segrest, Joseph D., to United States of America, Navy. Protection device for reverse polarity in D.C. generators. 3,079,532, 2-26-63, Cl. 317-31.
- Segreto, John J., to B. R. Feld. Bookbinding method and apparatus. 3,093,396, 6-11-63, Cl. 281-21.
- Segro, Nicholas R., S. T. Moore, and J. H. Daniel, Jr., to American Cyanamid Co. Stiff, strong paper. 3,081,143, 3-12-63, Cl. 8-116.
- Segsworth, Robert S., to Ajax Magnethermic Corp. Induction heating furnaces. 3,081,391, 3-12-63, Cl. 219-10.49.
- Segur, Asa B. Poultry break-apart method. 3,099,858, 8-6-63, Cl. 17-45.
- Segur, Asa B. Poultry break-apart apparatus. 3,104,418, 9-24-63, Cl. 17-11.
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- Sehm, Martin R., to R. Herschel Mfg. Co. Guard finger and ledger plate. 3,098,339, 7-23-63, Cl. 56-311.
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- Seibel, Bobly H., and C. D. Hillman, to Keuffel & Esser Co. Reflecting attachment for telescopes. 3,074,315, 1-22-63, Cl. 88-38.
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- Seibert, Walter E. Filtering and drying apparatus. 3,105,817, 10-1-63, Cl. 210-401.
- Seibold, Paul F. Electric shaver having a connected cord. 3,111,753, 11-26-63, Cl. 30-34.
- Seibold, William F., Sr., to United States of America, Atomic Energy Commission. Electrical three dimensional function programmer. 3,105,215, 9-24-63, Cl. 338-138.
- Seichter, Francis S.: *See*—  
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- Seidel, Eberhard, to North American Philips Co., Inc. Capacitor for use at high operating voltages. 3,109,969, 11-5-63, Cl. 317-258.
- Seidel, Harold, to Bell Telephone Laboratories, Inc. Reciprocal gyromagnetic loss device. 3,072,869, 1-8-63, Cl. 333-81.
- Seidel, Harold, to Bell Telephone Laboratories, Inc. Non-reciprocal wave transmission components. 3,102,244, 8-27-63, Cl. 333-24.2.
- Seidel, Henry, to Rome Cable Corp. Cellular floor header trough. 3,074,208, 1-22-63, Cl. 50-127.
- Seidel, William B., to The Cincinnati Milling Machine Co. Workpiece handling mechanism for centerless grinder. 3,075,321, 1-29-63, Cl. 51-103.
- Seidel, William B., to The Cincinnati Milling Machine Co. Method of truing and dressing an abrasive wheel and apparatus therefor. 3,075,512, 1-29-63, Cl. 125-11.
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- Selen, Günter, to GEA Luftkühlgesellschaft Happel Gesellschaft m.b.H. & Co. K.G. Method and apparatus for the automatic production of tubes provided with transverse ribs especially for heat exchangers. 3,095,638, 7-2-63, Cl. 29-202.
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- Seifert, Hans, and K. Hoseus, to Motoren-Werke Mannheim A.G. vorm. Benz Abt. Stat. Motorenbau. Cylinder head arrangements for internal combustion engines. 3,103,921, 9-17-63, Cl. 123-32.
- Seiferth, Oscar E., G. M. Austin, and H. E. Snyder, to Oscar Mayer & Co., Inc. Hermetically sealed food package. 3,086,869, 4-23-63, Cl. 99-171.
- Seiferth, Oscar E., and G. M. Austin, to Oscar Mayer & Co., Inc. Food package. 3,108,005, 10-22-63, Cl. 99-171.
- Seiferth, Oscar E., and G. M. Austin, to Oscar Mayer & Co., Inc. Hermetically sealed food package. 3,116,153, 12-31-63, Cl. 99-171.
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- Seigal, Earl E. Adjustable headwear shaper. 3,083,884, 4-2-63, Cl. 223-25.
- Seiger, Fred A. Anchor throw. 3,074,370, 1-22-63, Cl. 114-210.
- Seigh, Joseph W., and W. H. Behrendt, to Continental Can Co., Inc. Bundle inverting means. 3,071,258, 1-1-63, Cl. 214-1.
- Seike, Helmut K., to Kaiser Industries Corp. Voltage regulator for generators. 3,076,922, 2-5-63, Cl. 322-28.
- Seller, Fritz, to Edouard Dubied et Cie (Societe Anonyme). Knitting machine and more particularly a flat knitting machine having needle beds and needles for producing fabric with narrowings and with open work patterns. 3,102,404, 9-3-63, Cl. 66-64.
- Sells, Edward C., Jr.: *See*—  
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- Selner, Jerome A., to Pittsburgh Plate Glass Co. Cooking polyesters of polybasic acids and polyhydric alcohols in the absence of solvents. 3,109,831, 11-5-63, Cl. 260-75.
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- Selner, Jerome A., to Pittsburgh Plate Glass Co. Conserving polyol in fusion cooking of polymeric polyesters. 3,109,833, 11-5-63, Cl. 260-75.
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- Selreg, All, and E. J. Wellauer, to The Falk Corp. Coupling. 3,096,631, 7-9-63, Cl. 64-15.
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- Crossland, Edward J. 3,082,419.
- Crossland, Edward J., Ragan, Bright, and Hull. 3,108,744.
- Crossland, Edward J., Ragan, and Hawkins. 3,095,142.
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- Platt, Harold S. 3,081,838.
- Schoellhorn, Sidney W., and Roberts. 3,087,120.
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- Wilcox, Stanley W., Crossland, and McCaskill. 3,092,311.
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- Seltz & Co.: *See*—  
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- Seltz, Max, to Carl Hurth Maschinen- und Zahnradfabrik. Combined centering and clamping arrangement. 3,112,116, 11-26-63, Cl. 279-2.
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- Seltzer, Walter H., to Sun Oil Co. Reaction of methane with titanium tetrahalide. 3,113,977, 12-10-63, Cl. 260-659.
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- Peck, William H. 3,089,687.
- Williams, John R. 3,083,759.
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- Selbach, Hans W., to Gerhard Kestermann K.G. Masticator for plastic materials. 3,104,420, 9-24-63, Cl. 18-12.
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- Selby, James, to B. Elliott & Co. Ltd. Surface grinders. 3,073,072, 1-15-63, Cl. 51-92.
- Selby, Max M. Fluid displacement mechanism. 3,071,078, 1-1-63, Cl. 103-126.
- Selby, Robert M. Folding boom. 3,092,367, 6-4-63, Cl. 254-139.1.
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- Seldon, George E. Carburetor with orifice programming. 3,096,386, 7-2-63, Cl. 261-66.
- Seldon, George E. Splash guard for carburetor metering column. 3,075,748, 1-29-63, Cl. 261-75.
- Self, David P. Left foot accelerator. 3,108,489, 10-29-63, Cl. 74-562.5.
- Self, Richard E., and A. R. Allan, to Thompson Ramo Wooldridge Inc. Metallic shaft seal. 3,088,442, 5-7-63, Cl. 121-38.
- Self, Robert L., to Western Electric Co., Inc. Method of manipulating articles. 3,093,896, 6-18-63, Cl. 29-450.
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- Seligman, Jay W., to L. Freyer. Sharpener. 3,097,457, 7-16-63, Cl. 51-246.
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- Seligson, Arnold L. Capacitive source signal generators. 3,116,366, 12-31-63, Cl. 179-1.
- Seligson, Charles. Method of making a knitted fabric. 3,083,439, 4-2-63, Cl. 28-72.
- Selikson, Nathan, to Menasco Mfg. Co. Purging apparatus. 3,100,108, 8-6-63, Cl. 263-40.
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- Selling, Hendrik J., C. Bok, and F. J. van Krugten, to Novivlas, N.V. Method and an apparatus for the manufacture of bast fibre yarn. 3,114,231, 12-17-63, Cl. 57-51.6.
- Sellinger, Burton, and G. E. Schmitt, to Colgate-Palmolive Co. Packaging of materials and means therefor. 3,115,248, 12-24-63, Cl. 206-84.
- Sellmaier, Alfons, to Gesellschaft für Linde's Eismaschinen Aktiengesellschaft. Low temperature gas decomposition plant. 3,107,992, 10-22-63, Cl. 62-18.



- Sellman, Claude. Knot keeper. 3,114,950, 12-24-63, Cl. 24-120.
- Sellner, John W. Combination reclining and exercise apparatus. 3,075,518, 1-29-63, Cl. 128-25.
- Selman, Alan A., to Dunlop Rubber Co. Ltd. Fluid springs. 3,081,075, 3-12-63, Cl. 267-65.
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- Seltsam, Harold O., to Tomlinson Industries, Inc. Valve including a seat cup. 3,081,063, 3-12-63, Cl. 251-331.
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- Sem, Mathias O., N. J. Haavik, and K. Lorek, to Elektrokemisk A/S. Semi-enclosed smelting furnace and method of operating same. 3,108,150, 10-22-63, Cl. 13-9.
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- Seman, David C., C. J. and F. P. Process for producing an ornamental wall facing. 3,096,195, 7-2-63, Cl. 117-8.5.
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- Seman, David C., C. J. and F. P. 3,096,195.
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- Simpler, Richard V.: *See*—
- Simpler, Vance A. 3,070,918.
- Simpler, Vance A.,  $\frac{1}{2}$  to R. V. Sempler. Compartmented trolling reel. 3,070,918, 1-1-63, Cl. 43-54.5.
- Sem-Sandberg, Sverre G., to Telefonaktiebolaget L. M. Ericsson. Gated multiunit with temperature compensating means. 3,080,488, 3-5-63, Cl. 307-88.5.
- Semsel, Andrew M.: *See*—
- Rauhut, Michael M., and Semsel. 3,099,684.
- Rauhut, Michael M., and Semsel. 3,099,690.
- Rauhut, Michael M., and Semsel. 3,099,691.
- Rauhut, Michael M., and Semsel. 3,100,799.
- Sender, Friedhelm, to Prakla Gesellschaft für praktische Lagerstättenforschung G.m.b.H. Control circuit arrangement, particularly for low-ohmic amplifiers. 3,088,067, 4-30-63, Cl. 323-22.
- Sendor, Mortimer S. Plastic book cover and method of making. 3,088,753, 5-7-63, Cl. 281-29.
- Sendor, Mortimer S. Composite catalog and method of making. 3,110,508, 11-12-63, Cl. 283-1.
- Sendovkas, Jack J. Velocipede convertible to coaster wagon. 3,081,105, 3-12-63, Cl. 280-7.17.
- Sendzimir, Tadeusz. Clam shell cold rolling mill. 3,076,360, 2-5-63, Cl. 80-38.
- Sendzimir, Tadeusz. Prevention of coil breaks. 3,079,975, 3-5-63, Cl. 153-54.
- Seneca Falls Machine Co.: *See*—
- Eisengrein, Robert H. 3,072,836.
- Senecal, Wallace R., to Sperry Rand Corp. Transparent closure. 3,085,840, 4-16-63, Cl. 312-138.
- Seney, John S., to E. I. du Pont de Nemours and Co. Yarn guide and string-up apparatus. 3,077,313, 2-12-63, Cl. 242-47.9.
- Seney, John S., to E. I. du Pont de Nemours and Co. Precision frequency control. 3,089,992, 5-14-63, Cl. 318-171.
- Seney, John S., to E. I. du Pont de Nemours and Co. Condition responsive indicating and control system. 3,112,070, 11-26-63, Cl. 236-78.
- Senfleben, Paul W., to Safe-Pack Container Co. Apparatus for forming containers. 3,081,676, 3-19-63, Cl. 93-82.
- Seng Co., The: *See*—
- Fox, Martin. 3,096,964.
- Senger, C. L., K.G.: *See*—
- Hecker, Josef. 3,078,023.
- Senger, Horst, to Bolkow-Entwicklungen Kommanditgesellschaft. Remote control and stabilizing apparatus. 3,090,582, 5-21-63, Cl. 244-14.
- Senger, Raymond J., to Develop-Amatic Engineering. Component checker. 3,092,253, 6-4-63, Cl. 209-81.
- Senger, Werner I.: *See*—
- Fibikar, Robert J., and Senger. 3,079,802.
- Senical, Earl F. Display rack. 3,115,252, 12-24-63, Cl. 211-55.
- Senick, Donald M. Battle game. 3,113,777, 12-10-63, Cl. 273-130.
- Senior, Bernard W.: *See*—
- Custers, Jan F. H., Dyer, Senior, and Wedepohl. 3,082,477.
- Senior, Frank C., to Strategic Materials Corp. Furnace refractory structures. 3,079,450, 2-26-63, Cl. 13-9.
- Senior, George A., Jr., to Union Carbide Corp. Method for the production of aqueous trimethylolphenol solutions. 3,109,033, 10-29-63, Cl. 260-621.
- Senior, Henry, to The British Xylonite Co. Ltd. Apparatus for making dish receptacles. 3,103,243, 9-10-63, Cl. 153-2.
- Senior, Kenneth: *See*—
- Kerrison, Oscar C., and Senior. 3,104,224.
- Senk, Jaromir, and J. Foltá, to Zavody prumyslove automatizace narodni podnik Praha. Control device with output in pulse form. 3,077,111, 2-12-63, Cl. 73-362.
- Senkbeil, Herman O., to The Dow Chemical Co. O-[1-(chloromethyl)-2-propenyl]O,O-dialkyl phosphates and phosphorothioates. 3,071,610, 1-1-63, Cl. 260-461.
- Senkbeil, Herman O., to The Dow Chemical Co. Phosphorus and sulfur containing organic compounds. 3,072,702, 1-8-63, Cl. 260-461.
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- Senn Custom, Inc.: *See*—
- Sinninger, Dwight V. 3,081,450.
- Sinninger, Dwight V. 3,109,124.
- Senn, Jurg A., to Kearney & Trecker Corp. Precision power clamp. 3,106,110, 10-8-63, Cl. 77-4.
- Senn, Louella E., to Pantray, Inc. Drain tray. 3,087,417, 4-30-63, Cl. 99-355.
- Senn, Otto: *See*—
- Merian, Ernest, and Senn. 3,093,437.
- Senn, Otto, to Sandoz Ltd. (also known as Sandoz A.G.). Disperse azo dyestuffs. 3,112,304, 11-26-63, Cl. 260-207.
- Senn, Rudolf G., to Georg Fischer Aktiengesellschaft. Bobbin stripping device. 3,107,700, 10-22-63, Cl. 139-262.
- Senn, Stuart C. Electrically heated soldering plier. 3,114,821, 12-17-63, Cl. 219-26.
- Senné, Edgar P. Hose construction. 3,110,922, 11-19-63, Cl. 15-327.
- Senne, Edgar P., and B. N. Adams, to Electrolux Corp. Vacuum cleaner controls. 3,083,396, 4-2-63, Cl. 15-319.



- Sennebogen, Erich, to Westinghouse-Bremsen-Gesellschaft, m.b.H. Overload safety control apparatus for hoisting equipment. 3,072,264, 1-8-63, Cl. 212-39.
- Sennet, Edith L.: *See—*  
Levkoff, Henry S. and D. 3,074,547.
- Sennet, Morgan B., to De Laval Turbine Inc. Screw pump. 3,086,474, 4-23-63, Cl. 103-128.
- Sennet, Morgan B., to De Laval Turbine Inc. Screw pump. 3,103,894, 9-17-63, Cl. 103-128.
- Sennewald, Kurt: *See—*  
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Jacobowsky, Armin, and Sennewald. 3,079,444.  
Opitz, Wolfgang, and Sennewald. 3,071,615.
- Sennewald, Kurt, K. Born, H. Erpenbach, and G. Döbek, to Knapsack-Griesheim Aktiengesellschaft. Process for the preparation of unsaturated carboxylic acid derivatives. 3,079,420, 2-26-63, Cl. 260-464.
- Sennewald, Kurt, K. Born, and H. Rehberg, to Knapsack-Griesheim Aktiengesellschaft. Process for preparing 1-cyanobutadiene-1,3. 3,090,804, 5-21-63, Cl. 260-465.9.
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- Sennewald, Kurt, A. Götz, and G. Kallrath, to Knapsack-Griesheim Aktiengesellschaft. Manufacture of 1,2-dicyanocyclobutane. 3,096,360, 7-2-63, Cl. 260-464.
- Sennewald, Kurt, G. Armin, and G. Kallrath, to Knapsack-Griesheim Aktiengesellschaft. Process for the manufacture of 1,2-dicyanocyclobutane. 3,099,680, 7-30-63, Cl. 260-464.
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- Sennhenn, Emil, to Fernseh G.m.b.H. Circuit arrangement for producing a control voltage for automatic control of electric signals. 3,102,163, 8-27-63, Cl. 178-7.2.
- Sensel, Eugene E., to Texaco Inc. Fractionation process involving molecular sieves. 3,095,288, 6-25-63, Cl. 55-62.
- Sensenbaugh, James D.: *See—*  
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- Senser, Frank J., to Van Houten, Inc. Gas turbine power plant. 3,078,671, 2-26-63, Cl. 60-39.37.
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- Sensui, Nobuo, S. Aoki, and T. Yoshikawa, to Shibaura Kyodo Kogyo & Kabushiki Kaisha (known as Shibaura United Engineering Co. Ltd.). Lubricant supply device. 3,086,614, 4-23-63, Cl. 184-7.
- Sentell, William E.: *See—*  
Petrilla, Anthony D., and Sentell. 3,088,082.
- Sentinel Oil Tool Development & Services Ltd.: *See—*  
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- Separator, Aktiebolaget: *See—*  
Baum, Engelbert. 3,072,503.  
Beskow, Stig. 3,099,246.  
Dahlgren, Sven A. B. 3,092,180.  
Ekegren, Sven G. 3,104,153.  
Falkenblad, Nils T., and Hallstrom. 3,099,519.  
Hallstrom, Bengt H. 3,099,520.  
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Machans, Waino. 3,099,277.  
Nordgren, Sven-Ake. 3,111,933.  
Palmqvist, Fredrik T. E. 3,085,742.  
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Sjöhölm, Claes B., and Nilsson (Hentzel). 3,071,860.  
Svensson, Stig A. G. 3,085,420.  
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Thylefors, Henric W. 3,079,069.  
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Zachariassén, Stig H. B. 3,092,584.
- Sepp, Oscar W., Jr., to M. Steintal & Co., Inc. Parachute reefing ring mountings and the method of installing same. 3,079,114, 2-26-63, Cl. 244-152.
- Sepp, Oscar W., Jr., to M. Steintal & Co., Inc. Personnel parachute pack. 3,087,694, 4-30-63, Cl. 244-141.
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- Sepulveda, Ismael E. Portable machining tool. 3,115,055, 12-24-63, Cl. 82-4.
- Serafin, Joseph W. Method and apparatus for superfinishing ring raceways. 3,089,289, 5-14-63, Cl. 51-58.
- Seragnoli, Ariosto. Method for feeding into a machine articles delivered by more machines. 3,100,561, 8-13-63, Cl. 198-21.
- Serck Radiators Ltd.: *See—*  
Montgomerie, George A. 3,093,983.
- Serdahely, Anthony M., to Beckman Instruments, Inc. Goniometer. 3,102,413, 9-3-63, Cl. 73-1.
- Serico, Daniel A.: *See—*  
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- Seright, Carl G.: *See—*  
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- Serlo, Anthony W. Fully immersible electric frying pan. 3,089,943, 5-14-63, Cl. 219-44.
- Serio, Anthony W., to Youngstown Steel Door Co. Pouring top assembly for fluid containers. 3,114,484, 12-17-63, Cl. 222-465.
- Serlemitsos, Peter J.: *See—*  
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- Sernetz, Heinz. Elastically mounted antifriction bearing structures. 3,097,022, 7-9-63, Cl. 308-20.
- Sernetz, Heinz. Resilient mount for load-carrying antifriction bearings. 3,097,026, 7-9-63, Cl. 308-184.
- Serniuk, George E.: *See—*  
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- Serniuk, George E., to Esso Research and Engineering Co. Process of grafting a vinyl monomer on the reaction product of an aldehyde with an isolefin-diolefin copolymer and resulting product. 3,076,779, 2-5-63, Cl. 260-41.5.
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- Serota, Samuel: *See—*  
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- Serotta, George. Intercommunication systems. 3,103,557, 9-10-63, Cl. 179-37.
- Serow, Fritz, to Deutsche Akademie der Wissenschaften Zu Berlin. Process for treating carnallite bearing materials. 3,101,247, 8-20-63, Cl. 23-39.
- Serra, Gerald F., P. E. Daro, and A. J. Buchtenkirch, to Giannini Controls Corp. Fluid stream direction indicator. 3,108,473, 10-29-63, Cl. 73-188.
- Serres, Carl, Jr.: *See—*  
Fields, Ellis K., and Serres. 3,109,868.
- Serres, Carl, Jr., and E. K. Fields, to Standard Oil Co. Tri-arylcarbinols. 3,083,214, 3-26-63, Cl. 260-389.
- Serres, Carl, Jr., and E. K. Fields, to Standard Oil Co. Separating 4,4'-benzophenone dicarboxylic acid from a mixture of 4,4'- and 2,4'-benzophenone dicarboxylic acids and concurrently producing 2 anthroquinone carboxylic acid. 3,089,879, 5-14-63, Cl. 260-376.
- Serres, Carl, Jr., and E. K. Fields, to Standard Oil Co. Separation of naphthoic acids. 3,102,907, 9-3-63, Cl. 260-525.
- Serson, Paul H., to Her Majesty the Queen in right of Canada, as represented by the Minister of Mines and Technical Surveys. Method of making an electromagnetic measurement. 3,114,103, 12-10-63, Cl. 324-5.
- Servage, Henri, to Moulinaige et Retorderie de Chavanoz. Apparatus for making novelty yarn. 3,074,223, 1-22-63, Cl. 57-18.
- Servais, Norman H. Visual warning devices. 3,089,456, 5-14-63, Cl. 116-30.
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Kirkman, Fredrick J. 3,106,403.  
Warren, Robert A. 3,096,216.  
Warren, Robert A. 3,114,659.  
Wilke, Milton E., and Warren. 3,116,172.
- Service Metal Fabricators, Inc.: *See—*  
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Vani, James, and Malpede. 3,075,057.  
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- Service Recorder Co., The: *See—*  
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- Servicised Products Corp.: *See—*  
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- Servo Corp. of America: *See—*  
Gallagher, Cornelius A., and Pelino. 3,095,171.  
Greenleaf, Francis D., and Meyer. 3,074,019.  
Hansel, Paul G. 3,104,391.  
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Howell, Sabert N. 3,081,632.  
Knoll, Joseph, and Melman. 3,111,556.  
Pelino, William M. 3,108,772.  
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Stone, Virgil D., and Shirley. 3,105,562.  
Waller, Herbert H. 3,110,021.  
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- Servomatic Hydraulics (Guildford) Ltd.: *See—*  
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- Servo Mechanisms, Inc.: *See—*  
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- Servomechanisms, Inc.: *See—*  
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- Seserman, Samuel. Elastic banding device. 3,078,631, 2-26-63, Cl. 53-198.
- Sesini, Enrico, and M. Pierazzuoli, to Pirelli Societa per Azioni. Means for detecting and localizing oil leakages in electric cables. 3,075,380, 1-29-63, Cl. 73-40.5.
- Sessions Clock Co., The: *See—*  
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- Sessions, Marc H., and A. H. Neubauer. Dispenser for powdered soap and the like. 3,072,299, 1-8-63, Cl. 222-246.
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Bryner, Hans. 3,098,348.
- Setecka, John C. Automatic apparatus for segregating returned bowling balls. 3,105,684, 10-1-63, Cl. 273-49.



- Setka, Raymond P.: *See*—  
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- Seto, Thomas A.: *See*—  
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- Seto, Thomas A., to Chas. Pfizer & Co., Inc. Derivatives of penicillanic acid. 3,092,620, 6-4-63, Cl. 260—239.1.
- Setter, Ralph E., to Universal Pulleys Co., Inc. Portable batch concrete plant. 3,101,931, 8-27-63, Cl. 259—154.
- Settimi, Raymond J., to Borg-Warner Corp. Thermostatically controlled clutch. 3,105,580, 10-1-63, Cl. 192—82.
- Settles, James L., and E. E. Conner, to Westinghouse Electric Corp. Current transformer. 3,082,389, 3-19-63, Cl. 336—174.
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- Settles, William R., 30% to A. C. Soderman. Cigarette pack with pocket clip. 3,084,407, 4-9-63, Cl. 24—3.
- Setzer, Glenn W. Process for improving structural members and improved structural members. 3,101,272, 8-20-63, Cl. 117—7.
- Setzerin, Andreas: *See*—  
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- Setzler, Paul H., to Bell Intercontinental Corp. Means for separation and removal of parts from a vibrating machine. 3,098,323, 7-23-63, Cl. 51—7.
- Seubert, William A., to Union Carbide Corp. Radial extrusion die. 3,105,269, 10-1-63, Cl. 18—14.
- Seubold, Frank H., Jr., to Collier Carbon and Chemical Corp. Polymerization of olefins and aluminum hydride activators therefor. 3,076,047, 1-29-63, Cl. 260—683.15.
- Seulen, Gerhard: *See*—  
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- Sevald, William T. Humidifier. 3,074,698, 1-22-63, Cl. 261—35.
- Sevast, Ulysses B. Bowling ball dust compartment. 3,083,509, 4-2-63, Cl. 51—273.
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- Sevcik, John G., to Burton-Dixie Corp. Collapsible bed and enclosure therefor. 3,077,612, 2-19-63, Cl. 5—66.
- Sevcik, John G., to Burton-Dixie Corp. Roll-away bed. 3,089,151, 5-14-63, Cl. 5—149.
- Sevens, Gerard M.: *See*—  
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- Severance, Ralph H., to The Magnavox Co. Fuze mechanism. 3,102,479, 9-3-63, Cl. 112—71.
- Severance, Ralph H., and D. E. Craig, to The Magnavox Co. Timing and/or relay device. 3,102,480, 9-3-63, Cl. 102—78.
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- Severin, John A., to Texas Instruments Inc. Transistorized dynamic focus circuit. 3,084,276, 4-2-63, Cl. 315—27.
- Severinsson, Erik S. Devices for joining pile sections. 3,104,532, 9-24-63, Cl. 61—53.
- Severson, Asbjorn M., to Minneapolis-Honeywell Regulator Co. Fluid amplifier. 3,080,886, 3-12-63, Cl. 137—597.
- Severson, Donald E., and D. S. Gleason, to The State University and the School of Mines, also known as the University of North Dakota. Gasification process for the production of synthesis gases. 3,110,578, 11-12-63, Cl. 48—203.
- Severson, Gordon W., to Clark Equipment Co. Seat suspension. 3,086,742, 4-23-63, Cl. 248—399.
- Severson, Wilmer I. Golf cart seat. 3,080,142, 3-5-63, Cl. 248—121.
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- Sevilla, Ernesto G., to Sperry Rand Corp. Resettable delay flop utilizing capacitor in feedback circuit. 3,097,310, 7-9-63, Cl. 307—88.5.
- Sevir, Anton: *See*—  
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- Sevold, William T.: *See*—  
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- Seward, Harold H. Electromechanical transducing system. 3,096,444, 7-2-63, Cl. 250—220.
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- Sewell, Daniel K.: *See*—  
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Anderson, Robert I., and Sewell. 3,109,649.
- Sewell, Donald N., to Dielectric Products Engineering Co., Inc. Attractantly biased spring clamp with quick-release expanding means, useful for coupling waveguide sections. 3,107,967, 10-22-63, Cl. 339—251.
- Sewell, Edgar F.: *See*—  
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- Sewell, John F. Combination sponge and chamois. 3,083,392, 4-2-63, Cl. 15—118.
- Sexauer, J. A., Mfg. Co., Inc.: *See*—  
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- Sexsmith, Fred H., to Johnson & Johnson. Polyvinyl chloral, methods of making the same and uses thereof. 3,085,910, 4-16-63, Cl. 117—138.8.
- Sexsmith, Fred H., to Johnson & Johnson. Methods for treating textile materials and resulting products. 3,100,135, 8-6-63, Cl. 8—116.
- Sexsmith, Fred H., and D. R. Petterson, to Chicopee Mfg. Corp. Wiping materials and methods of making the same. 3,077,423, 2-12-63, Cl. 117—143.
- Sexton, Arthur R., to The Dow Chemical Co. Method for the manufacture of N-methylene glycinonitrile. 3,096,362, 7-2-63, Cl. 260—465.5.
- Sexton, Hartson J.: *See*—  
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- Sexton, John L., 1/2 to W. C. Hurtt, and 1/2 to P. M. Hankison. Well cement or the like. 3,086,591, 4-23-63, Cl. 166—151.
- Sexton, William W. Shoe horns. 3,088,639, 5-7-63, Cl. 223—118.
- Seybold, Eugene: *See*—  
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- Seybold, Frederick W., to American Type Founders Co., Inc. Rotary offset printing presses. 3,110,252, 11-12-63, Cl. 101—144.
- Seyferth, Dietmar, to Ethyl Corp. Preparation of vinyl metal compounds. 3,085,119, 4-9-63, Cl. 260—665.
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- Seyforth, Leslie V., to The Bendix Corp. Mechanical digital-coded unlocking device. 3,110,014, 11-5-63, Cl. 340—164.
- Seyfried, Arthur W., to Scovill Mfg. Co. Suction cleaner bag mounting means. 3,088,260, 5-7-63, Cl. 55—374.
- Seyfried, Arthur W., and E. B. Mudge, to Scovill Mfg. Co. Steam iron water gauge. 3,075,309, 1-29-63, Cl. 38—77.
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- Seyler, Donald R.: *See*—  
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- Seymour, Cray R., to Sperry Rand Corp. Magnetic devices. Re. 25,367, 4-2-63, Cl. 340—174.
- Seymour, Dale R., T. F. Poe, and H. Heyman; said Heyman assor, to said Seymour and said Poe. Panel handling and transporting machines. 3,090,516, 5-21-63, Cl. 214—654.
- Seymour, David J., and G. T. Welshko, to Bethlehem Steel Co. Hinged container guides for container ships. 3,111,104, 11-19-63, Cl. 114—72.
- Seymour, Donald E. Vending machine. 3,088,629, 5-7-63, Cl. 221—77.
- Seymour, Harvey W., to American Chain & Cable Co., Inc. Hot-dip coating apparatus. 3,091,217, 5-28-63, Cl. 118—420.
- Seymour, Harvey W., to American Chain & Cable Co., Inc. Hot dip coating. 3,115,421, 12-24-63, Cl. 117—114.
- Seymour, Keith G.: *See*—  
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- Seymour, Malcolm, to Prototypes Inc. Liquid dispensing receptacle. 3,076,435, 2-5-63, Cl. 119—77.
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- Seymour, Shaun A., to Sperry Rand Corp. Heat exchanger. 3,115,130, 12-24-63, Cl. 126—110.
- Sfat, Michael R., R. H. Bauknecht, R. F. Bawden, and R. V. Dahlstrom, to Rahr Maltng Co. Grain malting method and product. 3,116,221, 12-31-63, Cl. 195—70.
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- Shackelford, John H. Artificial denture with adjustable segments. 3,104,465, 9-24-63, Cl. 32—2.
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- Shackson, Richard H., to Cleveland Technical Center, Inc. Portable gas conditioning apparatus. 3,103,104, 9-10-63, Cl. 62—5.
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- Shaffer, Donald U., and E. C. Greenwood, to Shaffer Tool Works. Multi-purpose wellhead apparatus for oil wells. 3,077,931, 2-19-63, Cl. 166-89.
- Shaffer, James H., J. E. Strain, D. Cuneo, and M. J. Kelly, to United States of America, Atomic Energy Commission. Separation of protactinium from molten salt reactor fuel compositions. 3,110,555, 11-12-63, Cl. 23-14.5.
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- Shaw, Fred B., F. E. Long, and R. A. Roof, to Continental Can Co., Inc. Method of packaging food, 3,108,881, 10-29-63, Cl. 99—171.
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- Shaw, Harold N. Laundry machines. 3,113,004, 12-3-63, Cl. 34—95.
- Shaw, Herbert S., and K. J. Bentley. Means to guide a conveyor belt around corners. 3,095,964, 7-2-63, Cl. 198—184.
- Shaw, Hubert K., and E. C. Craig, deceased (H. S. Craig, executrix), to International Applied-Research Corp. Survival-apparel and related survival-gear. 3,076,206, 2-5-63, Cl. 9—330.
- Shaw, James J.: *See—*  
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- Shaw, James L., to United States Rubber Co. Spot dyeing process and apparatus. 3,070,869, 1-1-63, Cl. 28—1.
- Shaw, John, to The Tungum Co. Ltd. Dry cleaning of rounded objects. 3,105,253, 10-1-63, Cl. 15—3.19.
- Shaw, John L. Electrical hygrometers. 3,083,573, 4-2-63, Cl. 73—336.5.
- Shaw, John P. H.: *See—*  
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- Shaw, John R., and H. L. Vornkahl, to Gulf Oil Corp. Method of inhibiting foaming of diethanolamine solutions in treating gases. 3,100,680, 8-13-63, Cl. 23—3.
- Shaw, John T.: *See—*  
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- Shaw, John T., to American Cyanamid Co. N-oxides of amino-s-triazines and process for preparing them. 3,093,645, 6-11-63, Cl. 260—249.9.
- Shaw, John T., F. J. Gross, and R. K. Madison, to American Cyanamid Co. Novel mercerated acrylamide compounds and germicidal textile finishes. 3,082,118, 3-19-63, Cl. 117—76.
- Shaw, Jonny B. Lap tray. 3,102,500, 9-3-63, Cl. 108—43.
- Shaw, Leslie E. Pipe wrapping device. 3,074,605, 1-22-63, Cl. 225—100.
- Shaw, Leslie R.: *See—*  
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- Shaw, Norman H., to The English Electric Co. Ltd. Motor speed control systems. 3,090,901, 5-21-63, Cl. 318—209.
- Shaw Process Development Corp.: *See—*  
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- Shaw, Robert P., to Macrosonic Process Corp. Methods and means for producing physical, chemical and physico-chemical effects by large-amplitude sound waves. 3,087,840, 4-30-63, Cl. 134—1.
- Shaw & Slavsky, Inc.: *See—*  
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- Shaw, Stephen H., to Cedar Engineering Division of Control Data Corp. Coil winding apparatus. 3,099,409, 7-30-63, Cl. 242—1.1.
- Shaw-Walker Co., The: *See—*  
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- Shaw, William C., to Canada Cycle and Motor Co. Ltd. Safety guard construction for ice skates. 3,095,208, 6-25-63, Cl. 280—11.17.
- Shawhan, Elbert N., to Sun Oil Co. Capacity type level meter. 3,073,160, 1-15-63, Cl. 73—304.
- Shawinigan Chemicals Ltd.: *See—*  
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- Shawinigan Resins Corp.: *See—*  
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- De Shay, Robert V. 3,075,935.
- Fitzhugh, Andrew F., Lavin, and Crozier. 3,077,462.
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- Lavin, Edward, Markhart, and Hunt. 3,072,596.
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- Shawmut Engineering Co.: *See—*  
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- Shay Containers, Inc.: *See—*  
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- Shay, Eli, to The Wean Engineering Co., Inc. Method of pickling. 3,091,558, 5-28-63, Cl. 134—15.
- Shay, Robert R. Single stick boat control. 3,085,447, 4-16-63, Cl. 74—471.
- Shay, Thomas M., to Shay Containers, Inc. Container. Re. 25,465, 10-22-63, Cl. 217—12.
- Shea, Andrew S. Emergency brake. 3,078,963, 2-26-63, Cl. 188—4.
- Shea, Francis L., to Barbour Welting Co. Beaded laminated shoe welting. 3,078,601, 2-26-63, Cl. 36—78.
- Shea, Frederick L., Jr., and H. L. Hsu, to Great Lakes Carbon Corp. Processing of raw petroleum coke. 3,077,439, 2-12-62, Cl. 202—26.
- Shea, John R. Water ski safety cap. 3,106,184, 10-8-63, Cl. 116—114.
- Shea, Philip D.: *See—*  
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- Shea, Warren, to Radiant Pen Corp. Pocketless display pen. 3,077,691, 2-19-63, Cl. 40—334.
- Shea, Warren, to Radiant Pen Corp. Display ball-point pen. 3,077,692, 2-19-63, Cl. 40—334.
- Shea, William C., and W. J. Pivacek, to Mobilaid, Inc. Telescopic adjustable leg rest. 3,072,437, 1-8-63, Cl. 297—435.
- Sheaffer, Isaac M., Jr.: *See—*  
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- Sheaffer, Isaac M., Jr., and E. Seif, to Burroughs Corp. Voltage comparison circuit. 3,103,646, 9-10-63, Cl. 340—146.3.
- Sheaffer, W. A., Pen Co.: *See—*  
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- Zepell, Nathan A. 3,112,734.
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- Sheahan, Robert E., to Stewart-Warner Corp. Self-braking caster. 3,102,298, 9-3-63, Cl. 16—44.
- Shealey, Helen I.: *See—*  
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- Shealy, Noah A., to Clark Equipment Co. Transmissions. 3,102,435, 9-3-63, Cl. 74—718.
- Shealy, Noah A., and W. R. Howard, to Clark Equipment Co. Fluid retarder system. 3,103,997, 9-17-63, Cl. 192—4.
- Shealy, Otis L., to E. I. du Pont de Nemours and Co. Crimpable synthetic filaments and process of manufacturing same. 3,078,644, 2-26-63, Cl. 28—82.
- Shearer, Jack F., and J. A. Nava, to The Pyle-National Co. Indexable key connector. 3,097,905, 7-16-63, Cl. 339—186.
- Shearer, James W.: *See—*  
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- Shearer, Newton H., Jr.: *See—*  
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- Coover, Harry W., Jr., and Shearer. 3,072,629.
- Coover, Harry W., Jr., and Shearer. 3,081,287.
- Joyner, Frederick B., and Shearer. 3,086,964.
- Joyner, Frederick B., and Shearer. 3,091,598.
- McCall, Marvin A., and Shearer. 3,076,015.
- Shearer, Newton H., Jr., and F. B. Joyner, to Eastman Kodak Co. Poly- $\alpha$ -olefins containing alkylidenebisphenols and butylated hydroxy toluene. 3,103,501, 9-10-63, Cl. 260—45.95.
- Shearman, Wilbur E.: *See—*  
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- Shearman, Wilbur E., to Ajax Magnethermic Corp. Apparatus for measuring furnace temperature. 3,115,781, 12-31-63, Cl. 73—343.
- Shears, Stuart T., to United-Carr Fastener Corp. Two-piece buckle. 3,077,020, 2-12-63, Cl. 24—77.
- Shears, Stuart T., to United-Carr Fastener Corp. Metal and plastic socket. 3,083,430, 4-2-63, Cl. 24—216.
- Shears, Stuart T., to United-Carr Fastener Corp. Closure member. 3,083,748, 4-2-63, Cl. 150—42.
- Shears, Stuart T., to United-Carr Fastener Corp. Combination brush and wiper. 3,091,788, 6-4-63, Cl. 15—4.
- Shears, Stuart T., and D. J. Broughton, to United-Carr Fastener Corp. Snap fastener socket. 3,079,658, 3-5-63, Cl. 24—216.
- Sheatz, Guy C. Multiple electrode holders for indicating nerve responses to stimulation. 3,089,483, 5-14-63, Cl. 128—2.1.
- Shebanow, Michael S., to Sperry Rand Corp. Magnetically controlled commutator devices. 3,087,030, 4-23-63, Cl. 200—87.
- Shedd, Robert R., to United States Steel Corp. Manufacture of tin plate. 3,101,767, 8-27-63, Cl. 153—92.
- Sheehan, Charles J., to Monsanto Chemical Co. Apparatus for continuous deposition of particulate material. 3,085,548, 4-16-63, Cl. 118—308.
- Sheehan, Edmund J.: *See—*  
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- Sheehan, Gerard M.: *See—*  
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- Sheehan, Gerard M., and E. R. Lawhorne, to American Cyanamid Co. Treatment of titanium dioxide pigment. 3,086,877, 4-23-63, Cl. 106—300.
- Sheehan, John C.: *See—*  
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- Sheehan, John C., to Arthur D. Little Inc. Treatment of protein and peptide materials to form amide linkages. 3,098,693, 7-23-63, Cl. 8—127.6.
- Sheehan, Joseph E., Sr., to M. A. Sheehan. Endless conveyors. 3,100,041, 8-6-63, Cl. 198—158.
- Sheehan, Mary A.: *See—*  
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- Sheehan, Robert G. Three-axle vehicle suspension including load stabilizing means. 3,099,460, 7-30-63, Cl. 280—104.5.
- Sheehan, Thomas H., to Sunbeam Corp. Apparatus for forming cutting elements. 3,104,500, 9-24-63, Cl. 51—89.
- Sheehan, William C., to E. I. du Pont de Nemours and Co. Coating regenerated cellulose film with a salt of a substituted polymerization product of styrene and maleic acid. 3,111,425, 11-19-63, Cl. 117—64.
- Sheehy, Joseph: *See—*  
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- Sheeley, David D., to General Motors Corp. Control console for an appliance. 3,072,782, 1-8-63, Cl. 240—2.
- Sheer, Charles, and S. Korman, to Sheer-Korman Associates Inc. Process for reduction of multiple oxides. 3,099,614, 7-30-63, Cl. 204—164.



- Sheer, Charles, S. Korman, and J. O. Gibson, to Sheer-Korman Associates, Inc. Process for reduction of ores to metals, alloys, interstitial and intermetallic compounds. 3,101,308, 8-20-63, Cl. 204-164.
- Sheer-Korman Associates, Inc.: *See*—  
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- Sheers, Edward H., to American Cyanamid Co. Phenylsul-famoyl dodecylthiocarbamate as a novel herbicide. 3,113,857, 12-10-63, Cl. 71-2.6.
- Sheesley, Beuford P. Method of decorating surfaces with a viscous fluid. 3,099,544, 7-30-63, Cl. 41-26.
- Sheesley, Jay R.: *See*—  
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- Sheesley, John M. Self-retaining electrical cable connector. 3,078,433, 2-19-63, Cl. 339-62.
- Sheesley, John M. Center bar actuator. 3,104,592, 9-24-63, Cl. 92-13.
- Sheets, Cleo B.: *See*—  
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- Sheets, Dwight M.: *See*—  
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- Sheets, Herman E., to General Dynamics Corp. Turbo-machine with slotted blades. 3,075,743, 1-29-63, Cl. 253-77.
- Sheets, Herman E., and J. V. Harrington, to General Dynamics Corp. Submerged fueling methods and apparatus. 3,100,006, 8-6-63, Cl. 141-1.
- Sheetz, Charles E., to FMC Corp. Adjustable spring-balanced scale. 3,092,196, 6-4-63, Cl. 177-170.
- Sheetz, David P.: *See*—  
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- Sheffet, David, to Western Geophysical Co. of America. Combined transistor amplifier and switching circuit. 3,107,307, 10-15-63, Cl. 307-88.5.
- Sheffield Corp., The: *See*—  
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- Sheffield, Harold B., to H. Koch & Sons. Marine float. 3,102,503, 9-3-63, Cl. 114-5.
- Sheffield, Kenneth J. W.: *See*—  
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- Sheffield Plastics, Inc.: *See*—  
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- Sheffe, Robert A., to American Electronics, Inc. Clutch or brake employing cam action. 3,096,863, 7-9-63, Cl. 192-90.
- Shelanski, Morris V., and T. Levenson, to Industrial Biology Laboratories, Inc. Detergent polyurethane products. 3,098,048, 7-16-63, Cl. 260-25.
- Shelby, Wallace A., Jr., to H. H. Robertson Co. Cellular floor construction. 3,102,610, 9-3-63, Cl. 189-34.
- Sheldahl, David B.: *See*—  
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- Sheldahl, David B., L. V. Collings, P. Shapiro, and F. M. Watkins, to Sinclair Research, Inc. Ferrous metal container for ammonium nitrate solution and method of reducing corrosion thereof. 3,078,993, 2-26-63, Cl. 206-84.
- Sheldahl, David B., and G. Entwistle, to Sinclair Refining Co. Coating composition and method. 3,086,870, 4-23-63, Cl. 106-10.
- Sheldahl, David B., and G. Entwistle, to Sinclair Refining Co. Coating composition. 3,086,871, 4-23-63, Cl. 106-14.
- Sheldon, Donald T., Sr. Elevated scorer for games. 3,110,498, 11-12-63, Cl. 273-127.
- Sheldon, Edward E. Electron tube device. 3,115,590, 12-24-63, Cl. 313-89.
- Sheldon, Gilbert J., to Bausch & Lomb Inc. Face plate support structure for high resolution cathode ray tube. 3,106,660, 10-8-63, Cl. 313-92.
- Sheldon, Gilbert J., and G. A. Ulrich, to Bausch & Lomb Inc. Focusing endoscope. 3,090,378, 5-21-63, Cl. 128-4.
- Sheldon, Luther M.: *See*—  
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- Sheldon Machine Co., Inc.: *See*—  
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- Sheldon, Robert S., to Kahn & Co., Inc. Fluid dynamometer. 3,091,309, 5-28-63, Cl. 188-90.
- Sheldon-Williams, Charles, to A. E. Reed & Co. Ltd. Cartons. 3,104,794, 9-24-63, Cl. 229-28.
- Shell, Ernest F., and R. C. Pressley, Jr., to General Electric Co. Food waste disposal apparatus. 3,071,329, 1-1-63, Cl. 241-46.
- Shell, Irving W. Display rack. 3,085,693, 4-16-63, Cl. 211-134.
- Shell, Julius P., to Chrysler Corp. Pivotal power steering pump support. 3,104,555, 9-24-63, Cl. 74-242.9.
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- Welsh, James W. 3,110,788.
- Welsh, James W. 3,112,434.
- Signode Steel Strapping Co.: *See*—  
Dalton, Joseph H. 3,084,672.
- Ericsson, Arvid L., and Vilcins. 3,103,955.
- Haraden, William J. 3,089,366.
- Kuster, William F. 3,083,845.
- Langas, Arthur, and Lingie. 3,106,136.
- Leslie, John W. 3,082,425.
- Lingie, Harrison C., and Langas. 3,086,207.
- Martin, Hollinshead T., and Lindholm. 3,088,397.
- Meier, William A. 3,089,233.
- Sauer, Leo P., and Frisch. 3,089,576.
- Sigoda, Merton A.: *See*—  
Sigoda, Victor J., and M. A. 3,079,879.
- Sigoda, Victor J., and M. A., to Man-Sew Corp. Overedge sew-  
ing machines. 3,079,879, 3-5-63, Cl. 112-162.
- Sih, Charles J.: *See*—  
Weisenborn, Frank L., and Sih. 3,110,733.
- Sihvonen, Kauno E.: *See*—  
Bowser, Phillip C., and Sihvonen. 3,077,028.
- Sihvonen, Yro T.: *See*—  
Boyd, David R., and Sihvonen. 3,073,011.
- Sijpesteijn, Antje K., and G. L. Wigerink, to North American  
Phillips Co., Inc. Bis (triphenyl tin) polysulphides and  
method of combating fungi. 3,113,069, 12-8-63, Cl. 167-  
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- Sikes, Moyce H. Coin controlled game apparatus. 3,084,936,  
4-9-63, Cl. 273-11.
- Sikora, Donald S., to Monroe Calculating Machine Co. Re-  
settable information storage device. 3,095,502, 6-25-63,  
Cl. 235-61.12.
- Sikora, John P. Oven. 3,077,826, 2-19-63, Cl. 99-421.
- Sikora, Stephen J., to United States of America, Navy.  
Barometric-radar altitude indicating system. 3,115,628,  
12-24-63, Cl. 343-12.
- Sikorski, Frank J., to JB Electronic Transformers, Inc.  
Miniature relay. 3,092,701, 6-4-63, Cl. 200-87.
- Sikorski, Paul E.: *See*—  
Brignac, Edmond P., Sikorski, and Wright. 3,083,412.
- Sikorski, Paul E., to Monsanto Chemical Co. Process and  
apparatus for heating and stretching filaments. 3,108,323,  
10-29-63, Cl. 18-8.
- Silard, Bela A. Recorder for densitometer. 3,096,137, 7-2-  
63, Cl. 346-32.
- Silber, Victor B. Shoe heel. 3,085,578, 4-16-63, Cl. 128-  
590.
- Silberreis, Charles H., and D. L. Coy, to Sommerfeld Machine  
Co., Inc. Machine tool. 3,111,871, 11-26-63, Cl. 82-29.
- Silberreis, Joseph, to The Huffman Mfg. Co. Tandem bicycle  
frame. 3,075,788, 1-29-63, Cl. 280-281.
- Silbereisen, Hermann, and M. Michalke, to Mannesmann  
Aktiengesellschaft. Method for producing iron powder hav-  
ing low carbon and oxygen contents. 3,073,695, 1-15-63,  
Cl. 75-5.
- Silberg, Oscar, 40% to G. M. Ilgas, and 30% to W. Cornia.  
Tire chain device. 3,074,453, 1-22-63, Cl. 152-237.
- Silberger, Marvin E. Overload device. 3,095,979, 7-2-63, Cl.  
212-134.
- Silberkuhl, Wilhelm J., U. Kastl, and E. Haeuseler. Pre-  
stressed concrete bodies. 3,084,481, 4-9-63, Cl. 50-129.
- Silberstein, Richard, to United States of America, Commerce.  
Satellite relay station using antenna diversity selection.  
3,093,538, 6-25-63, Cl. 325-4.
- Silbert, Leonard S., and D. Swern, to United States of  
America, Agriculture. Preparation of long-chain aliphatic  
peroxy acids. 3,079,411, 2-26-63, Cl. 260-406.
- Silbo Enterprises Inc.: *See*—  
Silen, Almer A. 3,078,953.
- Silbrico Corp.: *See*—  
Mendius, Carl, Jr. 3,113,924.
- Silen, Almer A., to Silbo Enterprises Inc. Collapsible port-  
able ladder. 3,078,953, 2-26-63, Cl. 182-163.
- Silentbloc Ltd.: *See*—  
Nicolaissen, Juncker Z. 3,109,639.
- Silent Glow Oil Burner Corp., The: *See*—  
Sherman, Rallston M. 3,081,944.
- Silex Co., The: *See*—  
Rodwick, Frank P., and Thome. 3,093,061.
- Siliani, Pier L. Self-adjusting condition responsive relay cir-  
cuit. 3,105,175, 9-24-63, Cl. 317-148.5.
- Siline, Robert J. Outdoor shower taking device. 3,077,609,  
2-19-63, Cl. 4-151.
- Silkau Mfg. Co., Inc.: *See*—  
Miller, George, and Colclough. 3,080,572.
- Silliker, John H., C. H. Koonz, and C. E. Jansen, to Swift  
& Co. Drying of bacterial cultures. 3,075,887, 1-29-63,  
Cl. 195-101.
- Silliman, John C., to American Pipe and Construction Co.  
Hydraulic wire rod tensioning means. 3,115,316, 12-24-63,  
Cl. 242-148.
- Silliman, Sheldon D.: *See*—  
Derr, Willard A., and Silliman. 3,075,177.
- Silliman, Sheldon D., and W. A. Derr, to Westinghouse Elec-  
tric Corp. Decimal pulse register with repeating stages.  
3,076,899, 2-5-63, Cl. 307-88.5.
- Silliman, Sheldon D., and W. A. Derr, to Westinghouse  
Electric Corp. Binary self-checking supervisory control  
system. 3,082,403, 3-19-63, Cl. 340-163.
- Silliman, Sheldon D., and B. R. Johnson, to Westinghouse  
Electric Corp. Monitor system for circuit interrupters.  
3,099,724, 7-30-63, Cl. 200-81.6.
- Silliman, Sheldon D., and W. A. Derr, to Westinghouse Elec-  
tric Corp. Remote signal systems. 3,107,340, 10-15-63,  
Cl. 340-163.
- Sills, Hubert R., to Canadian General Electric Co., Ltd.  
Salient pole rotor construction. 3,089,049, 5-7-63, Cl.  
310-269.
- Silopark S.A.: *See*—  
Bianca, Edoardo G. 3,083,792.  
Bianca, Edoardo G. 3,101,130.
- Silson, John E.: *See*—  
Abramson, Bernard, Greif, and Silson. 3,095,355.
- Silson, John E., P. Meshberg, and B. Abramson, to Revlon,  
Inc. Actuator for aerosol medication spray dispensers.  
3,107,670, 10-22-63, Cl. 128-173.
- Silva, Adalbert M., and C. F. Rueping, to Texaco Inc. De-  
waxing process. 3,108,942, 10-29-63, Cl. 208-25.
- Silva, Alfred W., to A. F. Graf von Soden. Utility chair  
structure and the like. 3,083,999, 4-2-63, Cl. 297-286.
- Silva, Joseph W.: *See*—  
Snyder, George R., and Silva. 3,107,450.
- Silver, Alexander: *See*—  
Cazier, John M., Parker, and Silver. 3,104,520.  
Rowlett, Beh H., and Silver. 3,079,127.
- Silver, Alexander, to The Garrett Corp. Load control valve  
for gas turbine compressors. 3,080,713, 3-12-63, Cl. 60-  
39.29.
- Silver, Alexander, and R. L. Cholvin, to The Garrett Corp.  
Turbo-charger boost density control. 3,096,614, 7-9-63,  
Cl. 60-13.
- Silver, Bernard, to Atlantic Research Corp. Propellant  
grains. 3,097,481, 7-16-63, Cl. 60-35.6.
- Silver, Bertram S. Composite article of furniture. 3,082,034,  
3-19-63, Cl. 297-135.
- Silver Corp.: *See*—  
Steele, Clarence R., and Price. 3,100,462.
- Silver, Dennis S., to Farrow & Jackson Ltd. Apparatus for  
heating liquid, powdered or granular material. 3,093,721,  
6-11-63, Cl. 219-19.



- Silver, Dennis S., to Farrow and Jackson Ltd. Conveyors, particularly for use in vending machines. 3,101,829, 8-27-63, Cl. 193-12.
- Silver, Dennis S., to Farrow and Jackson Ltd. Lockout mechanism for vending machine. 3,101,867, 8-27-63, Cl. 221-125.
- Silver, Joseph R. Retaining wall. 3,114,244, 12-17-63, Cl. 61-49.
- Silver, Julian. Convertible wood type machine shop toy. 3,071,889, 1-8-63, Cl. 46-39.
- Silver, Julian, to Instant-Fold Products, Inc. Collapsible bag carrier. 3,078,895, 2-26-63, Cl. 150-1.
- Silver, Robert S., to G. & J. Weir, Ltd. Method for operating a multi-stage flash distillation system. 3,111,462, 11-19-63, Cl. 202-53.
- Silver, Robert S., and J. R. Herd, to G. & J. Weir, Ltd. Method and apparatus for the multistage flash distillation of a liquid. 3,105,020, 9-24-63, Cl. 202-53.
- Silver, Saul H., to American Machine & Foundry Co. Measuring and balancing systems for high-speed machines. 3,077,781, 2-19-63, Cl. 73-465.
- Silver, Stan M. Packaging and display box. 3,082,864, 3-26-63, Cl. 206-45.14.
- Silver, Stan M. Top grip carrier for bottles or the like. 3,097,010, 7-9-63, Cl. 294-87.2.
- Silver, Walter H., to Paul P. Piper, Sr. Cotton wagon construction. 3,075,801, 1-29-63, Cl. 296-28.
- Silver, Walter H., and O. W. Oerman, to Deere & Co. Hitch device. 3,106,253, 10-8-63, Cl. 172-239.
- Silver Creek Precision Corp.: See—  
Donofrio, Alfonso M. 3,086,639.
- Silverman, Abraham. Machine for automatically feeding a plumber's snake. 3,093,854, 6-18-63, Cl. 15-104.3.
- Silverman, Bernard H., and E. Bagley, to Heyden Newport Chemical Corp. Pentaerythritol-acrolein reaction products and their production. 3,109,830, 11-5-63, Cl. 260-67.
- Silverman, Herbert H. Chance device comprising a game board apertured to receive rolling game pieces and having concealed indicia associated with the apertures therein. 3,113,778, 12-10-63, Cl. 273-139.
- Silverman, Jacob. Pressing machine. 3,093,275, 6-11-63, Cl. 223-38.
- Silverman, Milton: See—  
Turner, Mason M., and Silverman. 3,081,220.
- Silverman, Murray, to Eisenberg Jewelry, Inc. Clasp for a necklace or bracelet. 3,077,089, 2-12-63, Cl. 63-3.
- Silverman, Robert M.: See—  
Kobler, Richard, and Silverman. 3,089,002.
- Silverman, William B., to Owens-Illinois Glass Co. Electrically heated glass melting unit. 3,109,045, 10-29-63, Cl. 13-6.
- Silvern, David H., to Sundstrand Corp. Power system. 3,077,737, 2-19-63, Cl. 60-39.52.
- Silvernail, Walter L., to American Potash & Chemical Corp. Polishing composition and process of forming same. 3,097,083, 7-9-63, Cl. 51-307.
- Silverschoot, Stanford B., to International Telephone and Telegraph Corp. Ice detector. 3,086,393, 4-23-63, Cl. 73-170.
- Silverstolpe, Karl O. L. Method and means for producing aseptically packaged sterile plastic articles. 3,091,901, 6-4-63, Cl. 53-22.
- Silvester, Austin G., to General Electric Co. Plate assembly and method of fabrication. 3,113,083, 12-3-63, Cl. 204-154.2.
- Silvestri, Anthony J.: See—  
Offenhauer, Robert D., and Silvestri. 3,073,867.
- Silvestri, Giuliana: See—  
Muench, Werner, Silvestri, and Notarbartolo. 3,111,515.
- Silvey, Gene A.: See—  
Anderson, Richard L., Marinace, and Silvey. 3,072,507.
- Silvey, Joseph K. G.,  $\frac{1}{2}$  to M. B. Cunningham. Process for improving the palatability of water. 3,080,315, 3-5-63, Cl. 210-62.
- Simard, Albert.  $\frac{1}{2}$  to F. L. Moore. Fish scaling machine. 3,088,164, 5-7-63, Cl. 17-5.
- Simard, Donald: See—  
Simard, Joseph G. and D. 3,114,177.
- Simard, Joseph G. and D. Sashless window. 3,114,177, 12-17-63, Cl. 20-52.
- Simas, Edward F. Automobile speed control device. 3,077,239, 2-12-63, Cl. 180-82.1.
- Simberg, Rolf W. Slider in a slide fastener. 3,075,269, 1-29-63, Cl. 24-205.14.
- Simbulan, Raymond F., to Brunswick Corp. Floor seal. 3,111,981, 11-26-63, Cl. 160-40.
- Sime, Sylvan H. Auger bunk feeder. 3,103,913, 9-17-63, Cl. 119-52.
- Simhauser, Anthony J., to United States of America, Navy. Electrical squib separation device. 3,080,815, 3-12-63, Cl. 102-49.
- Simich, Emil. Cutting tool. 3,076,356, 2-5-63, Cl. 77-67.
- Simini, Joseph P. Trigonometric calculator. 3,082,948, 3-26-63, Cl. 235-88.
- Siminoff, Paul: See—  
Dietz, Alma, De Boer, Smith, Siminoff, Boyack, and Whitfield. 3,116,202.
- Simirra, Johannes R., to Space Technology Laboratories, Inc. Pierceable diaphragm and cutter fluid control arrangement. 3,087,643, 4-30-63, Cl. 220-47.
- Simjian, Luther G., to Universal Match Corp. Currency exchange apparatus. 3,072,237, 1-8-63, Cl. 194-4.
- Simjian, Luther G., to Reflectone Electronics, Inc. Golf game apparatus. 3,072,410, 1-8-63, Cl. 273-185.
- Simjian, Luther G., to Universal Match Corp. Receptacle for storing articles in combination with unloading fixture. 3,074,663, 1-22-63, Cl. 242-67.3.
- Simjian, Luther G., to Universal Match Corp. Depository machine combined with image recording means. 3,076,965, 2-5-63, Cl. 346-22.
- Simjian, Luther G., to Universal Match Corp. Depository machine combined with image recording means. 3,079,603, 2-26-63, Cl. 346-22.
- Simjian, Luther G., to Universal Match Corp. Depository machine combined with image recording means. 3,092,433, 6-4-63, Cl. 346-22.
- Simjian, Luther G., to Universal Match Corp. Feeding mechanism for documents or the like. 3,095,192, 6-25-63, Cl. 271-3.
- Simjian, Luther G., to Universal Match Corp. Subscriber controlled apparatus. 3,097,347, 7-9-63, Cl. 340-147.
- Simjian, Luther G., to Universal Match Corp. Dispensing system with receptacle designator. 3,103,960, 9-17-63, Cl. 141-160.
- Simjian, Luther G., to Universal Match Corp. Depository machine combined with analyzing and image recording means. 3,104,314, 9-17-63, Cl. 235-61.9.
- Simjian, Luther G., to Universal Match Corp. Security arrangement for depository machine. 3,110,540, 11-12-63, Cl. 346-22.
- Simjian, Luther G., to Universal Match Corp. Depository apparatus. 3,112,019, 11-26-63, Cl. 194-2.
- Simko, Edward G., to General Mills, Inc. Balloon construction. 3,107,884, 10-22-63, Cl. 244-31.
- Simko, Edward G., and E. L. Hamernik, to United States of America, Army. Method of inflating high altitude inflatable structures. 3,107,068, 10-15-63, Cl. 244-1.
- Simm, Walter: See—  
Muller, Rudolf, Simm, and Linsert. 3,092,198.
- Simmen, Robert, to Mefina S.A. Fuze for projectile. 3,115,094, 12-24-63, Cl. 102-74.
- Simmering-Graz-Pauker Aktiengesellschaft fur Maschinen-, Kessel- und Waggonbau: See—  
Fritsch, Felix. 3,080,775.
- Simmon, Alfred, and L. L. Weisglass, to Simmon Bros. Inc. Color filter devices for photographic printers and enlargers. 3,077,140, 2-12-63, Cl. 88-24.
- Simmon, Alfred, and L. L. Weisglass, to Simmon Bros., Inc. Density control for photographic enlargers. 3,086,709, 4-23-63, Cl. 235-184.
- Simmon Bros., Inc.: See—  
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Simmon, Alfred, and Weisglass. 3,086,709.  
Weisglass, Louis L. 3,081,670.  
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- Simmonds, Milo R.: See—  
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- Simmonds Precision Products, Inc.: See—  
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- Simmons, Anthony T. F., to The English Electric Co. Ltd. Temperature control systems for aircraft. 3,071,185, 1-1-63, Cl. 165-22.
- Simmons, Charles A., Sr., to Consolidated Devices & Development, Inc. Automobile parking system. 3,085,701, 4-16-63, Cl. 214-16.1.
- Simmons, Charles P. Sofa-bed hinge mechanism. 3,107,363, 10-22-63, Cl. 5-41.
- Simmons, Charles P. Sofa-bed hinge mechanism. 3,107,364, 10-22-63, Cl. 5-41.
- Simmons Co.: See—  
Blecker, Raymond H. 3,079,613.  
Downs, William T., and Ryan. 3,080,720.  
Mayer, Edwin H. 3,077,613.  
Novascone, John L. 3,080,578.  
Williams, Richard J., Heyl, and Downs. 3,081,463.
- Simmons, Dorsey D., and C. G. Svala, to North Electric Co. Magnetic latching crossbar switch. 3,102,931, 9-3-63, Cl. 179-27.54.
- Simmons, Edward C.: See—  
Mann, Leonard J., Williamitis, and Simmons. 3,097,509.
- Simmons, Edward R.: See—  
Hildebrandt, Robert L., Newton, and Simmons. 3,103,249.
- Simmons, Fred A., to Simmons Tool Co., Inc. Broom-rake. 3,078,652, 2-26-63, Cl. 56-400.17.
- Simmons, Harold C.: See—  
Webster, William G., and Simmons. 3,080,885.
- Simmons, Harold C., to Parker-Hannifin Corp. Spill type fuel injection nozzle. 3,097,795, 7-16-63, Cl. 239-124.
- Simmons, Harold C., and L. B. O'Sickey, to Parker-Hannifin Corp. Fuel injection nozzle. 3,093,317, 6-11-63, Cl. 239-453.
- Simmons, Harold T., to Mallory Timers Co., a Division of P. R. Mallory & Co., Inc. Intermittent driving device for a timer mechanism. 3,115,785, 12-31-63, Cl. 74-125.
- Simmons, Howard E., Jr., to E. I. du Pont de Nemours and Co. Process for preparing cyclopropane derivatives. 3,074,984, 1-22-63, Cl. 260-414.
- Simmons, Jesse T. Bearing servicing tool. 3,083,449, 4-2-63, Cl. 29-255.
- Simmons, Jesse T. Press for automotive service. 3,111,752, 11-26-63, Cl. 29-252.



- Simmons, Lawrence C., to Cleveland Technical Center, Inc. Bearing apparatus. 3,071,420, 1-1-63, Cl. 308-87.
- Simmons, Lawrence C., to Cleveland Technical Center, Inc. Loading system apparatus. 3,098,562, 7-23-63, Cl. 206-46.
- Simmons Motor Units Ltd.: See—  
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- Simmons, Ody R. Water dispersal apparatus. 3,081,949, 3-19-63, Cl. 239-383.
- Simmons, Richard G. Snow blower apparatus. 3,099,097, 7-30-63, Cl. 37-19.
- Simmons, Richard G. Snow blower apparatus. 3,099,396, 7-30-63, Cl. 239-590.
- Simmons, Robert C.: See—  
Combs, Charles W., and Simmons. 3,077,563.  
Janke, Kurt E., and Simmons. 3,079,572.
- Simmons Tool Co., Inc.: See—  
Simmons, Fred A. 3,078,652.
- Simmons, Wayne A., to Tyler Pipe and Foundry Co. Pipe joint fabricating tool. 3,096,572, 7-9-63, Cl. 29-237.
- Simms, F. S., & Co. Ltd.: See—  
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- Simms Motor Units Ltd.: See—  
Miracki, Zdzislaw S. 3,103,822.  
North, Geoffrey R. 3,093,125.  
Peterson, Thomas, and Uttin. 3,074,625.
- Simnad, Massoud T.: See—  
Goeddel, Walter V., and Simnad. 3,087,877.
- Simo, Frank E., to Eaton Mfg. Co. Eddy current clutch control for a synchronized drive. 3,076,906, 2-5-63, Cl. 310-94.
- Simon-Carves Ltd.: See—  
Penn, Arthur, and Marsh. 3,075,476.
- Simon, Donald R.: See—  
Ratajski, Ziemowit R. S., and Simon. 3,112,464.
- Simon, Donald R., and T. W. Parsons, to General Precision, Inc. Frequency resolver. 3,116,464, 12-31-63, Cl. 331-107.
- Simon, Eli: See—  
George, Melvin F., Jr., Simon, and Burkart. 3,079,289.  
Hamilton, William F., Levine, and Simon. 3,084,024.
- Simon, Eli, and F. W. Thomas, to Lockheed Aircraft Corp. Composition comprising a polyisocyanate reaction product and a polysulfide polymer. 3,077,464, 2-12-63, Cl. 260-42.
- Simon, Eli, and F. W. Thomas, to Lockheed Aircraft Corp. Cellular reaction product of alkyd resin, polyhydric alcohol and arylene polyisocyanate and method of preparation. 3,106,537, 10-8-63, Cl. 260-25.
- Simon, George, to Kay Mfg. Corp. Double hinged inner spring unit. 3,099,843, 8-6-63, Cl. 5-351.
- Simon, Henry, Ltd.: See—  
Bingham, John D. 3,113,923.
- Simon, Jacob. Bail attacher. 3,078,882, 2-26-63, Cl. 140-93.
- Simon, James P., to General Electric Co. Gas turbine scroll mount. 3,084,907, 4-9-63, Cl. 253-39.
- Simon, Lewis B. Chamber orbiting rotary internal combustion engine. 3,114,354, 12-17-63, Cl. 123-16.
- Simon, Myron S.: See—  
Blout, Elkan R., Cohen, Green, and Simon. 3,077,402.  
Blout, Elkan R., Green, Rogers, and Simon. 3,076,820.  
Goulston, Arthur B., and Simon. 3,081,167.  
Green, Milton, Morse, and Simon. 3,091,530.
- Simon, Stephane M., to International Standard Electric Corp. Electrical trigger circuit. 3,081,419, 3-12-63, Cl. 317-148.5.
- Simon, Stephane M. C. V., and E. J. H. De Raedt, to International Standard Electric Corp. Test device for telecommunication systems. 3,079,465, 2-26-63, Cl. 179-18.
- Simon, Walter. H. J. Waldmann, R. Melan, and E. Plauth, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of cyclic alcohols and ketones. 3,093,686, 6-11-63, Cl. 260-586.
- Simon, Warner H. High purity arc welding and apparatus therefor. 3,108,176, 10-22-63, Cl. 219-74.
- Simon, Werner. Paint-spraying device with rotating brush. 3,084,069, 4-2-63, Cl. 117-111.
- Simon, William, to Image Instruments, Inc. X-ray system. 3,076,054, 1-29-63, Cl. 178-6.5.
- Simonds, Clarence S.: See—  
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- Simonds Saw and Steel Co.: See—  
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- Simone, Dominic: See—  
Herman, Daniel F., Simone, and Weil. 3,114,737.
- Simonetta, John. Adjustable binder attachment for sewing machines. 3,112,719, 12-3-63, Cl. 112-137.
- Simonette, Ralph: See—  
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- Simonini, Gian C. Process for the treatment of vegetable material, particularly tobacco leaf, for the purpose of making it ready for commercial shipment. 3,084,488, 4-9-63, Cl. 53-24.
- Simoniz Co.: See—  
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Kendall, Edward R. 3,074,799.  
Smith, Thomas B., and Geen. 3,072,492.
- Simonoff, Natalie L. Combination garment. 3,088,116, 5-7-63, Cl. 2-78.
- Simons, Allison K., to Bostrom Corp. Seat suspension system. 3,098,676, 7-23-63, Cl. 297-307.
- Simons, Allison K., A. O. Radke, and H. N. Tengler, to Bostrom Corp. Spring suspension for seats. 3,109,621, 11-5-63, Cl. 248-399.
- Simons, Aloys. Centrifuge construction. 3,115,457, 12-24-63, Cl. 210-232.
- Simons, Courtney S., to Freeport Sulphur Co. Leaching of chromium, nickel, cobalt, and manganese from ores. 3,082,080, 3-19-63, Cl. 75-119.
- Simons, Gordon F.: See—  
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Morana, Simon J., Simons, and Wummer. 3,116,111.
- Simons, Jack. Applicator for liquids. 3,090,070, 5-21-63, Cl. 15-541.
- Simonson, Lowden, C. Wieman, H. K. Reamey, Jr., and J. Kiefer, to Reynolds Metals Co. Graphite mold casting system. 3,076,241, 2-5-63, Cl. 22-200.1.
- Simpelaar, Clyde S., to Modine Mfg. Co. Heat exchanger. 3,106,958, 10-15-63, Cl. 165-181.
- Simpkins, Alan B., to Delcon Corp. Communication system. 3,114,800, 12-17-63, Cl. 179-1.5.
- Simpkins, Gideon M., to Airterra. Flush coupling assemblies. 3,079,178, 2-26-63, Cl. 285-83.
- Simpkins, Gideon M., to Airterra. Flush closure. 3,091,356, 5-28-63, Cl. 220-25.
- Simpkins, Gideon M., to Airterra. Closure. 3,091,358, 5-28-63, Cl. 220-46.
- Simpkins, Margaret R.: See—  
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- Simpkins, Ralph A., deceased, by M. R. Simpkins, administratrix, to Oarco, Inc. Amusement ride. 3,072,399, 1-8-63, Cl. 272-36.
- Simpkins, William, to Tiffany Stand Co. Support construction. 3,099,233, 7-30-63, Cl. 108-156.
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- Simpla Research and Mfg. Co.: See—  
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- Simplex Lock Corp.: See—  
Fengler, Ferdinand. 3,115,765.
- Simplex Wire and Cable Co.: See—  
Munn, Paul S. 3,114,793.
- Simplicity Engineering Co.: See—  
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Behnke, George W., and Westcott. 3,105,815.
- Simplot, J. R., Co.: See—  
Kueneman, Ray W., and Conrad. 3,085,019.
- Simpson, Alfred M., to The Metal Box Co. Ltd. Carton transferring apparatus. 3,096,693, 7-9-63, Cl. 93-51.
- Simpson, Arthur I. F.: See—  
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- Simpson, Arthur I. F., and W. A. Cawthra, to Modern Telephones (Great Britain) Ltd. Transistor amplifiers with protective circuit means. 3,101,453, 8-20-63, Cl. 330-22.
- Simpson, DeRoy. Portable fence. 3,108,786, 10-29-63, Cl. 256-59.
- Simpson, De Roy. Exhaust filter. 3,110,581, 11-12-63, Cl. 55-387.
- Simpson, De Roy. Disposable exhaust filter. 3,110,582, 11-12-63, Cl. 55-446.
- Simpson, Donald B., to Ko-Lap-So-Carton Co. Holder for milk cartons. 3,084,829, 4-9-63, Cl. 220-85.
- Simpson, Duncan W.: See—  
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- Simpson, Frank E., and J. D. Hoffman, to FMC Corp. Bag making machine. 3,093,280, 6-11-63, Cl. 225-96.
- Simpson, Frank E., and J. D. Hoffman, to FMC Corp. Bag stacking mechanism. 3,105,422, 10-1-63, Cl. 93-93.
- Simpson, Frederick A. Thermally controlled valve with three ports. 3,088,672, 5-7-63, Cl. 236-12.
- Simpson, George G.: See—  
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- Simpson, Harry M. Game and toy. 3,106,039, 10-8-63, Cl. 46-47.
- Simpson, Herbert, Corp.: See—  
McIlvaine, Robert L. 3,077,714.  
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- Simpson, Jack N.: See—  
Gongoll, Vernon E., Simpson, and Boyer. 3,073,410.
- Simpson, James H., Jr.: See—  
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- Simpson, James W., Jr., and R. S. Arnold, to General Electric Co. Indicator. 3,092,071, 6-4-63, Cl. 116-129.
- Simpson, Justin, to Continental Can Co., Inc. Side seam indexing device for cans. 3,110,247, 11-12-63, Cl. 101-38.
- Simpson Mfg. Co.: See—  
Arnt, Herald P., Jr. 3,088,332.
- Simpson, Orville, Co., The: See—  
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- Simpson, Paul F.: See—  
Hagan, Albert W., and Simpson. 3,098,600.
- Simpson, Richard W.: See—  
Atwood, Seth G., Kittle, Keith, Slattery, and Simpson. 3,071,292.
- Simpson, S., Ltd.: See—  
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- Simpson, Verne G.: See—  
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- Simpson, Victor R., to International Business Machines Corp. Type belt device. 3,113,509, 12-10-63, Cl. 101-111.
- Simpson, Warren C., and H. J. Sommer, to Shell Oil Co. Surfacing compositions comprising a mixture of a polyepoxide, a polyamide and a petroleum derived bituminous material. 3,105,771, 10-1-63, Cl. 117-32.
- Simpson, William G. Apparatus for measuring feet for boots, shoes and other footwear. 3,098,301, 7-23-63, Cl. 33-3.
- Sims, Charles R.: *See*—
- McMath, Marl, and Sims. 3,110,925.
- Sims, Claude C., to United States of America, Navy. High pressure piezoelectric hydrophone with tungsten backing plate. 3,079,584, 2-26-63, Cl. 340-10.
- Sims, Donald E.: *See*—
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- Sims, Homer J., to Rohm & Haas Co. 1,3,3,5-tetrachloro-2-keeto-7-cyano-[2,2,2]-bicyclooctene-5. 3,086,040, 4-16-63, Cl. 260-464.
- Sims, Leslie L., to Ethyl Corp. Chlorinated solvents stabilized with mixtures of adioxolane compound, anitro-aliphatic compound, and an aliphatic carboxylic acid ester. 3,113,155, 12-3-63, Cl. 260-652.5.
- Sims, Leslie L., to Ethyl Corp. Chlorinated solvents stabilized with mixture of a dioxolane compound and a nitro-aliphatic compound. 3,113,156, 12-3-63, Cl. 260-652.5.
- Sims, Victor A.: *See*—
- Vitcha, James F., and Sims. 3,089,899.
- Vitcha, James F., and Sims. 3,089,900.
- Vitcha, James F., and Sims. 3,089,901.
- Vitcha, James F., and Sims. 3,089,902.
- Sims, Walter M. Ice cream freezer assembly. 3,087,708, 4-30-63, Cl. 259-53.
- Simshauser, Herbert H. Variable pitch boat propeller. 3,099,320, 7-30-63, Cl. 170-160.13.
- Sinclair, Alfred C., to Anderson, Clayton & Co. Vehicle lift with adjustable arms. 3,080,018, 3-5-63, Cl. 187-8.75.
- Sinclair, Charles W., to Kelsey-Hayes Co. Method of making a brake drum. 3,090,114, 5-21-63, Cl. 29-447.
- Sinclair, George E., to Scott & Williams, Inc. Elastic yarn feeder for knitting machines. 3,099,143, 7-30-63, Cl. 66-132.
- Sinclair, Harold. Hydraulic turbo couplings. 3,075,354, 1-29-63, Cl. 60-54.
- Sinclair Refining Co.: *See*—
- Keith, Willis C., and Cotton. 3,075,009.
- McReynolds, John I. 3,076,543.
- Neubauer, Albert V. 3,081,761.
- Sheldahl, David B., and Entwistle. 3,086,870.
- Sheldahl, David B., and Entwistle. 3,086,871.
- Sinclair Research Inc.: *See*—
- Bartlett, Ronald S., Michaels, and Thomas. 3,079,447.
- Bartlett, Ronald S., Michaels, and Thomas. 3,113,979.
- Boyd, John L. 3,077,387.
- Burk, Emmett H., Jr., Korelitz, and Jordan. 3,116,340.
- Carlson, Dennis R., Case, and Patinkin. 3,083,088.
- Case, Everett N., and Chambers. 3,098,728.
- Case, Everett N., Patinkin, and Dellert. 3,083,086.
- Chambers, Robert A., Sanford, Patinkin, and Foster. 3,109,869.
- Cole, Eldon B., and Niles. 3,092,475.
- Creech, Barnard, and Vierk. 3,078,237.
- Curtice, Jay S., Snow and Baillie. 3,087,064.
- Dresser, Thorpe. 3,113,982.
- Emery, Leonard W. 3,115,929.
- Friedman, Bernard S., and Zmitrovis. 3,097,155.
- Grady, Anthony G., Verdol, and Walker. 3,080,275.
- Haney, Stanley C., and Verdol. 3,088,815.
- Hoffman, William D., and Burk. 3,113,159.
- Holbert, Don R. 3,097,525.
- Keith, Carl D., and Erickson. 3,079,327.
- Keith, Willis C. 3,083,087.
- Keith, Willis C. 3,098,884.
- Keith, Willis C., and Chambers. 3,086,991.
- Keith, Willis C., Verdol, and Zmitrovis. 3,099,686.
- Keith, Willis C., and Zmitrovis. 3,100,232.
- Keith, Willis C., and Zmitrovis. 3,102,904.
- Kirk, James H. 3,077,449.
- Korelitz, Theodore H. 3,103,545.
- Kovach, Stephen M. 3,104,268.
- Matson, Howard J. 3,097,170.
- Monagle, John J. 3,081,285.
- Mool, John, Thomas, and Burk. 3,085,971.
- Muskat, Irving E. 3,085,986.
- Muskat, Irving E. 3,085,994.
- Nelson, John W. 3,076,763.
- Nelson, John W. 3,110,670.
- Nelson, John W., and Young. 3,071,634.
- Patinkin, Seymour H., Sanford, and Chambers. 3,110,741.
- Pelzer, Harry L., and Calhoun. 3,110,344.
- Perry, Robert O., and Holbert. 3,114,419.
- Sanford, Robert A., Ballard, and Anderson. 3,083,244.
- Shapiro, Paul, and Collings. 3,091,580.
- Shapiro, Paul, Collings, Sheldahl, and Watkins. 3,078,992.
- Shapiro, Paul, Sheldahl, and Collings. 3,096,169.
- Sheldahl, David G., Collings, Shapiro, and Watkins. 3,078,993.
- Smith, Reading B. 3,080,300.
- Smith, Reading B., and Dresser. 3,103,541.
- Stahly, Eldon E. 3,105,351.
- Truman, Paul W. 3,083,570.
- Sinclair Research Inc.: *See*—Continued
- Young, David W. 3,081,321.
- Young, David W. 3,081,322.
- Young, David W. 3,083,168.
- Young, David W. 3,113,150.
- Verdol, Joseph A. 3,096,286.
- Vlasic, John. 3,114,393.
- Watkins, Franklin M., and Sheldahl. 3,078,991.
- Westphal, James A. 3,073,406.
- Westphal, James A. 3,101,547.
- Zenor, Hughes M. 3,082,943.
- Sinclair, Richard L., and R. E. Jenkins; said Jenkins assor. to said Sinclair. Automobile parking apparatus. 3,079,015, 2-26-63, Cl. 214-16.1.
- Sinclair, William R., and J. C. Williams, to Bell Telephone Laboratories, Inc. Mullite synthesis. 3,073,770, 1-15-63, Cl. 204-192.
- Sindelar, Lawrence R., to The Goodyear Tire & Rubber Co. Apparatus for molding valve receiving aperture in a tire. 3,096,541, 7-9-63, Cl. 18-2.
- Sindelar, William F., to Master Power Corp. Detent coupling means for socket of rotary power tool. 3,097,859, 7-16-63, Cl. 279-97.
- Sinden, Alfred D., to Stephens-Adamson Mfg. Co. Eccentric drive for vibrating conveyor. 3,099,349, 7-30-63, Cl. 198-220.
- Sinder, Mary: *See*—
- Welles, Annette, and Sinder. 3,111,878.
- Sindery, Guy G., to Houseman & Thompson Ltd. Protecting metal surfaces by corrosion inhibiting atmospheres. 3,084,022, 4-2-63, Cl. 21-2.5.
- Sindlinger, Norman E.: *See*—
- Fuller, Dudley D., Loeb, and Sindlinger. 3,076,523.
- Sindlinger, Paul W.: *See*—
- Reed, Theron J. 3,107,825.
- Sindri Fertilizers and Chemicals Ltd.: *See*—
- Chakravorty, Kshitish R., and Dutta. 3,088,924.
- Sindrie, Richard N.: *See*—
- Weiner, Myron J., and Sindrie. 3,081,116.
- Sindy, Clarence F., to General Electric Co. Flash bulb filling apparatus. 3,098,335, 7-23-63, Cl. 53-59.
- Sindy, Clarence F., and F. V. Kolda, to General Electric Co. Lamp mount forming machine. 3,084,721, 4-9-63, Cl. 140-71.6.
- Siner, Stephen J., and V. Sussman, to Joseph Waldman & Sons. Sealing means and method of sealing. 3,077,639, 2-19-63, Cl. 18-59.
- Sines, Francis J., to United States Steel Corp. Blast furnace tops. 3,095,986, 7-2-63, Cl. 214-35.
- Sinex, Gene O., to American Tank and Steel Corp. Fluid separating apparatus. 3,077,713, 2-19-63, Cl. 55-219.
- Singdale, Fred N., and W. H. Righter, to Lockheed Aircraft Corp. Resistance strain gage and method for making same. 3,079,575, 2-26-63, Cl. 358-2.
- Singelmann, Dietrich E., to Bell Aerospace Corp. Water jet engine. 3,099,133, 7-30-63, Cl. 60-35.5.
- Singer, Charles, to R. R. Donnelley & Sons Co. Record strip controlled individual-type casting and composing machine. 3,110,396, 11-12-63, Cl. 199-77.
- Singer-Cobble, Inc.: *See*—
- Beasley, Max M. 3,108,553.
- Card, Joseph L. 3,084,644.
- Card, Roy T. 3,075,482.
- Card, Roy T. 3,084,645.
- Card, Roy T. 3,096,734.
- Gowin, Grover Z. 3,073,197.
- Hammel, Wallace W., Jr. 3,103,187.
- Singer Co., The: *See*—
- Card, Joseph L. 3,115,856.
- Cook, Albert N. 3,114,852.
- Doerner, Ernest H. 3,106,176.
- Happe, Reynold, Sailer, and Lubas. 3,109,164.
- Johnson, Ralph E. 3,103,191.
- Johnson, Ralph E., and Bartosz. 3,099,972.
- Ketterer, Stanley J. 3,103,189.
- Ketterer, Stanley J. 3,113,539.
- Ketterer, Stanley J. 3,105,451.
- Ketterer, Stanley J. 3,115,110.
- Ketterer, Stanley J. 3,115,855.
- Lees, Nathaniel P. 3,099,973.
- Mahler, Peter A., and Boyer. 3,111,827.
- Perla, Martin R. 3,113,536.
- Perla, Martin R. 3,113,538.
- Szostak, Jan, and Brofsky. 3,105,449.
- Weaver, Eugene E. 3,111,288.
- Wiehl, Frederick R. 3,103,190.
- Yelpo, Joseph P., and Romano. 3,104,503.
- Singer, Ernst. Pressure regulating valves utilizing a bar spring. 3,076,475, 2-5-63, Cl. 137-505.21.
- Singer-Fidelity, Inc.: *See*—
- De Moss, John, and Peel. 3,083,553.
- Mahler, Peter A. 3,081,609.
- Mahler, Peter A. 3,090,216.
- Singer, Franz: *See*—
- Gebele, Kurt, and Singer. 3,089,401.
- Gebele, Kurt, and Singer. 3,095,790.
- Singer, Franz, to Compur-Werk G.m.b.H. & Co. Photographic camera. 3,071,054, 1-1-63, Cl. 95-10.
- Singer, Franz, to Compur-Werk G.m.b.H. & Co. Photographic camera. 3,094,052, 6-18-63, Cl. 95-10.
- Singer, Franz, to Compur-Werk G.m.b.H. & Co. Photographic camera. 3,110,236, 11-12-63, Cl. 95-10.



- Singer, Jerome R., to The Regents of the University of California. Frequency stabilization system. 3,116,463, 12-31-63, Cl. 331-9.
- Singer, Joe K., to Socony Mobil Oil Co. Regulated hydrogen-to-naphtha mol ratio. 3,091,584, 5-28-63, Cl. 208-65.
- Singer, John J., and M. Weisberg, to Hampshire Chemical Corp. Iron chelate compositions. 3,115,511, 12-24-63, Cl. 260-439.
- Singer, Josef, to Farbenfabriken Bayer Aktiengesellschaft. Quaternary coeramidonines. 3,107,247, 10-15-63, Cl. 260-274.
- Singer, Leo S.: *See*—  
Kaplan, Martin. 3,093,835.
- Singer, Leon, and W. D. Armstrong, to The Regents of the University of Minnesota. Liquid food treating process. 3,094,419, 6-18-63, Cl. 99-60.
- Singer Mfg. Co., The: *See*—  
Alderman, Robert E. 3,097,278.  
Cook, Albert N. 3,082,320.  
Di Camillo, Raymond J. 3,094,088.  
Enos, John P. 3,074,365.  
Habedank, Gustav J., and Kuhar. 3,074,367.  
Hayes, Frank A., Abel, and Herr. 3,084,640.  
Herr, John A., and Reid. 3,089,441.  
Johnson, Ralph E. 3,084,646.  
Johnson, Ralph E. 3,096,736.  
Johnson, Ralph E., and Kohlmayer. 3,074,364.  
Ketterer, Stanley J. 3,084,648.  
Kostenowczyk, Stanley. 3,081,723.  
Kuhar, Ludwig J. 3,083,659.  
Kuhar, Ludwig J. 3,087,388.  
Marchand, Nathan. 3,089,086.  
Matchett, David W., and Edwards. 3,084,647.  
McCann, Francis D. 3,086,485.  
McGill, Thomas A. 3,083,653.  
Patrick, Vito J., Fiske, and Fennesz. 3,089,446.  
Patrick, William E. 3,083,661.  
Perla, Martin R. 3,095,765.  
Ranky, Bela. 3,079,554.  
Reid, Orland B., Herr, Turner, and Abel. 3,097,617.  
Stanton, Edward W., and Hofgesang. 3,078,132.  
Szuba, Walter D., and Benzing. 3,094,085.  
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- Singer, Marshall R.: *See*—  
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- Singer, Robert B.: *See*—  
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- Singer, Robert E., to Monroe Calculating Machine Co. Control for data processing. 3,106,338, 10-8-63, Cl. 234-53.
- Singer-Supreme Co., Inc.: *See*—  
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- Singing Needles, Inc.: *See*—  
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- Singiser, Robert E.: *See*—  
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- Singleton, Jack: *See*—  
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- Singleton, John C., to Diamond Power Specialty Corp. Stud tensioner. 3,077,335, 2-12-63, Cl. 254-29.
- Singleton, John C., and L. S. De Mart, to Diamond Power Specialty Corp. Stud tensioner drawbar connector. 3,115,332, 12-24-63, Cl. 254-29.
- Singleton, Robert C.: *See*—  
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- Sinha, Shyamal K., V. Marshall, and G. M. Stewart, Jr., to Jensen-Salsberg Laboratories, Inc. Serial passage of distemper virus in tissue cultures of chick embryo and canine tissue and vaccine therefrom. 3,080,291, 3-5-63, Cl. 167-78.
- Sinhoff, Alfred O., to Waggonfabrik Talbot. Offset pivoted closure for hopper cars. 3,075,477, 1-29-63, Cl. 105-247.
- Sinia Viscosa Societa Nazionale Industria Applicazioni Viscosa S.p.A.: *See*—  
Notarbatolo, Luigi, and Pasin. 3,073,670.
- Sink, William H., to Dana Corp. Clutch plate. 3,091,949, 6-4-63, Cl. 64-27.
- Sink, William H., to Dana Corp. Clutch control linkage. 3,096,663, 7-9-63, Cl. 74-481.
- Sinkewitsch, Leonid, to M. Grundig. Tape recorder. 3,111,281, 11-19-63, Cl. 242-55.13.
- Sinn, Gerhard: *See*—  
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- Sinn, Gustav: *See*—  
Brachel, V., Hanswilli, Esser, Holtschmidt, and Sinn. 3,097,173.  
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- Sinn, Gustav, R. Dietrich, and H. Esser, to Farbenfabriken Bayer Aktiengesellschaft. Stable aqueous emulsions of elastomeric chloroprene copolymers containing zinc oxide. 3,078,247, 2-19-63, Cl. 260-29.7.
- Sinn, Richard: *See*—  
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- Sinnema, Yde A., to Twincon Koog-Zaandijk, N.V. Process for the preparation of a cocoa butter substitute as well as for the preparation of chocolate and the shaped products thus obtained. 3,084,049, 4-2-63, Cl. 99-118.
- Sinner, Herbert: *See*—  
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- Sinninger, Dwight V., to Senn Custom, Inc. Digit display apparatus. 3,081,450, 3-12-63, Cl. 340-336.
- Sinninger, Dwight V., to Senn Custom, Inc. Electrical socket adapter having tube pin base. 3,109,124, 10-29-63, Cl. 317-101.
- Sinnock, Pomeroy, to New Castle Products International, Inc. Folding door fabric stiffening. 3,095,032, 6-25-63, Cl. 160-84.
- Sinski, Henry A.: *See*—  
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Russo, Carl J., Trifunovic, and Sinski. 3,096,562.
- Siolo, George W., A. L. Di Mattia, and B. B. Bauer, to Zenith Radio Corp. Tone arm and cartridge assembly. 3,074,726, 1-22-63, Cl. 274-23.
- Siomko, George, to Philco Corp. Improved sweep integrator system. 3,092,778, 6-4-63, Cl. 328-165.
- Sioux Steel Co.: *See*—  
Klein, Iven W. 3,084,908.
- Sipe, Charles B., Holder. 3,094,215, 6-18-63, Cl. 211-13.
- Siple, James C., to United States Steel Corp. Method and composition for shielding steel from molten coating metal. 3,089,780, 5-14-63, Cl. 117-5.5.
- Sipos, Walter. Cigarette filter. 3,081,777, 3-19-63, Cl. 131-10.
- Sipos, Walter, 40% to Mary C. Ackerman. Insect trap. 3,108,391, 10-29-63, Cl. 43-113.
- Sippach, Frederick W., Jr.: *See*—  
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- Sippel, Charles P., Jr.: *See*—  
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- Sippel, Hans: *See*—  
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- Sippel, Robert J.: *See*—  
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- Sippican Corp., The: *See*—  
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- Sipple, Howard B.: *See*—  
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- Sipress, Jack M., to Bell Telephone Laboratories, Inc. Non-reciprocal wave translating network. 3,098,978, 7-23-63, Cl. 330-12.
- Sir Properties, Inc.: *See*—  
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- Sire, Edouard M. Magnetic games. 3,090,622, 5-21-63, Cl. 273-126.
- Sirianni, Aurelio F.: *See*—  
Fuddington, Ira E., and Sirianni. 3,109,805.
- Sirius: *See*—  
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- Sirles, Aden R.: *See*—  
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- Sirons, Janis A., to United States of America, Air Force. Laser pumping technique using an internal pumping source. 3,102,920, 9-3-63, Cl. 88-1.
- Sirota, Julius, to National Starch and Chemical Corp. Delayed tack coatings. 3,082,108, 3-19-63, Cl. 106-186.
- Sirota, Julius, and B. D. Jubilee, to National Starch and Chemical Corp. Tape joint cement comprising polyvinyl alcohol and clay and method for preparing same. 3,084,133, 4-2-63, Cl. 260-29.6.
- Sirugue, Edouard V., to Etablissements Sirugue & Cie, Societe a Responsabilite Limitee. Punching machine with photo-electric means to stop work carriage and actuate punch. 3,072,003, 1-8-63, Cl. 83-213.
- Sisk, George W., Jr.: *See*—  
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- Siskind, Philip: *See*—  
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- Siskind, Philip, to Sperry Rand Corp. Redundant amplifier failure alarm. 3,072,858, 1-8-63, Cl. 330-2.
- Sisler, Robert R., to General Electric Co. Clutch control arrangement. 3,092,230, 6-4-63, Cl. 192-105.
- Sisson, Earl L., to Clark Metal Products Inc. Combination cane and retriever. 3,093,402, 6-11-63, Cl. 294-19.
- Sisson, Earl L., to Clark Metal Products, Inc. Workpiece-operated machine control. 3,109,527, 11-5-63, Cl. 192-125.
- Sisson, Gilbert E.: *See*—  
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- Sisson, James B., to St. Regis Paper Co. Method of forming a container from a flexible laminate of foamed polystyrene. 3,094,449, 6-18-63, Cl. 156-184.
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- Sites, Benjamin L., to Miehl-Goss-Dexter, Inc. Optical system and method for making corrected color separations. 3,099,557, 7-30-63, Cl. 96-30.
- Sittel, Richard L., to Unit Rig & Equipment Co. Vertically adjustable trailer unit. 3,102,734, 9-3-63, Cl. 280-43.19.
- Sittel, Richard L., and J. A. Shelton, to Unit Rig & Equipment Co. Steering and follow-up linkage assembly. 3,096,844, 7-9-63, Cl. 180-79.2.
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- Sitz, Gilbert C., to AMP Incorporated. Electrical pin board. 3,085,220, 4-9-63, Cl. 339-18.
- Sitzler, Edward R., and M. C. Lehning. Fishing float. 3,107,451, 10-22-63, Cl. 43-44.87.
- Siuta, Walter T.: *See*—  
Dantro, Horace F., Kalinowski, and Siuta. 3,091,515.



- Sivacek, Emil E., to King-Seeley Thermos Co. Method for manufacturing a thermo-responsive device. 3,110,954, 11-19-63, Cl. 29—155.63.
- Siverson, Marvin A. Deceleration and acceleration device for a sawmill carriage. 3,084,725, 4-9-63, Cl. 143—108.
- Sivill, Blanche O.: *See*—  
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- Sivill, Cecil S.: *See*—  
Hill, James S., and Sivill. 3,091,026.
- Slwek, Stanley Z.: *See*—  
Goldberg, Harry, Slwek, and Foshacht. 3,110,998.
- Six Cousins, The: *See*—  
Paul, Alfred, Jr. 3,084,410.
- Sixt, Johann: *See*—  
Lohringer, Werner, and Sixt. 3,076,852.
- Sizemore, Walter R., to Hanes Hosiery Mills Co. Device for straightening and aligning the points of knitwear looping machines. 3,100,010, 8-6-63, Cl. 153—39.
- Sizer, Philip S., to Otis Eng. Corp. Pressure responsive valve actuator. 3,071,117, 1-1-63, Cl. 121—38.
- Sizer, Philip S., to Otis Eng. Corp. Pressure responsive control valve for well tubing. 3,071,151, 1-1-63, Cl. 137—496.
- Sizer, Philip S., to Otis Engineering Corp. Anchoring and sealing devices. 3,102,593, 9-3-63, Cl. 166—125.
- Sjoberg, Nils W., to Prime Mfg. Co. Machine for applying tape. 3,102,287, 9-3-63, Cl. 12—59.5.
- Sjogren, Bertil K. F., S. Lindvall, H. W. Heiwinkel, and K. G. Hogberg, to Astra, Apotekarnes Kemiska Fabriker, Aktiebolaget. Process for treating canine distemper. 3,097,134, 7-9-63, Cl. 167—53.
- Sjöholm, Claes B., and N. A. Nilsson, now by change of name N. A. Hentzel, to Separator, Aktiebolaget. Apparatus for straining cheese curds. 3,071,860, 1-8-63, Cl. 31—46.
- Sjostrom, John S., to General Electric Co. Relay testing circuit having monitor relays responsive to improper operation of load-controlling contacts. 3,105,935, 10-1-63, Cl. 324—28.
- Sjostrom, John W.: *See*—  
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- Sjostrom, Sverker W., to Aktiebolaget Scania-Vabis. Devices for automatic control of a machine in accordance with a pre-determined program. 3,095,733, 7-2-63, Cl. 73—91.
- Skaggs, Boyd T., to Container Corp. of America. Cushioned shipping folder. 3,116,005, 12-31-63, Cl. 229—40.
- Skala, George F.: *See*—  
Foody, Francis B., and Skala. 3,114,209.
- Skala, George F., to General Electric Co. Gas detection. 3,094,392, 6-18-63, Cl. 23—232.
- Skala, George F., to General Electric Co. Method and apparatus for detecting organic vapors and gases. 3,102,192, 8-27-63, Cl. 250—43.5.
- Skalka, Albert J. Rotary dammer plow. 3,104,723, 9-24-63, Cl. 172—413.
- Skallerup, Robert M. Method and apparatus for use in corrective dental work. 3,074,166, 1-22-63, Cl. 32—19.
- Skalsey, Lily G., to National Broach & Machine Co. Automatic loading mechanism for gear finishing machines. 3,095,782, 7-2-63, Cl. 90—1.6.
- Skanse, Carl T. Trousers pressing device. 3,089,265, 5-14-63, Cl. 38—69.
- Skansen, Gisle: *See*—  
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- Skanska Attikfabriken A.B.: *See*—  
Nyman, Karl B. 3,072,925.
- Skanska Cementgjuteriet, Aktiebolaget: *See*—  
Ahlberg, Anders E. A. 3,107,158.
- Skaptason, Joseph B.: *See*—  
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- Skardal, Karl A. Method of cleansing spray tubes. 3,089,792, 5-14-63, Cl. 134—21.
- Skarsten, Norman E., to Thorsen Mfg. Co. Packages and methods of packaging. 3,096,877, 7-9-63, Cl. 206—16.
- Skarstrom, Charles W., to Esso Research and Engineering Co. Process for the drying of volatile liquids. 3,082,166, 3-19-63, Cl. 208—188.
- Skarstrom, Charles W., to Esso Research and Engineering Co. Process for the recovery of hydrogen from hydrocarbon gas streams. 3,101,261, 8-20-63, Cl. 55—58.
- Skarstrom, Charles W., to Esso Research and Engineering Co. Heatless fractionation utilizing zones in series and parallel. 3,102,013, 8-27-63, Cl. 55—31.
- Skarstrom, Charles W., to Esso Research and Engineering Co. Timing cycle for improved heatless fractionation of gaseous materials. 3,104,162, 9-17-63, Cl. 55—58.
- Skarstrom, Charles W., and W. O. Heilman, to Esso Research and Engineering Co. Technique with the fractionation or separation of components in a gaseous feed stream. 3,086,339, 4-23-63, Cl. 55—26.
- Skarstrom, Charles W., R. P. Crowley, and W. O. Heilman, to Esso Research and Engineering Co. Desulfurizing fluids, utilizing pressure cycling technique. 3,102,853, 9-3-63, Cl. 208—211.
- Skay, Carl E., to American Cyanamid Co. Production of aluminum sulfate. 3,079,228, 2-26-63, Cl. 23—123.
- Skee-Bird Mfg. Co., Inc.: *See*—  
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- Skees, Hugh B. Insulating material for prevention of the transfer of heat. 3,098,560, 7-23-63, Cl. 206—45.33.
- Skees, Hugh B. Inflatable heat insulating material. 3,098,563, 7-23-63, Cl. 206—46.
- Skeeters, Maxwell J., to Diamond Alkali Co. Stabilized solvent composition. 3,076,040, 1-29-63, Cl. 260—652.5.
- Skeggs, Leonard T., to Technicon Instruments Corp. Chromatography analysis apparatus and method. 3,097,927, 7-16-63, Cl. 23—230.
- Skeggs, Leonard T., to Technicon Instruments Corp. Fluid processing system with continuous filter apparatus. 3,098,719, 7-23-63, Cl. 23—253.
- Skeggs, Leonard T., to Technicon Instruments Corp. Means for separating fluids from each other. 3,109,714, 11-5-63, Cl. 23—253.
- Skeggs, Leonard T., and G. Kessler, to Technicon Instruments Corp. Apparatus for treating a liquid with a gas. 3,074,699, 1-22-63, Cl. 261—83.
- Skellettea Gummifabriks A.-B.: *See*—  
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- Skelton, Charles W., to Texas Instruments Inc. Control system. 3,078,353, 2-19-63, Cl. 200—1.
- Skelton, Jesse D.: *See*—  
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- Skelton, Jesse D., P. S. Williams, and J. T. Baker, to Jersey Production Research Co. Geophysical exploration. 3,076,175, 1-29-63, Cl. 340—15.5.
- Skerbinc, Frank: *See*—  
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- Skerritt, John W., to International Business Machines Corp. High speed multivibrator having cross coupling circuitry. 3,100,848, 8-13-63, Cl. 307—88.5.
- Skerritt, John W., to International Business Machines Corp. Exclusive or circuit. 3,103,596, 9-10-63, Cl. 307—88.5.
- Skerritt, Roy F. Lawn sprinkler with timed automatic shut-off. 3,089,651, 5-14-63, Cl. 239—68.
- Skewe, Thomas, to Geigy Chemical Corp. Process for coloring polypropylene. 3,097,044, 7-9-63, Cl. 8—55.
- Skiatlon Electronics & Television Corp.: *See*—  
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- Shanahan, William J. 3,091,759.
- Shanahan, William J. 3,106,604.
- Shanahan, William J., Zopf, and Loshin. 3,078,337.
- Ski-Dek Corp.: *See*—  
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- Skidmore, Archie F., to Union Carbide Corp. Variable chamber sampler and transference apparatus. 3,071,005, 1-1-63, Cl. 73—422.
- Skidmore, Richard H., to Welding Engineers, Inc. Process for treating material. 3,082,816, 3-26-63, Cl. 159—49.
- Skiff, Russell A., to General Electric Co. Resin compositions and their preparation. 3,073,799, 1-15-63, Cl. 260—47.
- Skifstrom, Walter W.: *See*—  
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- Skil Corp.: *See*—  
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- Hall, Emery L. 3,104,783.
- McCloud, James. 3,114,421.
- Naslund, Lennart V. 3,114,423.
- Summerfield, David N. 3,108,201.
- Skiles, Benjamin F., to E. I. du Pont de Nemours and Co. Polymeric acid salts of alkylaminoethyl methacrylate. 3,099,636, 7-30-63, Cl. 260—29.6.
- Skill Tool, Inc.: *See*—  
Braun, Carl K. 3,077,259.
- Skillen, Dawson C., to Giannini Controls Corp. Transistor switching circuit with stabilized leakage current path. 3,073,969, 1-15-63, Cl. 307—88.5.
- Skillin, Walter F., to The Cushman Chuck Co. Compensating power chuck. 3,096,988, 7-9-63, Cl. 279—4.
- Skillman, William A.: *See*—  
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- Skinas, Kosmas. Combined scrubbing and drying machines. 3,090,982, 5-28-63, Cl. 15—99.
- Skinner Brothers Rubber Co.: *See*—  
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- Skinner, Burrhus F. Teaching and testing machines. 3,107,435, 10-22-63, Cl. 35—9.
- Skinner, Clawson N. Facial muscle and tissue conditioning device. 3,091,237, 5-28-63, Cl. 128—60.
- Skinner Engine Co.: *See*—  
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- Skinner, George M.: *See*—  
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- Eschenbach, Richard C., Wickham, and Skinner. 3,106,634.
- Skinner, George M., R. C. Eschenbach, and R. J. Wickham, to Union Carbide Corp. Arc torch device. 3,106,633, 10-8-63, Cl. 219—75.
- Skinner, Harvey G., to Westmoreland Plastics Co., Inc. Handle or rack device with molded ends. 3,075,735, 1-29-63, Cl. 248—251.
- Skinner, Kenneth R.: *See*—  
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- Skinner Precision Industries, Inc.: *See*—  
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- Skinner, Ransom P., to Union Carbide Corp. Control apparatus for low temperature refrigeration system. 3,092,977, 6-11-63, Cl. 62—202.
- Skinner, Ransom P., and R. M. Poorman, to Union Carbide Corp. Brazing dissimilar metal members. 3,105,293, 10-1-63, Cl. 29—474.4.
- Skinner, Robert L., to The Bendix Corp. Valve testing apparatus. 3,100,392, 8-13-63, Cl. 73—46.
- Skipor, Eugen, and S. Bachynskyj. 60% to said Skipor and 40% to said Bachynskyj. System for increasing fluid pressure. 3,086,470, 4-23-63, Cl. 103—50.
- Skirvin, Clifford D. Photoelectrically controlled transistor circuit. 3,076,897, 2-5-63, Cl. 250—209.



- Skladany, Joseph P., to Industrial Paper Log, Inc. Compressed fibrous articles. 3,104,085, 9-17-63, Cl. 248—119.
- Sklar, George: *See—*
- Seglin, Leonard, Sklar, and White. 3,077,491.
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- Sklar, Samuel. Universal door bucks and door hanging means. 3,083,798, 4-2-63, Cl. 189—46.
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- Revesz, George, Sklaroff, and Evalds. 3,077,588.
- Sklenar, Jerome B. Water ski rope retrieving apparatus. 3,081,733, 3-19-63, Cl. 114—235.
- Skobel, Max. Process and apparatus for making supported sleeving. 3,106,748, 10-15-63, Cl. 18—13.
- Skoggard, Bruno B. Hollow structures and methods for forming same. 3,072,929, 1-15-63, Cl. 9—6.
- Skold, John F. Periodical vendor. 3,082,910, 3-26-63, Cl. 221—36.
- Skold, John F. Multiple coin actuator for vending machines. 3,088,571, 5-7-63, Cl. 194—92.
- Skolnik, Edward, to Heyl & Patterson, Inc. Magnetic heavy medium treatment process and apparatus. 3,084,796, 4-9-63, Cl. 209—38.
- Skomal, Edward N., to Sylvania Electric Products Inc. High power ferrite isolator having ferrite materials of differing curie temperature. 3,075,159, 1-22-63, Cl. 333—24.2.
- Skomp, James H., to Mueller Co. Fire hydrant. 3,076,474, 2-5-63, Cl. 137—307.
- Skony, Sigmund J., to Van Products, Inc. Electrical connector. 3,101,985, 8-27-63, Cl. 339—192.
- Skoog, Per O. Method and means for producing tight-fitting patches for use in plywood-patching machines. Re. 25,463, 10-15-63, Cl. 156—98.
- Skookum Co., Inc. The: *See—*
- Baker, Charles J. 3,100,323.
- Skopp, Gilbert H., and C. J. Litz, Jr., to United States of America, Army. Load positioning device. 3,077,325, 2-12-63, Cl. 244—122.
- Skorupa, Paul, to P. Boraks. Cabinet door frame. 3,109,685, 11-5-63, Cl. 312—204.
- Skotnicki, Thaddeus J.: *See—*
- Winthrop, Arthur S., and Skotnicki. 3,102,043.
- Skov, Erling P., and R. Narma, to Fairchild Recording Equipment Corp. Method and apparatus for eliminating overloading in modulating systems having pre-emphasis means. 3,111,635, 11-19-63, Cl. 333—14.
- Skov, Raymond A.: *See—*
- Newman Ernest G., Skippell, and Skov. 3,103,000.
- Skover, Alex F.: *See—*
- Peterson, Stanley W. 3,094,217.
- Skowronski, George V., to American Can Co. Display carton. 3,078,028, 2-19-63, Cl. 229—30.
- Skowronski, George V., to American Can Co. Leakproof recessed bottom carton. 3,078,171, 2-19-63, Cl. 99—171.
- Skowronski, George V., to American Can Co. Carton. 3,111,255, 11-19-63, Cl. 229—51.
- Skrainstad, Harold K.: *See—*
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- Skripsky, Harold O. Straight edge with means for attaching to a work piece. 3,085,343, 4-16-63, Cl. 33—80.
- Skrmetta, Cecil B. Sink attachment. 3,070,812, 1-1-63, Cl. 4—205.
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- Skronek, Robert E., C. D. Tuttle, and C. H. Mellan, to General Motors Corp. Apparatus for gauging profiles. 3,104,471, 9-24-63, Cl. 33—174.
- Skrukpy, Dan. Transmission gearing. 3,081,646, 3-19-63, Cl. 74—665.
- Skubie, Leroy F., to The Paltier Corp. Pallet tiering frame. 3,095,837, 7-2-63, Cl. 108—53.
- Skugghall, Oscar A. W., to Nydals Gjuteri och Mekaniska Verksstad, Aktiebolaget. Methods of grinding or polishing elongated rotational bodies. 3,101,577, 8-27-63, Cl. 51—289.
- Skumawitz, Max. Automatic vending machines. 3,085,712, 4-16-63, Cl. 221—150.
- Skura, William A., to United States Rubber Co. Method of forming belt teeth in reinforced positive drive belts. 3,078,206, 2-19-63, Cl. 156—140.
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- Powers, Milton A. 3,087,485.
- Powers, Milton A. 3,099,286.
- Skvore, Kasimir J., to R. M. Hill, and G. E. Gray. Molding apparatus. 3,081,486, 3-19-63, Cl. 18—2.
- Skwierinski, Albion; 5% to J. E. Marshall, Jr., said Marshall attorney in fact for said Skwierinski, assor. of 25% to E. A. Myer, 25% to Dr. M. Avelodo, and 45% to J. M. Rincon. Method of applying mirror coating to acrylic base. 3,094,430, 6-18-63, Cl. 117—35.
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- Slack, Archie V., and H. K. Walters, Jr., to Tennessee Valley Authority. Method of producing high-analysis fertilizer suspensions. 3,113,858, 12-10-63, Cl. 71—42.
- Slack, Austin B.: *See—*
- English, John A. 3,111,322.
- Slack, Frederick F.: *See—*
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- Slade, Albert E., to Arthur D. Little Inc. Magnetic control device having superconductive gates. 3,091,702, 5-28-63, Cl. 307—88.5.
- Slade, Albert E., to A. D. Little, Inc. Electrical signal transmission circuit. 3,105,200, 9-24-63, Cl. 330—62.
- Slager, James E., to Miles Laboratories, Inc. Process for periodate oxidation of polysaccharides. 3,086,969, 4-23-63, Cl. 260—209.
- Slaght, William W., to Cleveland Steel Products Corp. Universal couplings. 3,070,980, 1-1-63, Cl. 64—17.
- Slagle, Bobby G. Socket reducing means for open end wrench. 3,083,599, 4-2-63, Cl. 81—180.
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- Slamar, Frank, and A. Teplitz, to United States Steel Corp. Transfer mechanism. 3,092,270, 6-4-63, Cl. 214—89.
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- Popper, Karel, and Slamecka. 3,073,725.
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- Slate, Matthew W., to Thompson Ramo Wooldridge Inc. Alarm system. 3,104,384, 9-17-63, Cl. 340—215.
- Slate, Ralph L., to Halliburton Co. Method of preparing gelled aqueous fluid. 3,096,284, 7-2-63, Cl. 252—8.55.
- Slater, Eben A., to Anchor Serum Co., Inc. Infectious rhinotracheitis virus attenuated in lamb cell tissue cultures. 3,096,247, 7-2-63, Cl. 167—78.
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- Slater Electric Inc.: *See—*
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- Slater, John M., to North American Aviation, Inc. Autolubricated fluid bearing force measuring instrument. 3,109,310, 11-5-63, Cl. 73—516.
- Slater, John M., to North American Aviation, Inc. Pressure measuring device. 3,113,459, 12-10-63, Cl. 73—398.
- Slater, John M., D. E. Wilcox, and W. L. Pondrom, to North American Aviation, Inc. Gravimeter. 3,073,165, 1-15-63, Cl. 73—382.
- Slater, John M., and R. B. Horsfall, to North American Aviation, Inc. Free rotor gyroscope control-torque applying means. 3,073,170, 1-15-63, Cl. 74—5.4.
- Slater, John M., D. E. Wilcox, D. L. Freebairn, Jr., and W. L. Pondrom, Jr., to North American Aviation, Inc. Inertial velocity meter. 3,077,782, 2-19-63, Cl. 73—497.
- Slater, John M., W. M. Scarborough, J. C. Boltinghouse, and D. L. Freebairn, Jr., to North American Aviation, Inc. Reversing gyroscope. 3,078,727, 2-26-63, Cl. 74—5.
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- Slater, Saul I., to Slater Electric Inc. Continuously variable dimmer switch. 3,103,618, 9-10-63, Cl. 323—22.
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- Slates, Harry L., and N. L. Wendler, to Merck & Co., Inc. Process for preparing benzophenone compounds. 3,113,970, 12-10-63, Cl. 260—591.
- Slatin, Harvey L., to Timax Associates. Electrolytic production of metal alloys. 3,087,873, 4-30-63, Cl. 204—71.
- Slatin, Harvey L., to Timax Associates. Electrolytic production of aluminum. 3,103,472, 9-10-63, Cl. 204—67.
- Slatkin, Alfred D. Spray coating system. 3,077,422, 2-12-63, Cl. 117—104.
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- Slaton, Jack H., to United States of America, Navy. Frequency discriminator. 3,082,378, 3-19-63, Cl. 328—132.
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- Slattery, Robert E., to Chemetron Corp. Method and apparatus for grinding welded rails. 3,090,170, 5-21-63, Cl. 51—140.
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- Slauson, Dudley B., to General Electric Co. Anti-secondary radiation dental X-ray cone. 3,102,957, 9-3-63, Cl. 250—105.
- Slautterback, Robert C., to Ford Motor Co. Battery vent plug. 3,078,330, 2-19-63, Cl. 136—177.
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- Slautterback, Robert C., to Ford Motor Co. Battery vent plug. 3,083,256, 3-26-63, Cl. 136—177.
- Slavecki, Ronald J., A. J. Campanella, and J. L. McLucas, to HRB-Singer, Inc. Stereo scanning unit and system. 3,109,057, 10-29-63, Cl. 178—65.
- Slaven, John J. Bird feeder. 3,083,687, 4-2-63, Cl. 119—51.
- Slaven, John J. Wild bird feeding station. 3,104,649, 9-24-63, Cl. 119—51.
- Slavens, Wayne E., to Deere & Co. Corn husking mechanism. 3,074,412, 1-22-63, Cl. 130—5.
- Slavin, Peter, to Sperry Rand Corp. Read-write magnetic head switch. 3,115,621, 12-24-63, Cl. 340—174.1.
- Slavsky, Robert J., to Shaw & Slavsky, Inc. Price card support. 3,070,911, 1-1-63, Cl. 40—11.
- Slawin, Theodore J. Wheel pulley. 3,099,077, 7-30-63, Cl. 29—261.
- Slaymaker, Stephen C., to Shell Oil Co. Process for production of branch chain hydrocarbons from propene. 3,116,345, 12-31-63, Cl. 260—683.15.
- Slayter, Games, to Owens-Corning Fiberglas Corp. Glass-reinforced article. 3,080,247, 3-5-63, Cl. 106—286.
- Slayter, Games, W. M. Rees, and J. T. Feid, to Owens-Corning Fiberglas Corp. Sound absorbing fibrous board with plastic film covering. 3,092,203, 6-4-63, Cl. 181—33.
- Slayter, Games, R. G. Russell, and W. L. Morgan, to Owens-Corning Fiberglas Corp. Muffler liner. 3,109,511, 11-5-63, Cl. 181—61.
- Slayter, Games, and R. M. Woodward, to Owens-Corning Fiberglas Corp. Lamellar metal structure. 3,109,716, 11-5-63, Cl. 29—191.2.
- Slayter, Games, and R. F. Shannon, to Owens-Corning Fiberglas Corp. High temperature lubricant comprising fibrous glass. 3,113,105, 12-3-63, Cl. 252—13.
- Sleeper, David P., to General Electric Co. Dishwasher construction. 3,072,452, 1-8-63, Cl. 312—228.
- Sleeper, Neal M., to Howe Richardson Scale Corp. Apparatus for effecting automatic batching of composite mixtures. 3,085,191, 4-9-63, Cl. 323—51.
- Sleicher, Charles A., Jr.: *See—*
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- Slemmons, Arthur J., to FMC Corp. Rotary lawnmower. 3,085,386, 4-16-63, Cl. 56—25.4.
- Slemmons, Arthur J., to FMC Corp. Combustion apparatus for an internal combustion engine. 3,102,521, 9-3-63, Cl. 123—32.
- Slemmons, Charles O., to The General Tire & Rubber Co. Mattress. 3,110,042, 11-12-63, Cl. 5—345.
- Slepicka, Evelyn V. Head apparel with cooling means. 3,070,803, 1-1-63, Cl. 2—7.
- Sleptis, Justin F., to Radio Corp. of America. Method of brazing. 3,085,325, 4-16-63, Cl. 29—493.
- Slesaczek, Alfred, to Maerz Ofenbau AG. Wall construction and mounting thereof for industrial furnaces. 3,088,722, 5-7-63, Cl. 263—46.
- Sletten, Carlyle J., to United States of America, Air Force. Amplitude scanning. 3,085,204, 4-9-63, Cl. 325—180.
- Sletten, Carlyle J., to United States of America, Air Force. Antenna array synthesis method. 3,100,300, 8-6-63, Cl. 343—771.
- Sletten, Carlyle J., to United States of America, Air Force. Means for obtaining tricoordinate radar information. 3,106,708, 10-8-63, Cl. 343—16.
- Sletzing, Meyer: *See—*
- Chemerda, John M., Sletzing, and Bollinger. 3,075,993.
- Cutler, Frank A., Jr., and Sletzing. 3,083,215.
- Sletzing, Meyer, and D. F. Reinhold, to Merck & Co., Inc. 6 $\alpha$ ,16 $\alpha$ -dialkyl steroid intermediates and processes. 3,094,523, 6-18-63, Cl. 260—239.55.
- Slick Electro Inc.: *See—*
- Slick, Fred S. 3,106,187.
- Slick, Fred S., to Slick Electro Inc. Flag anchor means for a flag pole. 3,106,187, 10-8-63, Cl. 116—173.
- Sligh, James E.: *See—*
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- Sliman, Michael T. Alarm system. 3,114,904, 12-17-63, Cl. 340—280.
- Sliman, Michael T. Alarm system. 3,114,905, 12-17-63, Cl. 340—280.
- Slimovitz, Morris L. Dual feel glove and mitt. 3,098,237, 7-23-63, Cl. 2—164.
- Slimovitz, Morris L. Target with bowling pins and indicator. 3,104,874, 9-24-63, Cl. 273—41.
- Slimovitz, Morris L. Separate wrap-around forefinger for glove and mitt. 3,111,678, 11-26-63, Cl. 2—163.
- Slinden, Burton J. Strand stretcher. 3,108,785, 10-29-63, Cl. 254—161.
- Slingluff, Thomas J., to H. H. Robertson Co. Electrical ducts and fittings. 3,093,933, 6-18-63, Cl. 50—127.
- Slivik, Richard M., to General Motors Corp. Reclining seat back. 3,093,415, 6-11-63, Cl. 297—373.
- Sliwa, Arthur W., and W. J. Mazanek. Color wheel. 3,073,950, 1-15-63, Cl. 240—10.1.
- Sloan, Abraham. Folding shoe rack. 3,115,850, 12-31-63, Cl. 108—111.
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- Sloan, Charles E.: *See—*
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- Sloan, Edward C., A. H. Eberman, and H. A. Jensen, to Oscar Mayer Co., Inc. Package and method of forming same. 3,083,106, 3-26-63, Cl. 99—171.
- Sloan, Frank C. Transversely movable passenger seat for automobiles, taxicabs and the like. 3,071,407, 1-1-63, Cl. 296—65.
- Sloan, Frederick R. W.: *See—*
- McCance, Henry B., and Sloan. 3,071,430.
- Sloan, Harry E., H. E. Sloan, Jr., and L. B. Swanson, to The Cushman Chuck Co. Chuck with fixed rest for jaw-gripped work. 3,086,784, 4-23-63, Cl. 279—121.
- Sloan, Harry E., Jr.: *See—*
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- Sloan, Howard B.: *See—*
- Peek, Sanford C., Jr., and Sloan. 3,114,069.
- Sloan, Howard B., to Sylvania Electric Products Inc. Incandescent filament. 3,113,893, 12-10-63, Cl. 148—13.
- Sloan, Julia M.: *See—*
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- Sloan, Julia M., H. W. Weller, Jr., and C. H. Haydel, to United States of America, Agriculture. Wrinkle recovery test apparatus. 3,094,866, 6-25-63, Cl. 73—159.
- Sloan, Otto, and F. Skerbin. Cutting tool for spherical surfaces. 3,085,476, 4-16-63, Cl. 90—12.
- Sloan, Paul H., to Kirsch Co. Structural device. 3,076,222, 2-5-63, Cl. 16—98.
- Sloan, Raymond W., and M. O. Johnson, to Socony Mobil Oil Co., Inc. Fluid density well logging sonde with two packing elements mounted on one shaft. 3,113,455, 12-10-63, Cl. 73—155.
- Sloan, Theodore H., deceased; E. J. Sweadner, executrix, 25% to W. B. Jaspert. Apparatus for centering and rotatably supporting cylindrical objects for honing and the like. 3,083,507, 4-2-63, Cl. 51—145.
- Sloan, Thomas S.: *See—*
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- Barber, James C., Megar, and Sloan. 3,113,839.
- Sloan Valve Co.: *See—*
- Filliung, Jacques J. 3,102,711.
- Sloane, Peppy M. Toy construction sets. 3,074,202, 1-22-63, Cl. 46—17.
- Slobodzinski, Edwin J., to International Business Machines Corp. Memory systems. 3,105,958, 10-1-63, Cl. 340—173.
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- Mortley, Wilfrid S., and Slocombe. 3,091,763.
- Slocum, A. E.: *See—*
- Bruce, Carl L. 3,105,752.
- Slocum, Donald W., to American Cyanamid Co. Novel aromatic sulfides and method of preparing same. 3,111,541, 11-19-63, Cl. 260—578.
- Slodki, Morey E., to United States of America, Agriculture. Dispersants comprising phosphoric acid monoesters of mannose polymers. 3,084,105, 4-2-63, Cl. 167—90.
- Sloman, Arthur R., to Associated Pulp and Paper Mills Ltd. Continuous pulping process. 3,097,987, 7-16-63, Cl. 162—17.
- Sloman, Robert A., to The Sandy Hill Iron & Brass Works. Cylinder mold vat assembly. 3,104,999, 9-24-63, Cl. 162—223.
- Slominski, Walter V., to Hoover Ball and Bearing Co. Spring assemblies. 3,095,189, 6-25-63, Cl. 267—102.
- Slomka, Leon F., to General Motors Corp. Missile stage separator. 3,110,260, 11-12-63, Cl. 102—49.



- Sloneker, James H.: *See*—  
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- Sloop, Clifford E. Spacer for spring-jaw type spade terminal. 3,076,953, 2-5-63, Cl. 339—259.
- Slosman, Sam S., and H. C. Strachan, to United States Steel Corp. Method and apparatus for controlling the bulk density of coal. 3,085,582, 4-16-63, Cl. 134—57.
- Slotterbeck, Ober C.: *See*—  
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- Slotterbeck, Ober C., and J. Lakritz, to Esso Research and Engineering Co. Resinification by a grafting technique. 3,079,295, 2-26-63, Cl. 156—334.
- Slotterbeck, Ober C., and J. F. McKay, deceased (by W. McKay, administratrix), to Esso Research and Engineering Co. Coating composition with blocked alcoholates therein. 3,097,937, 7-16-63, Cl. 106—285.
- Slough, Jack M., to George Windeler Co., Ltd. Water cooling tower. 3,073,080, 2-19-63, Cl. 261—109.
- Slowata, Stanley S.: *See*—  
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- Slowinski, Robert H., to National Gypsum Co. Wall base construction. 3,073,068, 1-15-63, Cl. 50—144.
- Slowinski, Robert H., to National Gypsum Co. Wall panel end joint clip. 3,102,366, 9-3-63, Cl. 50—381.
- Slowinski, Robert H., to National Gypsum Co. Expandable wall panel. 3,112,532, 12-3-63, Cl. 20—15.
- Slumberland Group Ltd.: *See*—  
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- Sly, Leslie W.: *See*—  
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- Style, Milo W.: *See*—  
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- Slyngstad, Charles E., and F. L. Lempert, to The M. W. Kellogg Co. Process for desulfurization of dissimilar hydrocarbons. 3,090,747, 5-21-63, Cl. 208—210.
- Slyngstad, Charles E., and G. P. Eschenbrenner, to The M. W. Kellogg Co. Apparatus for handling powdered material. 3,092,468, 6-4-63, Cl. 23—284.
- Slysh, Roman S., W. C. Hollyday, Jr., to Esso Research and Engineering Co. Middle distillate pour point depressants. 3,100,695, 8-13-63, Cl. 44—62.
- Smale, Wilmer R. Self propelled forage harvester wagon. 3,106,304, 10-8-63, Cl. 214—519.
- Smalheer, Calvin V., and W. M. Le Suer, to The Lubrizol Corp. Process for the modification of olefin polymers. 3,089,867, 5-14-63, Cl. 260—139.
- Small, Augustus B.: *See*—  
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- Parker, Paul T., Bryan, Small, Pugh, and Buchmann. 3,099,644.
- Small, Augustus B., to Esso Research and Engineering Co. Isoolefin-multiolefin copolymer oils. 3,092,675, 6-4-63, Cl. 260—683.15.
- Small, Charles B., H. L. Vail, Jr., and G. H. Hufferd, to Cleveite Corp. Automatic spark advance device for ignition system. 3,094,108, 6-18-63, Cl. 123—148.
- Small, Edward H.: *See*—  
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- Small, Everett T. Automatic blade control device for blade type earth moving machinery. 3,077,682, 2-19-63, Cl. 37—143.
- Small, Hamish, to The Dow Chemical Co. Solvent extraction process for the recovery of uranium and rare earth metals from aqueous solutions. 3,102,782, 9-3-63, Cl. 23—14.5.
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- Small, Louis, and H. Tester for plastic deformation and elastic deformation of tested materials. 3,084,538, 4-9-63, Cl. 73—83.
- Small, Marvin, S. L. Javna, H. J. Bush, and E. G. Griffiths, to M. Small and S. L. Javna. Clip forming and fastening device. 3,115,904, 12-31-63, Cl. 140—93.
- Small, Percy A.: *See*—  
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- Small, Rudolph E.: *See*—  
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- Smalley, Janet H.: *See*—  
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- Smalley, Richard D., and W. H. Krogstad, to Nordberg Mfg. Co. Marine engine control system with variable pitch propeller. 3,088,523, 5-7-63, Cl. 170—135.74.
- Smalley, William, to Wm. Gardner & Sons (Gloucester) Ltd. Double cone mixing machines. 3,095,185, 6-25-63, Cl. 259—82.
- Smalling, Jack W., to Esso Research and Eng. Co. Apparatus for controlling the loading of a fractionation column. 3,071,520, 1-1-63, Cl. 202—160.
- Smallman, Carl R., to A. D. Little, Inc. Cryotron switching device. 3,105,156, 9-24-63, Cl. 307—88.5.
- Smallman, Carl R., to Arthur D. Little, Inc. Multi-stable electrical circuit. 3,114,136, 12-10-63, Cl. 340—173.1.
- Smallpeice, Cosby D. P., to Martonair Ltd. Pneumatic hammer. 3,071,116, 1-1-63, Cl. 121—38.
- Smallpeice, Cosby D. P., to Nuquip Ltd. Filters for fluids. 3,099,546, 7-30-63, Cl. 55—274.
- Smallridge, James H., and S. C. Willard, to Union Carbide Corp. Method for repairing self-baking electrodes. 3,106,596, 10-8-63, Cl. 13—18.
- Smalter, Donald J., to International Minerals & Chemical Corp. Acidic phosphatic solutions. 3,074,780, 1-22-63, Cl. 23—165.
- Smaltz, John D., to Delta Electric Co. Bicycle lamp. 3,073,949, 1-15-63, Cl. 240—7.55.
- Smaltz, John D., to Delta Electric Co. Lantern with signal lamp. 3,116,025, 12-31-63, Cl. 240—10.61.
- Smart, Ernest F.: *See*—  
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- Miller, Carl F., Smart, and McCurdy. 3,081,520.
- Smart, Ernest F., and D. G. Noiles, to Westinghouse Electric Corp. Apparatus and method of assembly of electron discharge devices. 3,081,521, 3-19-63, Cl. 29—25.19.
- Smart, Norman C., to The General Electric Co. Ltd. Automatic telephone systems. 3,087,997, 4-30-63, Cl. 179—18.
- Smart, Richard: *See*—  
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- Smart, Stanley G., to Rose, Downs & Thompson, Ltd. Extraction of sugar juice with screw press. 3,100,725, 8-13-63, Cl. 127—43.
- Smathers, Donald L., to E. I. du Pont de Nemours and Co. Alpha-halo formamides. 3,084,192, 4-2-63, Cl. 260—564.
- Smathers, James F. Typewriter escapement mechanism. 3,096,865, 7-9-63, Cl. 197—84.
- Smeal, Donald L., to L. R. Nelson Mfg. Co., Inc. Irrigation pipe moving apparatus. 3,082,883, 3-26-63, Cl. 214—1.
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- Smedberg, George E., to E. I. du Pont de Nemours and Co. Process of bleaching wood pulp by combined treatment with peroxide and an alkali metal borohydride. 3,100,732, 8-13-63, Cl. 162—78.
- Smedema, Hette, J. Noordanis, and J. G. Damstra, to North American Philips Co., Inc. Self-starting transistor converter with overload protection. 3,098,201, 7-16-63, Cl. 331—113.
- Smeltzer, Jack C., and E. E. Rech, to Thompson Ramo Wooldrige Inc. Capacitive type circulating register. 3,082,332, 3-19-63, Cl. 307—88.5.
- Smeulders, Wouter: *See*—  
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- Smeysal, Karl, and H. Pallutz, to VEB Leuna-Werke Walter Albricht. Process for preparing propionic nitrile. 3,078,297, 2-19-63, Cl. 260—465.1.
- Smialek, Leon J., to General Electric Co. Double-ended jacketed arc lamp mounting. 3,085,171, 4-9-63, Cl. 313—25.
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- Smidth, F. L., & Co.: *See*—  
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- Frankert, Otto P. 3,097,802.
- Smihal, Anthony J. Light fixture for towed outboard motor boats. 3,080,581, 3-12-63, Cl. 9—1.
- Smiley, Eldridge H.: *See*—  
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- Smink, David E.: *See*—  
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- Smirl, Richard L., to Borg-Warner Corp. Leveling valve mechanism. 3,082,018, 3-19-63, Cl. 280—124.
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- Smith, Frederick A., to Union Carbide Corp. Organosiloxane compositions curable to elastomers at room temperature. 3,110,689, 11-12-63, Cl. 260-18.
- Smith, Frederick E., to United States of America, Navy. Air intercept computer. 3,088,108, 4-30-63, Cl. 343-7.
- Smith, Frederick H. Grinding wheel dressing tool. 3,081,762, 3-19-63, Cl. 125-11.
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- Smith, Gene E. Bow checking device. 3,088,212, 5-7-63, Cl. 33-180.
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- Smith, Gene W. Plastic protectors for sheet material and the like. 3,099,268, 7-30-63, Cl. 129-1.
- Smith, Gene W. Plastic protectors for sheet material, book and magazine covers, and the like. 3,099,464, 7-30-63, Cl. 281-20.
- Smith, Geoffrey, and H. Meyer. Marking of articles. 3,078,910, 2-26-63, Cl. 156-517.
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- Smith, George E., Jr. Automatic tail gate release. 3,096,892, 7-9-63, Cl. 214-83.18.
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- Smith, George H. Combustion promoter composition and methods of making and using same. 3,082,072, 3-19-63, Cl. 44-69.
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- Smith, George H., to Minnesota Mining and Mfg. Co. Polymers of substituted aromatic compounds and process for their production. 3,110,687, 11-12-63, Cl. 260-2.
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- Smith, George J. Holder for cards, signs or the like. 3,081,568, 3-19-63, Cl. 40-10.
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- Smith, Gosta, to United Shoe Machinery Corp. Applicator for pasty material. 3,100,314, 8-13-63, Cl. 15-511.



- Smith, Gus T., to Ace Engineering Co. Wear-resistant throat plate for knitting machine. 3,095,718, 7-2-63, Cl. 66-125.
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- Smith, Harold W., L. L. Luxon, and D. J. Cowie, to Algas Industries. Liquid fuel vaporizer. 3,106,956, 10-15-63, Cl. 158-53.
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- Smith, Harry V., F. D. Haag, and W. C. Jones, to Owens-Corning Fiberglas Corp. Apparatus for curing a cylindrical fiber glass and binder casing. 3,080,606, 3-12-63, Cl. 18-46.
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- Smith, Horace V., to Metro Corp. Liquid sample pump assembly. 3,090,323, 5-21-63, Cl. 103-178.
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- Smith, Howard, Paper Mills, Ltd.: *See*—  
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- Smith, Hugh R., Jr., to Stauffer Chemical Co. Electronic furnace with shielded feed. 3,078,326, 2-19-63, Cl. 13-31.
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- Smith, John C., and W. L. Bressler, to The Dow Chemical Co. Hydroxyalkylation of phenols. 3,088,980, 5-7-63, Cl. 260-613.
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- Smith, John E.: *See*—  
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- Smith, John E., and P. A. Scicchitano. Work-supporting and guiding device. 3,092,900, 6-11-63, Cl. 29-200.
- Smith, John F., to E. I. du Pont de Nemours and Co. Improved process for curing fluorocarbon elastomers. 3,080,336, 3-5-63, Cl. 260-41.
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- Smith, John F. D., to Carrier Corp. Heat exchange apparatus of the evaporative type. 3,095,255, 6-25-63, Cl. 62-512.
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- Smith, John H., to Correct-Air Corp. Air conditioner for industrial control quarters. 3,097,505, 7-16-63, Cl. 62-261.
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- Smith, John O., and K. W. Easley, to Monsanto Research Corp. Ortho-substituted bicyclohexyl hydrocarbons as high energy fuels. 3,113,425, 12-10-63, Cl. 60-35.4.
- Smith, John O., and K. W. Easley, to Monsanto Research Corp. Cyclododecane as a high energy fuel. 3,113,426, 12-10-63, Cl. 60-35.4.
- Smith, John W., to Eastman Kodak Co. Method for continuously opening crimped tow. 3,095,632, 7-2-63, Cl. 28-72.
- Smith, John W., to Eastman Kodak Co. Apparatus for moving tow. 3,110,432, 11-12-63, Cl. 226-108.
- Smith, John W., and E. J. Biorseth, to The Mead Corp. Doctor blade. 3,081,191, 3-12-63, Cl. 117-64.
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- Smith, Joseph A., and S. R. Young, to Allied Chemical Corp. Process of producing high-nitrogen, low-chloride nitraphosphate complete fertilizers. 3,091,523, 5-28-63, Cl. 71-37.
- Smith, Joseph A., and C. E. Waters, to Allied Chemical Corp. Liquid nitrogen-phosphorus fertilizers from wet-process phosphoric acid. 3,109,728, 11-5-63, Cl. 71-42.



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- Smith, Joseph B. Split coupling. 3,078,108, 2-19-63, Cl. 285-104.
- Smith, Joseph E., Jr., to Ex-Cell-O Corp. Bearing mounting structure for magnetic memory drum apparatus. 3,082,411, 3-19-63, Cl. 340-174.1.
- Smith, Joseph E., Jr., to Ex-Cell-O Corp. Linear actuator. 3,114,296, 12-17-63, Cl. 121-38.
- Smith, Joseph H., to Johnson & Johnson. Methods and apparatus for making and bonding nonwoven fabrics. 3,088,859, 5-7-63, Cl. 156-26.
- Smith, Joseph L. Display capsule. 3,072,244, 1-8-63, Cl. 206-17.
- Smith, Joseph W. Game disc. 3,092,389, 6-4-63, Cl. 273-128.
- Smith, Josephine C. Clothesline hanger holder. 3,085,691, 4-16-63, Cl. 211-86.
- Smith, Julius L., Jr.: See—  
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- Smith, Julius L., Jr., to Collins Radio Co. Nonreciprocal coaxial line negative resistance amplifier. 3,080,530, 3-5-63, Cl. 330-61.
- Smith, Julius L., Jr., to Collins Radio Co. R.F. amplifier automatic frequency tuning. 3,106,681, 10-8-63, Cl. 325-421.
- Smith, Karl E., to Bethea Co., Inc. Cable clamp. 3,115,688, 12-31-63, Cl. 125-25.
- Smith, Keith J.: See—  
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- Smith, Kenneth A. H. Magnetic teletypewriter transmittal distributor head. 3,110,767, 11-12-63, Cl. 178-52.
- Smith, Kenneth C.: See—  
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- Smith, Kenneth E. Method and apparatus for steering underwater bodies. 3,096,739, 7-9-63, Cl. 114-23.
- Smith, Kenneth G. Nail clippers. 3,093,898, 6-18-63, Cl. 30-28.
- Smith, Kenneth L., to International Computers and Tabulators Ltd. Statistical record reading devices. 3,076,599, 2-5-63, Cl. 235-61.11.
- Smith Kline & French Laboratories: See—  
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Rivard, Donald E. 3,073,837.  
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- Smith, La Vergne L., to Telecomputing Corp. Wobble pump. 3,089,424, 5-14-63, Cl. 103-133.
- Smith, Lawrence H., to Helm Accessories, Inc. Fishing rod handle structure. 3,080,673, 3-12-63, Cl. 43-22.
- Smith, Lawrence J.: See—  
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- Smith, Leslie G.: See—  
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- Smith, Leslie W. Abrasive spray gun. 3,102,368, 9-3-63, Cl. 51-11.
- Smith, Lester L. Roof ridge ventilator. 3,079,853, 3-5-63, Cl. 98-42.
- Smith, Lester L., and F. E. Randall; said Randall, assor. to said Smith. Roof ventilators. 3,073,235, 1-15-63, Cl. 98-32.
- Smith, Lofton H. Air filter. 3,080,694, 3-12-63, Cl. 55-284.
- Smith, Lon T.: See—  
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- Smith, Lon T., to Phillips Petroleum Co. Process for polymerization of acrylic esters with catalysts comprising metal halides and group II metals. 3,100,200, 8-6-63, Cl. 260-89.5.
- Smith, Louis A. Hog oler. 3,101,072, 8-20-63, Cl. 119-157.
- Smith, Lynn E.: See—  
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- Smith, Mahlon J., to The Washburn Co. Lifter for meat and poultry. 3,075,798, 1-29-63, Cl. 294-15.
- Smith, Mahlon J., to The Washburn Co. Rotary roast rack. 3,084,615, 4-9-63, Cl. 99-393.
- Smith, Mainard L., and J. D. Tate, to The Goodyear Tire & Rubber Co. Tire with wide cord ply. 3,085,616, 4-16-63, Cl. 152-355.
- Smith, Marvin M. Instrument for cooling smoke. 3,084,698, 4-9-63, Cl. 131-194.
- Smith, Maurice D., to St. Regis Paper Co. Bread package and wrapper. 3,092,502, 6-4-63, Cl. 99-172.
- Smith, Michael J.: See—  
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- Smith, Newman J., 1/2 to J. Diamond. Lure light. 3,079,721, 3-5-63, Cl. 43-17.5.
- Smith, Newton R.: See—  
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- Smith, Norman H., to Sterling Precision Corp. Changeover controller for series-parallel hydraulic pump. 3,110,264, 11-12-63, Cl. 103-106.
- Smith, Norman J., to J. E. Lonergan Co. Precision dial assembly for gauges. 3,086,494, 4-23-63, Cl. 116-129.
- Smith, Norman L., to H. K. Porter Co., Inc. Method of determining leaks in lightning arresters and the like. 3,090,112, 5-21-63, Cl. 29-407.
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- Smith, Otto J. M. Number storage apparatus and method. 3,084,859, 4-9-63, Cl. 235-92.
- Smith, P. G., to Sperry Rand Corp. Microwave frequency separator. 3,074,033, 1-15-63, Cl. 333-10.
- Smith, Paul A., to Permanent Filter Corp. Filtering component. 3,080,972, 3-12-63, Cl. 210-90.
- Smith, Paul C., R. E. Hyde, and A. J. Teague, to Strolee of California, Inc. Baby seat. 3,076,628, 2-5-63, Cl. 248-399.
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- Smith, Paul E., Jr., and D. P. Norman, to Conval Corp. Recorder. 3,095,569, 6-25-63, Cl. 346-74.
- Smith, Paul L., to Douglas Aircraft Co., Inc. Load carrying apparatus. 3,091,223, 6-18-63, Cl. 214-1.
- Smith, Paul L., to Union Carbide Corp. Process for producing foam stabilizer for beer. 3,099,563, 7-30-63, Cl. 99-48.
- Smith, Paul L., to Union Carbide Corp. Freeze concentration process. 3,102,036, 8-27-63, Cl. 99-205.
- Smith, Paul L., and R. E. Cornwell, to Union Carbide Corp. Process for preparing stabilized solution of heat-sensitive material. 3,087,822, Cl. 99-155.
- Smith, Paul L., R. E. Cornwell, and T. W. Harwell, to Union Carbide Corp. Process for preparing concentrated solutions of heat-sensitive material. 3,113,876, 12-10-63, Cl. 99-205.
- Smith, Paul S.: See—  
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- Smith, Paul V., Jr., D. W. Young, and D. L. Cottle, to Esso Research and Engineering Co. Silicon containing lubricating compositions. 3,085,104, 4-9-63, Cl. 260-448.8.
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- Smith, Peter, to Dynamics Corp. of America. Photoelectric transducer. 3,103,214, 9-10-63, Cl. 128-205.
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- Smith, Philip T., to Radio Corp. of America. Traveling wave magnetron amplifier tubes. 3,076,115, 1-29-63, Cl. 315-3.5.
- Smith, Pierre F., and L. D. King. Effervescent composition in particle form. 3,082,091, 3-19-63, Cl. 99-78.
- Smith, Preston W., Jr., and M. C. Junger, to Acustica Associates, Inc. Liquid volume sensing system. 3,113,456, 12-10-63, Cl. 73-290.
- Smith, Randall E., to Republic Fastener Products Corp. Card package. 3,078,990, 2-26-63, Cl. 206-65.
- Smith, Ray F. Hydrodynamic brake. 3,108,660, 10-29-63, Cl. 188-90.
- Smith, Ray M.: See—  
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- Smith, Raymond G., to Boeing Airplane Co. Accessory power system for aircraft. 3,109,285, 11-5-63, Cl. 60-35.6.
- Smith, Raymond V., to Lockheed Aircraft Corp. Voltage supply and control system. 3,076,896, 2-5-63, Cl. 250-207.
- Smith, Reading B., to Sinclair Research, Inc. Flash vaporization apparatus. 3,080,300, 3-5-63, Cl. 196-114.
- Smith, Reading B., and T. Dresser, to Sinclair Research, Inc. Recovery of durane using heated slurry recycle. 3,103,541, 9-10-63, Cl. 260-674.
- Smith Research and Development Co., Inc.: See—  
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- Smith, Reynold E.: See—  
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- Smith, Richard A., to American Machine & Foundry Co. Air confined system. 3,115,818, 12-31-63, Cl. 98-36.
- Smith, Richard G., and J. M. McMahon, to Screen Products, Inc. Filter construction. 3,096,281, 7-2-63, Cl. 210-487.
- Smith, Richard L.: See—  
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- Smith, Richard M.: See—  
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- Smith, Richard M., to Johnson & Johnson. Pressure-sensitive adhesive sheet having hydrophilic film backing and primer of rubbery latex, hydrophilic methylolated polyacrylamide, and acid catalyst and method of making it. 3,084,067, 4-2-63, Cl. 117-76.
- Smith, Richard M. Speaker systems and sound chambers therefor. 3,115,208, 12-24-63, Cl. 181-31.
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- Smith, Richard R., to General Signal Corp. Traffic directing system for parking areas. 3,110,010, 11-5-63, Cl. 340-51.
- Smith, Richard R., M. W. Echo, and C. B. Doe, to United States of America, Atomic Energy Commission. Method and apparatus for examining fuel elements for leakage. 3,116,211, 12-31-63, Cl. 176-19.
- Smith, Richard S., and V. P. Speiser. Leak testing apparatus. 3,103,910, 9-17-63, Cl. 116-117.
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- Smith, Robert, to General Motors Corp. Refrigerating apparatus. 3,088,294, 5-7-63, Cl. 62-296.
- Smith, Robert A.: See—  
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- Smith, Robert D. Streamlined housing for aircraft safety equipment. 3,100,096, 8-6-63, Cl. 244-117.
- Smith, Robert E., to The Flexicore Co., Inc. Duct forming core. 3,101,519, 8-27-63, Cl. 25-128.
- Smith, Robert J.: See—  
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- Smith, Robert J., to ACF Industries, Inc. Carburetor. 3,086,757, 4-23-63, Cl. 261-34.
- Smith, Robert J., to ACF Industries, Inc. Carburetor. 3,089,684, 5-14-63, Cl. 261-23.
- Smith, Robert K., and C. Popoff, to E. F. Houghton & Co. Imide compounds and lubricants containing the same. 3,078,228, 2-19-63, Cl. 252-33.6.
- Smith, Robert M.: See—  
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- Smith, Robert M. Transistor test set. 3,076,140, 1-29-63, Cl. 324-158.
- Smith, Robert N. Tractor mounted cultivator. 3,077,935, 2-19-63, Cl. 172-273.
- Smith, Robert R., D. C. M. Mann, and J. F. Salmon, to B.X. Plastics Ltd. Graft co-polymers. 3,081,242, 3-12-63, Cl. 204-154.
- Smith, Robert W., to Electro Counter & Motor Corp. Rotor brake. 3,110,830, 11-12-63, Cl. 310-77.
- Smith, Roger S., to Laboratory For Electronics, Inc. Quadrature axis-crossing counter. 3,094,666, 6-18-63, Cl. 328-108.
- Smith Ronald A.: See—  
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- Smith, Rose K. Brassiere. 3,075,530, 1-29-63, Cl. 128-477.
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Beaudry, Walter A., Pollitt, and Smith. 3,092,271.  
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- Smith, Roy E., to Owens-Corning Fiberglas Corp. Method and apparatus for forming and collecting filaments. 3,109,602, 11-5-63, Cl. 242-18.
- Smith, Roy E., to Corning Glass Works. Glass-working apparatus. 3,113,012, 12-3-63, Cl. 65-152.
- Smith, Roy W., to Power Curbers, Inc. Sled type stabilizer. 3,115,074, 12-24-63, Cl. 94-46.
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- Smith, Samuel C., to Fan-Air Systems, Inc. Lumber drying apparatus. 3,090,130, 5-21-63, Cl. 34-50.
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- Smith, Sidney R., Jr. Light condition indicating device. 3,102,508, 9-3-63, Cl. 116-114.
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- Smith, Sydney F., to Associated Electrical Industries Ltd. Electromagnetic relays. 3,102,934, 9-3-63, Cl. 200-102.
- Smith, Sydney S., to Nordberg Mfg. Co. Automatic clearance pockets for compressors. 3,084,847, 4-9-63, Cl. 230-21.
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- Smith, T. L., Co., The: See—  
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- Smith, Telford L. Opposed bolt clamp. 3,088,185, 5-7-63, Cl. 24-279.
- Smith, Telford L. and L. E. Adjustable lawn sprinkler. 3,083,914, 4-2-63, Cl. 239-203.
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- Smith, Thomas D., and H. R. Spence, to Space Technology Laboratories, Inc. Bender-type accelerometer. 3,113,223, 12-3-63, Cl. 310-8.5.
- Smith, Thomas R., 1/2 to W. Jamieson. Loose-leaf binder. 3,092,400, 6-4-63, Cl. 281-19.
- Smith, Thomas R. Engine starting apparatus. 3,104,659, 9-24-63, Cl. 123-179.
- Smith, Thomas W. Flush ball guide. 3,103,668, 9-17-63, Cl. 4-56.
- Smith, Thomas W., to Watts Electric & Mfg. Co. Bulb socket adapter. 3,105,730, 10-1-63, Cl. 339-170.
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- Smith, Traver J., 1/2 to G. I. Magnuson, and 1/2 to G. I. and R. Magnuson, and L. J. Fox, as trustees. Filling apparatus with splash minimizing, liquid transfer funnels. 3,107,703, 10-22-63, Cl. 141-86.
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- Smith, Walter H. B., deceased, by K. B. Groves, executrix. Shotgun action. 3,077,045, 2-12-63, Cl. 42-41.
- Smith, Walter H. B. Bolt action firearm with charger. 3,090,148, 5-21-63, Cl. 42-25.
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- Smith, William A. Vent duct adapter. 3,111,722, 11-26-63, Cl. 20-4.
- Smith, William A., Jr., and G. H. MacMaster, to Raytheon Co. Traveling wave tube utilizing a secondary emissive cathode. 3,096,457, 7-2-63, Cl. 313-103.
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- Smith, William G., and A. J. Marozzi, to Pittsburgh Plate Glass Co. Battery separator and method for manufacture thereof. 3,103,461, 9-10-63, Cl. 162-116.
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- Smith, Willis R.: See—  
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- Smithson, Charles B., to National Union Electric Corp. Latch for suction cleaner. 3,081,478, 3-19-63, Cl. 15-327.
- Smithson, Charles B., to National Union Electric Corp. Attachment mounting for floor polisher or the like. 3,082,451, 3-26-63, Cl. 15-4.
- Smithson, Charles B., to National Union Electric Corp. Dispenser mounting. 3,084,895, 4-9-63, Cl. 248-313.
- Smithson, Harry B. Machine for uncapping honeycombs in supers. 3,091,780, 6-4-63, Cl. 6-12.
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- Smith-Vaniz, William R., Jr., to Trak Electronics Co. Inductance control apparatus. 3,074,012, 1-15-63, Cl. 323-89.
- Smithwick, Henry B. Fence construction. 3,089,681, 5-14-63, Cl. 256-47.
- Smitley, Marion L., to Holley Carburetor Co. Dashpot. 3,081,847, 3-19-63, Cl. 188-94.
- Smits, Hubertus J., to North American Philips Co. Inc. Stereo transducer. 3,115,554, 12-24-63, Cl. 179-100.41.
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- Smokowski, Jordan P. Kite. 3,073,556, 1-15-63, Cl. 244-153.
- Smolen, Joseph H. Bubble-forming fishing lure. 3,096,598, 7-9-63, Cl. 43-42.06.
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- Smolin, Edwin M., and M. N. O'Connor, to American Cyanamid Co. Preparation of trialkyl vinyl tin compounds. 3,074,985, 1-22-63, Cl. 260-429.7.
- Smoll, Allen E., to Stewart-Warner Corp. Conveyor control system. 3,105,601, 10-1-63, Cl. 214-11.
- Smollett, Roy J., Jr., to General Electronic Laboratories, Inc. Amplifier circuit. 3,089,100, 5-7-63, Cl. 330-205.
- Smoltz, Erwin J. Automatic indicating tool. 3,088,213, 5-7-63, Cl. 33-180.
- Smoot, Charles H., W. W. Berger, H. P. Adams, and J. R. Swanson, to Rockwell Mfg. Co. Flow responsive device. 3,115,778, 12-31-63, Cl. 73-205.
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- Smoot, Thomas W., and D. F. Stock, to Harbison-Walker Refractories Co. Cradle. 3,091,014, 5-28-63, Cl. 25-153.
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- Smulski, Theodore J., to The Anderson Co. Clock type electric motor stator structure. 3,114,064, 12-10-63, Cl. 310-259.
- Smura, Edwin J., to International Business Machines Corp. Cathode ray tube for processing digital data. 3,092,746, 6-4-63, Cl. 313-85.
- Smusz, Teddy F., to Royal McBee Corp. Electrical switches. 3,073,935, 1-15-63, Cl. 200-160.
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- Smutny, Edgar J., and P. H. Williams, to Shell Oil Co. Esters of hydroxybenzoic acids. 3,112,338, 11-26-63, Cl. 260-473.
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- Smyers, Roger A., L. D. and J. R. Varrecchia. Angle plow for plasterers. 3,079,622, 3-5-63, Cl. 15-235.7.
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- Smyth, Rex W.: See—  
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- Smythe, William J., E. M. Muller, and R. W. Weeden, to Union Carbide Corp. Apparatus for curing vinyl resin foam. 3,072,960, 1-15-63, Cl. 18-6.
- Smythe, William J., and E. M. Muller, to Union Carbide Corp. Method of making foamed plastisol containing a small amount of water. 3,113,116, 12-3-63, Cl. 260-2.5.
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- Snavelly, William H., Jr., and P. J. Manno, to Continental Oil Co. Hydrofluorination of alkynes. 3,073,871, 1-15-63, Cl. 260-653.6.
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- Snelling, Charles D. Self-contained controlled temperature system. 3,112,877, 12-3-63, Cl. 236-1.
- Snelling, Charles D. Self-contained temperature control system. 3,112,878, 12-3-63, Cl. 236-1.
- Snelling, Charles D. Fluorescent lamp fixture. 3,112,890, 12-3-63, Cl. 240-51.11.
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- Snelling, Christopher: See—  
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- Snetthen, George E. Illuminated display or advertising device. 3,105,315, 10-1-63, Cl. 40-77.
- Snetthen, Thomas H., to Watson Mfg. Co., Inc. Filing system. 3,088,786, 5-7-63, Cl. 312-198.
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- Snijders, Antonio, to de Staat der Nederlanden, Ten Deze Vertegenwoordigd door de Directeur-Generaal der Posten, Telegrafie en Telefonie. Gating circuit with stabilizing means at the voltage divider output tap of each multivibrator therein. 3,111,626, 11-19-63, Cl. 328-92.
- Snickers, Jan, to North American Philips Co., Inc. Disconnect plug for electric device. 3,091,747, 5-28-63, Cl. 339-61.
- Snipe, Arthur, T. R. and R. Bingham. Mining machines having a rotary cutting head. 3,085,795, 4-16-63, Cl. 262-27.
- Snoberger, Philip H., to Ranco Inc. Control apparatus for heating and cooling systems. 3,084,864, 4-9-63, Cl. 236-1.
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- Snow, Floyd E., and J. O. York, to Coast Pro Seal Mfg. Co. Applicator and mixer for viscous materials. 3,088,712, 5-7-63, Cl. 259-7.
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- Snow, Robert E., and F. N. Oberg, to International Minerals & Chemical Corp. Method of improving recovery of mineral values from ores. 3,078,996, 2-26-63, Cl. 209-166.
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Hadaucourt, Alain C., and Poujade. 3,089,983.  
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Boenau, Arthur H. 3,105,823.  
Bonner, Tom W. 3,102,198.  
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Butcosk, Richard A. 3,108,965.  
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Frilette, Vincent J., and Kerr. 3,071,434.  
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Hansen, Waldemar H. 3,076,036.  
Harvey, Raymond D. 3,108,438.  
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Huckabay, William B. 3,075,606.  
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Kuhn, Carl S., Jr. 3,111,986.  
Lawrence, Philip L. 3,076,176.  
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Lifland, Philip P. 3,111,481.  
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Loper, George B., Barclay, and Johnson. 3,075,172.  
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Neiswender, David D., Jr., and Landis. 3,089,894.  
Nygaard, Edwin M., and Oberright. 3,102,096.  
Patton, Bob J., and Fitch. 3,088,528.  
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Raymond, Leonard. 3,083,084.  
Reed, Lionel E., and Whitley. 3,081,627.  
Schick, John W. 3,084,205.  
Schwartz, Albert B. 3,115,532.  
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Singer, Joe K. 3,091,584.  
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Snyder, Paul W., Jr. 3,098,029.  
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- Solovieff, George B.: *See*—  
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- Solow, Benjamin, to International Resistance Co. Electrical resistor. 3,088,085, 4-30-63, Cl. 338-283.



- Solow, Benjamin. Method and apparatus for making pencil marking points. 3,112,561, 12-3-63, Cl. 29—420.
- Soloway, Harold: *See*—  
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- Soloway, Saul, to Faberge, Inc. Lip-coloring compositions. 3,086,914, 4-23-63, Cl. 167—85.
- Soltau, William E., and P. F. Orchard, to Bristol Siddeley Engines Ltd. Combustion chambers for use with swirling combustion supporting medium. 3,088,281, 5-7-63, Cl. 60—39.65.
- Solter, Robert L.: *See*—  
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- Soltis, John A., to Appleton Mills. Method of trimming and edge sealing textile fabrics. 3,087,846, 4-30-63, Cl. 156—88.
- Soltis, Joseph D.: *See*—  
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- Solum, Conrad R., Jr.: *See*—  
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- Solum, James R., W. C. Hempel, and C. R. Solum, Jr., to B & W Inc. Tool for use in cementing well casing. 3,074,483, 1-22-63, Cl. 166—172.
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- Solum, James R., W. C. Hempel, and C. R. Solum, Jr., to B & W Inc. Tool for use in cementing well casing. 3,109,491, 11-5-63, Cl. 166—172.
- Solum, James R., W. C. Hempel, and C. R. Solum, Jr., to B & W Inc. Tool for use in cementing well casing. 3,109,492, 11-5-63, Cl. 166—172.
- Solum, James R., and W. C. Hempel to B & W Inc. Cement basket. 3,114,422, 12-17-63, Cl. 166—202.
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- Sombold, Heinz G.: *See*—  
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- Somer, Jack A., to Radio Corp. of America. Simulated stereophonic sound translating and recording system. 3,087,988, 4-30-63, Cl. 179—1.
- Somers, Allen E.: *See*—  
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- Somers, Arthur V., to General Motors Corp. Alumina base ceramic. 3,088,832, 5-7-63, Cl. 106—39.
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- Somlyody, Arpad, to Burroughs Corp. Electron beam switching tube counter circuit with low impedance driving means. 3,088,049, 4-30-63, Cl. 315—21.
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- Sommer, Gordon M., C. L. Mitchell, and V. J. Mankowsky, to U.S. Industries, Inc. Multispeed driving mechanisms. 3,074,297, 1-22-63, Cl. 74—750.
- Sommer, Heinz E.: *See*—  
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- Sommer, Leo H., to Dow Corning Corp. Method of preparing organosilicon functional compounds and products thereof. 3,111,534, 11-19-63, Cl. 260—448.2.
- Sommer, Richard: *See*—  
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- Sommer, Richard A., R. F. Seyfried, and R. J. Kasper, to Ohio Crankshaft Co. Furnace control circuit. 3,084,323, 4-2-63, Cl. 322—20.
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- Sommers, Henry S., Jr., to United States of America, Navy. Method and apparatus of target acquisition. 3,082,415, 3-19-63, Cl. 343—7.4.
- Sommers, Vernon G.: *See*—  
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- Sondgeroth, Leon F.: *See*—  
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- Sondy, Dominic. Ceramic kiln. 3,095,186, 6-25-63, Cl. 263—7.
- Soneki, Joseph H., to Bethlehem Steel Co. Portable demagnetizer. 3,086,148, 4-16-63, Cl. 317—157.5.
- Sones, William L., to General Motors Corp. Regulating system for alternators. 3,072,840, 1-8-63, Cl. 322—73.
- Song, John, and E. Cohen, to American Cyanamid Co. 7-chloro-2-lower alkyl-1,2,3,4-tetrahydro-4-oxoquinazolines. 3,092,631, 6-4-63, Cl. 260—251.
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- Sonic Engineering Corp.: *See*—  
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- Sonnemann, William K., to Westinghouse Electric Corp. Time-delay devices. 3,109,962, 11-5-63, Cl. 317—36.
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- Sonoco Products Co.: *See*—  
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- Sontheimer, Carl G., to Trak Electronics Co., Inc. Isolator system providing low attenuation for input signals and extremely high attenuation for signals attempting to pass in the reverse direction. 3,094,668, 6-18-63, Cl. 328-209.
- Sontheimer, Carl G., to The Liquidometer Corp. Measuring system with compensation for dielectric constant. 3,112,647, 12-3-63, Cl. 73-304.
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- Soos, Steven W., to Westinghouse Electric Corp. Solenoid switch operating mechanism. 3,103,564, 9-10-63, Cl. 200-98.
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- Soper, Glenn T.: *See*—  
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- Sorby, Anthony J., to Manning, Maxwell & Moore, Inc. Magnetic work holder. 3,079,140, 2-26-63, Cl. 269-8.
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- Sorel, Raymond T. Hydrophone with frusto-conical hollow carbon elements. 3,075,170, 1-22-63, Cl. 340-13.
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- Sorensen, Ejnar. Toilet flushing mechanism. 3,076,974, 2-12-63, Cl. 4-57.
- Sorensen, Gabriel. Smoking kiln. 3,081,692, 3-19-63, Cl. 99-259.
- Sorensen, Harry E. Cargo transfer apparatus. 3,085,593, 4-16-63, Cl. 137-615.
- Sorensen, Henry: *See*—  
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- Sorenson, James L. Self-sealing sterile packaging and method. 3,095,972, 7-2-63, Cl. 206-63.2.
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- Sorlaten, Chester G., to Ilasco Corp. Electrical connector. 3,113,822, 12-10-63, Cl. 339-272.
- Sorg, Adam, to A. Sorg, and E. V. Hadley. Apparatus for forming plastic-coated filter paper webs for infusion packages. 3,085,617, 4-16-63, Cl. 156-500.
- Sorg, Adam. Method of coating tea bag paper to render it heat-sealable. 3,106,481, 10-8-63, Cl. 117-44.
- Sorg, Harold E., D. H. Preist, and R. H. Chamberlin, to Eitel-McCullough, Inc. Klystron. 3,078,385, 2-19-63, Cl. 315-5.48.
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- Sorley, James D., and W. C. List. Sediment testing device. 3,086,389, 4-23-63, Cl. 73-61.
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- Sorrow, Billy B., and N. T. Kunkle, to Westinghouse Electric Corp. Lightning arresters. 3,099,770, 7-30-63, Cl. 315-36.
- Sorstokke, Harold, and R. Pottkotter, to Stauffer Chemical Co. Process for the manufacture of trialkyl phosphates. 3,079,419, 2-26-63, Cl. 260-461.
- Sorteberg, Johannes. Automatically balanced weighbeam systems. 3,085,744, 4-16-63, Cl. 235-61.
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- Sosalla, Harry L., E. A. Madison, and R. E. Coats, to Noble Mfg. Co., Inc. Granular material applicator. 3,074,727, 1-22-63, Cl. 275-14.
- Sosin, Boleslaw M., and R. E. J. Gerard, to Marconi's Wireless Telegraph Co. Ltd. Transistor distributed amplifier. 3,097,345, 7-9-63, Cl. 330-30.
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- Sosoka, John R., and J. V. Robinson, to Unitex Corp. Welding. 3,100,832, 8-13-63, Cl. 219-86.
- Sosolic, Ernest, to Societe Oranaise de Constructions Mecaniques (S.O.C.). Distributors notably for feeding machine-tools and the like. 3,093,250, 6-11-63, Cl. 214-1.
- Sosolic, Ernest, to Societe Oranaise de Constructions Mecaniques (S.O.C.) Distributor device. 3,096,888, 7-9-63, Cl. 214-1.
- Soss, Charles J. Apparatus for installing hinges. 3,082,800, 3-26-63, Cl. 144-27.
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- Soubier, Leonard D., deceased (O. M. Soubier, executrix), and J. R. Nelson, to Owens-Illinois Glass Co. Apparatus for making composite plastic articles. 3,115,682, 12-31-63, Cl. 18-30.
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- Soudan, Paul, and H. Mercier, to Pechiney Compagnie de Produits Chimique et Electrometallurgique. Apparatus for the continuous digestion of bauxite. 3,095,280, 6-25-63, Cl. 23-290.
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- Souresny, Herbert, to Schoeller-Bleckmann Stahlwerke Aktiengesellschaft, Fa. Drill stems for deep-well drill rods from non-magnetizable austenitic manganese-chromium alloy steels. 3,112,195, 11-26-63, Cl. 75-126.
- Sourgens, Roger P., and R. A. Chollet. Electronic teleprinter adapted for collation. 3,099,705, 7-30-63, Cl. 178-2.
- Sousa, Antonio P., and M. M. Brilhante. Automatic color film transparency processing machine. 3,082,675, 3-26-63, Cl. 95-89.
- Soussloff, Dimitri G., S. Godel, T. Descovich, and R. E. Davis, to American Machine & Foundry Co. Elapsed time indicator. 3,090,915, 5-21-63, Cl. 324-68.
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- Souther, Robert R. Safety pin. 3,072,990, 1-15-63, Cl. 24-161.
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- Southgate, Harold A., to Canada Wire and Cable Co. Ltd. Method of manufacturing aluminum sheath for electric cable. 3,103,453, 9-10-63, Cl. 148-11.5.
- Southin, Roy T.: *See*—  
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- Southwest Industrial Products, Inc.: *See*—  
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- Southwest Products Co.: *See*—  
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- Southwood, Dewey R. Fluid dispenser. 3,088,125, 5-7-63, Cl. 4-222.
- Southwood, Robert L.: *See*—  
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- Southworth, Hamilton, Jr.: *See*—  
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- Southworth, John V. D., Jr.: *See*—  
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- Southworth Machine Co.: *See*—  
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- Souviner, George E.: *See*—  
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- Sowinski, Francis A.: *See*—  
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- Sowler, George R., and R. M. Eisenberg, to ACF Industries, Inc. Radar altimeter simulator. 3,090,136, 5-21-63, Cl. 35-10.4.
- Soyer, Robert. Devices forming the mouthpieces of air admission pipes for jet engines for aircraft. 3,074,232, 1-22-63, Cl. 60-35.6.
- Söyland, Ingebræt and K. Mobile excavators. Re. 25,495, 12-17-63, Cl. 214-138.
- Söyland, Kristian: *See*—  
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- Sozaki, Takeshi: *See*—  
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- Spaa, Jacob H., to North American Philips Co., Inc. System for determining the radio-activity of gas sols. 3,109,096, 10-29-63, Cl. 250-83.3.
- Space Components Inc.: *See*—  
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- Space Conditioning Corp.: *See*—  
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- Space Equipment Corp.: *See*—  
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- Space Technology Laboratories, Inc.: *See*—  
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- Spacht, Ronald B., to The Goodyear Tire & Rubber Co. Stabilization of organic compositions with metal deactivators. 3,072,573, 1-8-63, Cl. 252-51.5.
- Spacht, Ronald B., to The Goodyear Tire & Rubber Co. Catalysts for condensation reactions of primary amines with dihydroxy aromatic compounds. 3,081,348, 3-12-63, Cl. 260-576.
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- Spacil, Henry S., and W. E. Tragert, to General Electric Co. Gas discharge heating device. 3,109,118, 10-29-63, Cl. 313-204.
- Spack, Maurice. Catapult device. 3,071,127, 1-1-63, Cl. 124-17.
- Spadaro, Giorgio I., to Acme-Lite Mfg. Co. Table and support therefor. 3,071,423, 1-1-63, Cl. 311-83.
- Spadaro, Giorgio I. Reel holder. 3,072,280, 1-8-63, Cl. 220-4.
- Spadaro, Giorgio I., to Acme-Lite Mfg. Co. Photography appliance. 3,075,069, 1-22-63, Cl. 240-1.3.
- Spade, Robert L., and J. F. Voss, to Belden Mfg. Co. Welding cable. 3,098,892, 7-23-63, Cl. 174-47.
- Spademan, Charles F., to Toledo Scale Corp. Load measuring device. 3,081,830, 3-19-63, Cl. 177-1.
- Spaeth, Charles P., to E. I. du Pont de Nemours and Co. Dehydration of aromatic polycarboxylic acids. 3,106,568, 10-8-63, Cl. 260-346.3.
- Spahl, Charles R., to American Optical Co. Flags and staffs therefor. 3,081,734, 3-19-63, Cl. 116-173.
- Spaight, Elma: *See*—  
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- Spaight, Harold L., deceased; E. Spaight, executrix, to Dur-O-Wal National, Inc. Control joint. 3,099,110, 7-30-63, Cl. 50-346.
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- Spain, Robert F.: *See*—  
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- Spain, Roy C., to The Yale and Towne Mfg. Co. Side bar cylinder lock. 3,080,744, 3-12-63, Cl. 70-364.
- Spain, Roy C., to The Yale and Towne Mfg. Co. Key biting machine. 3,094,039, 6-18-63, Cl. 90-13.05.
- Spainhour, Carroll D.: *See*—  
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- Spainhour, James D., to Phillips Petroleum Co. Synthesis of certain substituted triazines. 3,095,414, 6-25-63, Cl. 260-248.
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- Spalaris, Constantine N., to General Electric Co. Malleable tube-clad article and manufacturing method therefor. 3,088,893, 5-7-63, Cl. 204-154.2.
- Spalding, A. G., & Bros., Inc.: *See*—  
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- Spalding, Dudley B. Pressure exchangers. 3,074,620, 1-22-63, Cl. 230-69.
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- Spalding, Dudley B. Pressure exchanger apparatus. 3,095,704, 7-2-63, Cl. 60—39.45.
- Spalding, Richard O., and M. C. Street, to Owens-Illinois Glass Co. Method and apparatus for making printed flattened tubular carton blanks. 3,073,217, 1-15-63, Cl. 93—52.
- Spalding, Robert G., to Symington Wayne Corp. Indicating apparatus for dispensing system. 3,100,062, 8-6-63, Cl. 222—35.
- Spaulding, Thomas R., to International Telephone and Telegraph Corp. Apparatus for detecting hot journal boxes. 3,076,089, 1-29-63, Cl. 246—169.
- Spalla, Joseph R., to Royal McBee Corp. Margin regulators for typewriters or like business machines. 3,080,038, 3-5-63, Cl. 197—63.
- Span Tendons Ltd.: *See—*  
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- Spangenberg, Wesley: *See—*  
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- Spangler, Earl G., and C. Schreur; said Schreur assor. to said Spangler. Method of making a coated fibrous filter element. 3,096,204, 7-2-63, Cl. 117—98.
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- Spanner, Jack C., to United States of America, Atomic Energy Commission. Apparatus for measuring annular offset between a first metal tube and a second metal tube spatially disposed within the first tube. 3,100,281, 8-6-63, Cl. 324—40.
- Spannhake, Ernst W.: *See—*  
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- Sparkes, Harry P., to Cole Electric Co. Connector assembly. 3,083,274, 3-26-63, Cl. 200—51.09.
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- Sparkman, Virgil M. Book holder. 3,076,285, 2-5-63, Cl. 45—85.
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- Sparks, Arthur L. Lamp housings for use in connection with photographic apparatus. 3,112,075, 11-26-63, Cl. 240—20.
- Sparks, Carter W.: *See—*  
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- Sparks, Cleone A. Method for impact-forming slipper-type pistons. 3,093,890, 6-18-63, Cl. 29—156.5.
- Sparks, David E., to Admiral Corp. Method and apparatus for neutralizing Miller effect. 3,094,674, 6-18-63, Cl. 330—76.
- Sparks, Marvin,  $\frac{1}{2}$  to A. E. Tabor. Portable hydrotherapy machine. 3,075,520, 1-29-63, Cl. 128—66.
- Sparks, Neil R.: *See—*  
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- Sparks, William B., D. W. Matteson, and C. W. Sparks, to Casaibi Co. Self-propelled lawn sprinkler. 3,081,038, 3-12-63, Cl. 239—192.
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- Sparring, Arthur J., to Mitchell Camera Corp. Pressure controller. 3,115,897, 12-31-63, Cl. 138—31.
- Sparring, Stanley C., R. W. G. Haslett, P. R. Hopkin, and J. E. L. Sothcott, to Kelvin & Hughes Ltd. Echo ranging with reference to boundary conditions. 3,098,210, 7-16-63, Cl. 340—3.
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- Sparrendahl, Gunnar E. W., to Telefonaktiebolaget L M Ericsson. Telecommunication system. 3,112,369, 11-26-63, Cl. 179—15.
- Sparrow, Hubert T., to Minneapolis-Honeywell Regulator Co. Fluid amplifier mixing control system. 3,091,393, 5-28-63, Cl. 236—12.
- Sparrow, Hubert T., to Minneapolis-Honeywell Regulator Co. Heating system control with anticipating means. 3,091,394, 5-28-63, Cl. 236—68.
- Sparrow, Kenneth M., to Lima Electric Motor Co., Inc. Dynamo electric machine. 3,093,782, 6-11-63, Cl. 318—186.
- Sparrow, William T., and J. B. Montgomery, to Newport News Shipbuilding and Dry Dock Co. Cargo handling apparatus. 3,110,403, 11-12-63, Cl. 212—3.
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- Spatz, Walter B. Dispensers for fluent masses. 3,088,636, 5-7-63, Cl. 222—213.
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- Spaulding, Carl P., and M. C. Wilson, to Datex Corp. Encoder circuits. 3,099,003, 7-23-63, Cl. 340—347.
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- Speaker, Lawrence W., to General Electric Co. Water entrainment means for air conditioning apparatus. 3,079,767, 3-5-63, Cl. 62—280.
- Speaker, Lawrence W., to General Electric Co. Fan construction. 3,089,314, 5-14-63, Cl. 62—279.
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- Speakman, Eugene R., to Douglas Aircraft Co., Inc. Sealed hinge. 3,075,234, 1-29-63, Cl. 16—137.
- Speakman, Frank P., and L. Williams, to Pye Ltd. Apparatus for gas analysis. 3,104,320, 9-17-63, Cl. 250—43.5.
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- Spear, J. W., & Sons Ltd.: *See—*  
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- Spear, Jakob R., to J. W. Spear & Sons Ltd. Jigs for making pompons. 3,110,077, 11-12-63, Cl. 28—2.
- Spear, Walter A., C. R. Turner, and C. F. Meeker, to Nutone, Inc. Ventilator hood with collapsible bonnet. 3,087,411, 4-30-63, Cl. 98—115.
- Spears, Garfield. Cake cutter having power driven endless cutting wire. 3,089,371, 5-14-63, Cl. 83—201.
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- Speck, Josef. Muffler or silencer. 3,073,413, 1-15-63, Cl. 181-64.
- Speck, Josef. Flashlight. 3,099,402, 7-30-63, Cl. 240-10.66.
- Spector, Dov. Self-powered cathodic protection and electrolytic descaling device. 3,081,231, 3-12-63, Cl. 204-196.
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- Spector, Morris, to Sterling Automotive Mfg. Co. Adjustable clamp. 3,100,327, 8-13-63, Cl. 24-274.
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- Spence, Clifton F., deceased; H. M. Spence, administratrix. Chain saw filing guide. 3,093,016, 6-11-63, Cl. 76-36.
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- Spence, Paulsen. Railroad crossing. 3,077,600, 2-12-63, Cl. 238-8.
- Spence, Paulsen, deceased, L. B. Dexter and O. C. Paulsen, co-executors. Desuperheater. 3,092,677, 6-4-63, Cl. 261-16.
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- Reid, John B., and Spence. 3,107,376.
- Spence, Rodney E., to W. D. Box. Door frame structures. 3,079,650, 3-5-63, Cl. 20-11.
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- Routson, Willis G., and Spence. 3,097,055.
- Spence, Thomas M. Steam or vapor bath. 3,115,645, 12-31-63, Cl. 4-161.
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- Spira-Klein, Marie-Louise: *See*—  
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- Spirakus, Stanley F., to Zaitko Metal Products Co. Symmetrical hubbed sheet metal pulley. 3,096,660, 7-9-63, Cl. 74-230.3.
- Spire, Ambrose W., to Livestock drinking fountain. 3,086,500, 4-23-63, Cl. 119-74.
- Spires, Stephen S., and R. H. Nowell. Free piston engine. 3,082,754, 3-26-63, Cl. 123-46.
- Spiri, Willy H., to Abegg & Reinhold Co. Kelly bushing. 3,099,917, 8-6-63, Cl. 64-23.7.
- Spiri, Willy H., to Continental Oil Co., Union Oil Co. of California, The Superior Oil Co., and Shell Oil Co. Universal joint Marine master bushing. 3,110,350, 11-12-63, Cl. 175-5.
- Spiro, Lloyd W., to Lockheed Aircraft Corp. Flexible multipurpose clamp. 3,099,054, 7-30-63, Cl. 24-16.
- Spiro, Lloyd W., to Lockheed Aircraft Corp. Device for sleeving wire bundles and the like. 3,106,771, 10-15-63, Cl. 29-235.
- Spirotechnique, La: *See*—  
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Cousteau, Jacques Y., Gagnan, Laban, and Mollard. 3,082,731.  
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- De Wouters D'Oplinter, Jean G. M. J. 3,109,357.
- Spiselman, Joseph W., to Floating Floors Inc. Anti-vibration lock for pedestal heads. 3,084,911, 4-9-63, Cl. 254-98.
- Spiselman, Joseph W., to Floating Floors Inc. Adjustable pedestal for elevated sectional floors. 3,100,624, 8-13-63, Cl. 254-101.
- Spiselman, Leonard, to Columbia Metal Frame Co. Picture frame structure. 3,080,603, 3-12-63, Cl. 16-191.
- Spitaleri, Vernon R., and L. H. Satre, to Sta-Hi Corp. Router bit grinder. 3,078,622, 2-26-63, Cl. 51-124.
- Spiteri, Joseph, to Electr-O-Mech, Inc. Cover for an electrical outlet. 3,113,174, 12-3-63, Cl. 174-67.
- Spiteri, Joseph, to Electr-O-Mech, Inc. Sponge for containing soap. 3,114,928, 12-24-63, Cl. 15-568.
- Spitz, Albert W., Method of incinerating wire scrap. 3,076,421, 2-5-63, Cl. 110-18.
- Spitz Laboratories, Inc.: *See*—  
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- Spitz, Samuel, to Electronic Oil Well Heater, Inc. Bottom hole jet heater. 3,101,116, 8-20-63, Cl. 166-60.
- Spitzer, Anne, to Lily of France, Inc. Undergarment. 3,099,266, 7-30-63, Cl. 128-541.
- Spitzer, Penn F. Jr., and F. Aagaard, to American Cyanamid Co. Oil-soluble red dye composition and process. 3,073,664, 1-15-63, Cl. 8-79.
- Spitzer, William G.: *See*—  
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- Spitzer, William G., to Bell Telephone Laboratories, Inc. Measurement of impurity concentration in semiconducting material. 3,109,932, 11-5-63, Cl. 250-83.3.
- Spitzer, William G., and M. Tanenbaum, to Bell Telephone Laboratories, Inc. Growing and determining epitaxial layer thickness. 3,099,579, 7-30-63, Cl. 117-230.
- Spitzner, Harold A.: *See*—  
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- Spjeldnes, Kare K., to Automatic Electric Laboratories, Inc. Communication switching system. 3,106,615, 10-8-63, Cl. 179-18.
- Splees, Harry A., to Minnesota Mining and Mfg. Co. Progressive transverse severing device. 3,080,781, 3-12-63, Cl. 83-162.
- Splinter, William E., to Research Corp. Tobacco harvester. 3,093,949, 6-18-63, Cl. 56-27.5.
- Spoerl, Hans W., System for cooling air by subterranean means. 3,100,973, 8-20-63, Cl. 62-260.
- Spofa sdruzeni podniku pro zdravotnickou výrobu: *See*—  
Kýbal, Jan, Protiřiv, Strnadova, Stary, and Cekan. 3,110,651.
- Semonsky, Miroslav, Rockova, and Jelinek. 3,105,850.
- Spofford, Warren A., to General Electric Co. Air conditioning control apparatus. 3,111,010, 11-19-63, Cl. 62-176.
- Spohn, Karl, Controls for automatic machine tools and the like. 3,113,371, 12-10-63, Cl. 29-42.
- Spohn, Karl, and H. Walker. Automatic working turning means for screw machines. 3,096,673, 7-9-63, Cl. 82-2.5.
- Spohrer, George V., Coin controlled service vending systems. 3,100,034, 8-6-63, Cl. 194-1.
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- Spolders, Rudolf: *See*—  
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- Spolsino, Peter P., to W. R. Grace & Co. Sealing apparatus. 3,111,794, 11-26-63, Cl. 53-14.
- Spon, Carroll V.: *See*—  
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North, Edwin W., and Spon. 3,101,604.
- Sponnoble, Harry, and J. E. Tingstad, to The Upjohn Co. Estrone solubilized with N,N-dimethylacetamide. 3,075,882, 1-29-63, Cl. 167-74.
- Sponsel, Kurt H.: *See*—  
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- Spooner, William C. Combined road map and obstruction marker. 3,113,552, 12-10-63, Cl. 116-63.
- Spooner, Archer M.: *See*—  
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- Spooner Dryer & Engineering Co. Ltd., The: *See*—  
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- Spooner, Howard C.: *See*—  
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- Spooner, Howard E., to Engelhard Industries, Inc. Method for producing an electrical contact element. 3,075,281, 1-29-63, Cl. 29-155.55.
- Spooner, Howard E., and A. G. Bergmann, to Engelhard Industries, Inc. Electrical contact. 3,113,196, 12-3-63, Cl. 200-166.
- Spooner, Hubert: *See*—  
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- Spooner, Joseph R., and W. A. Hadley, to Linotype and Machinery Ltd. Sheet control for printing machines. 3,081,082, 3-12-63, Cl. 271-68.
- Spooner, Richard C.: *See*—  
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- Spooner, Robert B.: *See*—  
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- Spooner, Robert B., to Koppers Co., Inc. Apparatus for measuring the height and contour of material. 3,099,744, 7-30-63, Cl. 250-71.5.
- Sporck, Claus L., to The Lodge & Shipley Co. Metal working. 3,104,565, 9-24-63, Cl. 80-13.
- Sporck, Claus L., and B. Sassen, to The Lodge & Shipley Co. Metal working. 3,104,640, 9-24-63, Cl. 113-53.
- Sporck, Claus L., and B. Sassen, to The Lodge & Shipley Co. Metal working. 3,114,342, 12-17-63, Cl. 113-52.
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- Sporer, Anthony G.: *See*—  
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- Sporlan Valve Co., Inc.: *See*—  
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- Sporn, Stanley: *See*—  
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- Spotholz, Clifford H., to General Foods Corp. Pressure roasting of coffee. 3,106,470, 10-8-63, Cl. 99-68.
- Spotholz, Clifford H., and C. C. Elsesser, to General Foods Corp. Beverage flavor and process for its production. 3,102,815, 9-3-63, Cl. 99-140.
- Spotnails, Inc.: *See*—  
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- Spound, Albert M., Automatic projecting headrest for reclining chairs. Re. 25,345, 3-12-63, Cl. 297-61.
- Spowart, Samuel J., D. Goodman, and D. Sutherland, to Campbell Taggart Associates Bakeries, Inc. Doubles eliminator for dough rounding machine. 3,115,250, 12-24-63, Cl. 209-90.
- Spracklen, John G., to Zenith Radio Corp. Remote control apparatus. 3,076,142, 1-29-63, Cl. 325-392.
- Spracklen, Stanford B.: *See*—  
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- Spragens, George F., Multi-way rotary valve structure. 3,085,594, 4-16-63, Cl. 137-625.18.
- Spragens, George F., to The Martin Sweets Co. Valve packing assembly. 3,093,506, 7-23-63, Cl. 137-625.19.
- Spraggins, Newton F.: *See*—  
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- Sprague, Basil S.: *See*—  
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- Sprague, Carlton L., and I. W. Wolf, to United States of America, Army. Printed circuit apparatus. 3,088,434, 5-7-63, Cl. 118-410.
- Sprague Electric Co.: *See*—  
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- Sprague, Harold E., and M. E. Olson, to Thompson Ramo Wooldridge Inc. Magnetic pump. 3,089,425, 5-14-63, Cl. 103—152.
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- Sprague, James W., to The Standard Oil Co. Method for preparing high surface area titania. 3,092,457, 6-4-63, Cl. 23—202.
- Sprague, John M., to Heinemann Electric Co. Movable arm actuated interconnected circuit breakers. 3,098,912, 7-23-63, Cl. 200—107.
- Sprague, Robert H. Portable spraying device. 3,076,429, 2-5-63, Cl. 118—322.
- Sprague, Robert H., to Horizons Inc. Fixing of print-out images. 3,082,086, 3-19-63, Cl. 96—48.
- Sprague, Robert H., H. L. Fichter, Jr., and W. P. Hamilton, to Horizons Inc. Styryl dye base composition and photographic processes for producing lithographic surfaces photoresists and prints therewith. 3,095,303, 6-25-63, Cl. 96—33.
- Sprague, Robert H., H. L. Fichter, Jr., and W. P. Hamilton, to Horizons Inc. Photographic process utilizing cyanine dye bases. 3,100,703, 8-13-63, Cl. 96—33.
- Sprague, Robert H., H. L. Fichter, Jr., and J. G. Fidelman, to Horizons Inc. Direct positive dye bleach process and merocyanine composition therefor. 3,102,027, 8-27-63, Cl. 96—47.
- Sprague, Robert H., H. L. Fichter, Jr., and W. P. Hamilton, to Horizons Inc. Print-out cyanine and styryl dye bases and process of producing litho masters and the like therewith. 3,102,810, 9-3-63, Cl. 96—33.
- Sprague, Robert H., H. L. Fichter, Jr., and W. P. Hamilton, to Horizons Inc. Photographic bleaching out of cyanine dyes. 3,104,973, 9-24-63, Cl. 96—48.
- Sprague, Robert H., and H. L. Fichter, Jr., to Horizons Inc. Print-out photoprocess with merocyanine dyes. 3,106,466, 10-8-63, Cl. 96—48.
- Sprague, Robert H., and J. J. Urbanick, to Horizons Inc. Light-sensitive merocyanine dye base compositions. 3,109,736, 11-5-63, Cl. 96—90.
- Sprague, Robert H., J. A. Stewart, and J. M. Lewis, to Horizons Inc. Photosensitive composition containing leuco dye and method for producing visible images using said composition. 3,113,024, 12-3-63, Cl. 96—48.
- Sprague, Stephen B., and A. E. Burton; said Sprague assor. to said Burton. Multiple wire cable support. 3,072,357, 1-8-63, Cl. 242—86.5.
- Sprague, Theodore S.: *See—*  
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- Sprague, Theodore S., to The Babcock & Wilcox Co. Vapor generating unit and method of operating same. 3,114,353, 12-17-63, Cl. 122—34.
- Sprague, Wesley L., to The Bendix Corp. High altitude suit and mask oxygen regulator. 3,077,881, 2-19-63, Cl. 128—144.
- Spranger, Alfred F. Seat belt construction. 3,116,092, 12-31-63, Cl. 297—388.
- Sprayers & Nozzles, Inc.: *See—*  
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- Spraying Systems Co.: *See—*  
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- Spraylat Corp.: *See—*  
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- Spreadbury, Walter G., W. W. Oslund, and G. R. Harlow, to Norton Co. Apparatus for the manufacturing of spindle supported mounted points. 3,109,261, 11-5-63, Cl. 51—5.
- Spreitzer, William M., R. G. Tipping, M. E. Fisher, C. R. Copeland, and W. O. Alexander, to General Motors Corp. Transmission. 3,093,010, 6-11-63, Cl. 74—472.
- Spretnjak, Steve A., to Excel Corp. Sash construction for a sliding window. 3,101,136, 8-20-63, Cl. 189—76.
- Spiestersbach, Ronald C., and R. E. Bible, to General Precision, Inc. Transistorized flip-flop. 3,083,304, 3-26-63, Cl. 307—88.5.
- Springs, Donald G., to H. K. Porter Co., Inc. Electrical insulator constructions. 3,093,894, 7-23-63, Cl. 174—178.
- Springs, Donald G., to H. K. Porter Co., Inc. Current collector mechanism. 3,114,441, 12-17-63, Cl. 191—69.
- Spring, Hans, to Watts Regulator Co. Liquid circulator. 3,071,075, 1-1-63, Cl. 103—37.
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- Springer, Anton M., to Telefonbau und Normalzeit G.m.b.H. Magnetic recording and play-back systems. 3,077,587, 2-12-63, Cl. 340—174.1.
- Springer, Edward M., to Heyer Inc. Feeding means for duplicating machine. 3,108,458, 10-29-63, Cl. 64—27.
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- Sprinkle, Charles R., L. F. Sekula, M. R. Johnson, and B. Sparr, to Shell Oil Co. Phenol stabilized organo-phosphorous insecticides. 3,097,128, 7-9-63, Cl. 167—22.
- Sprole, Robert R., to Therm, Inc. Connectors. 3,104,144, 9-17-63, Cl. 339—89.
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- Sprunck, Gerhard, and W. H. W. Schuller. Method and apparatus for the reinforcement of glass fibre webs or mats. 3,108,028, 10-22-63, Cl. 156—178.
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- Spuhl, Walter. Apparatus for manufacturing interconnected springs. 3,098,510, 7-23-63, Cl. 140—92.8.
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- Spurck, Richard F., to The Machlett Laboratories, Inc. Electron tube with flexible grid supporting structure. 3,109,119, 10-29-63, Cl. 313—269.
- Spurgeon, Marion D. Adjustable boring head. 3,089,358, 5-14-63, Cl. 77—58.
- Spurgeon, Samuel J., J. E. Land, and R. E. Wingard, to Anderson Electric Corp. Electrical contact sealing composition. 3,113,881, 12-10-63, Cl. 106—287.
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- Spurlin, William V., to Link-Belt Co. Car shaker. 3,100,053, 8-6-63, Cl. 214—83.3.
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- Spurlock, James W., C. R. Holmgren, and W. G. Bearden, to Pan American Petroleum Corp. Seal for casing cemented in well. 3,110,346, 11-12-63, Cl. 166—21.
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- Spurway, Maurice A., to Ferranti, Ltd. Series parallel transformer winding arrangement. 3,083,331, 3-26-63, Cl. 323—49.
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- Squier, Benjamin T., and T. W. V. Jervis, to Mickleover Transport Ltd. Bodies for vehicles. 3,082,899, 3-26-63, Cl. 220—1.5.
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- Squillario, George F.: *See*—  
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- Stabler, Powell W. Fountain type wax applicator and floor polisher. 3,113,331, 12-10-63, Cl. 15-50.
- Stacey, Francis W., to E. I. du Pont de Nemours and Co. Fluorinated derivatives of carboxylic acid hydrazides. 3,076,843, 2-5-63, Cl. 260-558.
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- Stacey, Hugh J., to Parker-Hannifin Corp. Detent release for flow control valves. 3,088,489, 5-7-63, Cl. 137-622.5.
- Stacey, Hugh J., to Parker-Hannifin Corp. Position hold and release mechanisms for flow control valves. 3,106,065, 10-8-63, Cl. 60-52.
- Stachowiak, Frank R., and N. Szeremy, to General Electric Co. Audio muting circuit. 3,096,397, 7-2-63, Cl. 178-5.8.
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- Stacy, Charles L., Jr.: *See*—  
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- Stacy, Stanley L., and F. A. Tanner, Jr., to Ethicon, Inc. Surgical dispenser. 3,095,159, 6-25-63, Cl. 242-96.
- Stad, Andrew N.: *See*—  
Gegenheimer, Harold W., Gatto, and Stad. 3,084,625.
- Stade, Gerhard, and G. Reppin, to Herbert Lindner, Firma. Relief grinding apparatus. 3,080,684, 3-12-63, Cl. 51-45.
- Stadelman, Floyd W. Traction attachment for tractors. 3,096,998, 7-9-63, Cl. 280-405.
- Stadler, Josef: *See*—  
Mertens, Heinrich, and Stadler. 3,071,431.
- Stadium, Clarence B., H. W. Van Ness, and E. C. Hartwig, to Westinghouse Electric Corp. Electric discharge apparatus. 3,089,948, 5-14-63, Cl. 219-114.
- Staebl, Lloyd A., to Philco Corp. Refrigeration apparatus. 3,073,126, 1-15-63, Cl. 62-3.
- Staeger, Rudolf: *See*—  
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- Staeger, Rudolf. Detachable coupling for driven accessory in kitchen appliances. 3,093,982, 6-18-63, Cl. 64-11.
- Staeger, Rudolf, to Albert Stulz. Juice extractor combined with a shredder. 3,106,948, 10-15-63, Cl. 146-76.
- Staehe, Henry C., to Eastman Kodak Co. Laminated record card. 3,091,047, 5-28-63, Cl. 40-158.
- Staehler, Lester F.: *See*—  
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- Staehler, Robert E., to Bell Telephone Laboratories, Inc. Storage system. 3,102,998, 9-3-63, Cl. 340-173.
- Staeblin, Ralph H. Method and apparatus for removing highway traffic lines. 3,107,460, 10-22-63, Cl. 51-176.
- Staeuble, Max: *See*—  
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- Staeuble, Max, to Ciba Ltd. Hydroxyalkylaminopyrimidyl dibenzanthrones. 3,108,105, 10-22-63, Cl. 260-256.4.
- Staeuble, Max, and K. Weber, to Ciba Ltd. New anthraquinone dyestuffs containing diaminothiazinylamino radicals. 3,074,945, 1-22-63, Cl. 260-249.
- Staeuble, Max and K. Weber, to Ciba Ltd. Anthraquinone dyestuffs containing a 2-chloro-4-hydroxy(lower)alkylamino, triazinylamino group. 3,095,415, 6-25-63, Cl. 260-249.
- Staff, Edward H. Machine for packaging loose bulky material. 3,086,564, 4-23-63, Cl. 141-81.
- Staff, Richard M.: *See*—  
Avallone, Eugene A., and Staff. 3,076,524.
- Staffin, Gerald D., and W. K. Range, Jr., to Esso Research and Engineering Co. Lubricant containing ashless antiwear additives. 3,088,911, 5-7-63, Cl. 252-33.6.
- Stafford, Alton B. Pressure supply gauge. 3,075,538, 1-29-63, Cl. 137-224.5.
- Stafford, Earl. Drain strainer and over-flow pipe. 3,075,203, 1-29-63, Cl. 4-206.
- Stafford, Oscar P.,  $\frac{1}{2}$  to W. H. Patrick. Swimming pool safety device. 3,086,219, 4-23-63, Cl. 4-172.
- Stafford Tool and Die Co. Ltd.: *See*—  
Prew, Thomas B. 3,099,596.
- Stafford, William L.: *See*—  
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- Stageberg, Wilfred E., to Link-Belt Co. Mechanical coupling. 3,083,802, 4-2-63, Cl. 192-45.1.
- Stagg, Thomas G.: *See*—  
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- Staggs, Calvin H. Arm sling. 3,108,589, 10-29-63, Cl. 128-94.
- Stahell, Paul: *See*—  
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- Sta-Hi Corp.: *See*—  
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Spitaleri, Vernon R., and Satre. 3,078,622.
- Stahl, Ernst. Bone cleaning machines. 3,090,989, 5-28-63, Cl. 17-1.
- Stahl, Gerald, to Philip Morris, Inc. Adjustable injector razor and the like. 3,095,645, 7-2-63 Cl. 30-65.
- Stahl, Gerald, and C. A. Johnson, Jr., to Philip Morris, Inc. Case for a razor set or the like. 3,095,965, 7-2-63, Cl. 206-16.
- Stahl, Helmut: *See*—  
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- Stahl, Robert J.: *See*—  
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- Stahl, Roy P.: *See*—  
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- Stahl- und Walzwerke Rasselstein/Andernach AG: *See*—  
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- Stahl, Willi, to The Parkersburg Rig & Reel Co. Method and system for drying gas and reconcentrating the drying absorbent. 3,105,748, 10-1-63, Cl. 55-32.
- Stahl, William C.: *See*—  
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- Stahl, William F. Coil form. 3,112,898, 12-3-63, Cl. 242-118.7.
- Stahl, William L.: *See*—  
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- Stable, Howard L.: *See*—  
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- Stahlecker, Fritz. Locking device for loading arm of drawing frame. 3,078,520, 2-26-63, Cl. 19-267.
- Stahlecker, Hans: *See*—  
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- Stahlecker, Wilhelm, and H. Drawing mechanism for spinning machines. 3,072,974, 1-15-63, Cl. 19-281.
- Stahlgruber Otto Gruber & Co.: *See*—  
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- Stahlheber, Robert L.: *See*—  
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- Stahly, Eldon E., to Sinclair Research, Inc. High energy fuel consisting of a mixture of bridged polycyclic hydrocarbons and methods. 3,105,351, 10-1-63, Cl. 60-35.4.
- Stahmer, Bernhard. Aircraft. 3,072,197, 1-8-63, Cl. 170-135.2.
- Stahmer, Bernhard. Cable guide mechanism for constant tension reel. 3,075,724, 1-29-63, Cl. 242-107.
- Stahmer, Bernhard. Rotating punching roll for punching potato chips. 3,084,730, 4-9-63, Cl. 146-1.
- Stahmer, Bernhard. Collapsible reel. 3,106,367, 10-8-63, Cl. 242-96.
- Stalb, Ludwig A., Jr. Basic aluminum salts of acetylsalicylate acid and a non-toxic water soluble acid. 3,100,787, 8-13-63, Cl. 260-448.
- Staiger, Gerhard: *See*—  
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- Stainforth, Peter T., and P. S. Weir, to Imperial Chemical Industries Ltd. Handling of packed containers. 3,085,696, 4-16-63, Cl. 214-6.
- Stair 'N' Fold Co.: *See*—  
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- Staker, William P., R. B. Jacobs, and I. Ginsburgh, to Standard Oil Co. Radiation flowmeter. 3,075,077, 1-22-63, Cl. 250-43.5.
- Stakmore Co., Inc.: *See*—  
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- Stalcup, Irl N. Contact lens carrying case. 3,089,500, 5-14-63, Cl. 134-156.
- Stalcup, Robert E.: *See*—  
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- Stalder, Jakob. Movable figure toy. 3,100,365, 8-13-63, Cl. 46-140.
- Stalego, Charles J.: *See*—  
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- Staley, A. E., Mfg. Co.: *See*—  
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McDonald, John W., Grosse, and Etheridge. 3,103,451.  
Smith, Clifford E., and Tuschhoff. 3,081,296.  
Taylor, Kelley G. 3,071,573.  
Taylor, Kelley G. 3,081,199.  
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- Staley, Edwin H., and A. W. Francis, Jr., to National Tank Co. Adsorption process and apparatus for gas dehydration and hydrocarbon recovery. 3,080,692, 3-12-63, Cl. 55-18.
- Staley, John: *See*—  
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- Staley, John, to Reynolds Metals Co. Method and apparatus for discharging fluid by pressure of an isolated propellant in contact with an adsorber or absorber thereof. 3,096,000, 7-2-63, Cl. 222-1.
- Staley, Walton F., Jr.: *See*—  
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- Staley, William C.: *See*—  
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- Stalker Drill Works Ltd., The: *See*—  
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- Stalker, Edward A. Composite blades for turbines, compressors and the like. 3,073,568, 1-15-63, Cl. 253-77.
- Stalker, Edward A., to Stalker Corp. Rotor construction 3,083,446, 4-2-63, Cl. 29-156.8.
- Stalker, Edward A., to Stalker Corp. Bladed rotor for fluid machines. 3,091,383, 5-28-63, Cl. 230-134.
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- Stall, Joe C., and R. P. Vincent, to Pan American Petroleum Corp. Fluid-driven percussion motor. 3,101,796, 8-27-63, Cl. 173-73.
- Staller, Charles V.: *See*—  
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- Stallnefabriken, Ahlquist, David, AB: *See*—  
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- Stallings, Robert W.,  $\frac{1}{2}$  to B. Broadway. Device for introducing queen bees. 3,074,081, 1-22-63, Cl. 6-9.
- Stallkamp, Hubert G., to The Babcock & Wilcox Co. Vapor generating unit. 3,115,122, 12-24-63, Cl. 122-235.
- Stallman, Ralph F. Recirculating roller bearings. 3,101,978, 8-27-63, Cl. 308-6.
- Stallman, Richard C.: *See*—  
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- Stallman, Richard C. Water jet motor for boats. 3,082,732, 3-26-63, Cl. 115-16.
- Stallman, Richard C., and E. M. Pedersen, to Beckman Instruments, Inc. Centrifuge apparatus. 3,101,322, 8-20-63, Cl. 233-24.
- Stallworth, William R. Ball valve assembly. 3,108,287, 10-29-63, Cl. 4-56.
- Stallworthy, Frank A., and B. Drake, to Associated Electrical Industries (Woolwich) Ltd. Pulse signalling systems. 3,072,747, 1-8-63, Cl. 179-15.
- Stalter, John D.: *See*—  
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- Stalter, John D., to Nibco, Inc. Method and apparatus for making elbows by forcing tubular stock through a die. 3,110,341, 11-12-63, Cl. 153-32.
- Stalzer, Charles E.: *See*—  
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- Stam, Pieter: *See*—  
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- Stamatoff, Gelu S.: *See*—  
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- Stambaugh, Edgel P.: *See*—  
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- Stambaugh, Edgel P., and R. A. Foos, to National Distillers and Chemical Corp. Zirconium dioxide recovery. 3,090,670, 5-21-63, Cl. 23-140.
- Stambara, Adolf: *See*—  
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- Stambara, Adolf, to Fr. Hesser Maschinenfabrik-Aktiengesellschaft. Weighing assembly. 3,112,806, 12-3-63, Cl. 177-59.
- Stamberger, Paul. Diaper inserts. 3,073,308, 1-15-63, Cl. 128-287.
- Stamets, Richard J., to General Electric Co. Terminal lead structure for electrical capacitors and method of making the same. 3,114,087, 12-10-63, Cl. 317-230.
- Stamets, Wm. K., Co.: *See*—  
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- Stamford Chemical Co.: *See*—  
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- Stamler, W. R., Corp., The: *See*—  
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- Stamm, Heinrich, to ETA A.G. Ebauches-Fabrik. Escape-ment lever for watches, timepieces and the like. 3,077,728, 2-19-63, Cl. 58-121.
- Stamm, Heinrich, and U. Giger, to Eta A.G. Ebauches-Fabrik. Driving mechanism for the date indicator in a calendar watch. 3,082,594, 3-26-63, Cl. 58-58.
- Stamm, John A.: *See*—  
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- Callahan, James L., and Stamm. 3,106,574.
- Stamm, John J., to Westinghouse Electric Corp. Control of series motors. 3,089,991, 5-14-63, Cl. 318-144.
- Stamm, Walter, to Stauffer Chemical Co. 1-oxa-2-alumina-3-thio cyclo ketones and their preparation. 3,082,235, 3-19-63, Cl. 260-448.
- Stamm, Walter A.: *See*—  
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- Stamm, Walter A., A. W. Breindel, and A. H. Frieberg, to Stauffer Chemical Co. Organotin sulfonates. 3,095,434, 6-25-63, Cl. 260-429.7.
- Stammers, Douglas W.: *See*—  
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- Stamping Specialty Co., Inc.: *See*—  
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- Stampler, William A., to Burroughs Corp. Gating circuit. 3,102,994, 9-3-63, Cl. 340-146.2.
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- Stanavage, Joseph P., to Radio Corp. of America. Electro-luminescent screen. 3,071,708, 1-1-63, Cl. 313-108.
- Stanback, Harris I., to Square D Co. Electrical terminal connector. 3,076,954, 2-5-63, Cl. 339-272.
- Stanback, Harris I., and C. W. Wolf, to Square D Co. Means for locking circuit breaker operating handles. 3,076,876, 2-5-63, Cl. 200-44.
- Stanback, Harris I., and R. H. Kingdon, to Square D Co. Circuit breaker. 3,098,136, 7-16-63, Cl. 200-88.
- Stancliff, Clifton L. and G. N.: *said* G. N. Stancliff assor. to said C. L. Stancliff. Internal combustion engine with means for relieving thermal stress. 3,077,187, 2-12-63, Cl. 123-41.82.
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- Stanczak, Frank J., and R. A. Wolterding, to Kimberly-Clarke Corp. Stereotype mat. 3,075,260, 1-29-63, Cl. 22-5.5.
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- Stark, Louis R., to Monsanto Chemical Co. Preservative-type functional fluids. 3,071,549, 1-1-63, 252-78.
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- Starp, Franz W. R., to Alfred Gauthier, G.m.b.H. Photographic intra-lens shutter construction. 3,093,049, 6-11-63, Cl. 95-64.
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- Starr, Arthur T.: *See—*
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- Starr, Chaucey, to United States of America, Atomic Energy Commission. Nuclear reactor. 3,072,553, 1-8-63, Cl. 204-193.2.
- Starr, Clifford R., to Accessory Products Co., a division of Textron Inc. Sealing device. 3,078,110, 2-19-63, Cl. 285-336.
- Starr, Irvin M.: *See—*
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- Starr, James E., to The Budd Co. Adjustable resistors and method of making the same. 3,071,749, 1-1-63, Cl. 338-314.
- Starr, James E., to The Budd Co. Load measuring devices. 3,075,160, 1-22-63, Cl. 338-5.
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- Clark, Robert A., Jr., Starr, Watson, and Banning. 3,079,085.
- Starr, James O. Target-throwing device. 3,093,127, 6-11-63, Cl. 124-8.
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- Starre, Gerrit, to North American Philips Co., Inc. Carbon brush for the collector current of electrical machines. 3,075,111, 1-22-63, Cl. 310-248.
- Starr-Kap Engineering Co.: *See—*
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- Starr, Louis, A. L. Kaplan, M. L. Greenberg, and L. J. Cox, to Starr-Kap Engineering Co. Leakage indicator. 3,100,986, 8-20-63, Cl. 73-40.
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- Starrett, L. S., Co., The: *See—*
- Plante, Robert A. 3,104,470.
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- Starrett, Rupert M. Electrically powered keyboard and transfer mechanism for ten key adding or calculating machine. 3,093,304, 6-11-63, Cl. 235-60.
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- Volkers, Hendrik, van der Linden, and Starreveld. 3,097,344.
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- Stasluk, Mitchell D. Apparatus comprising connected ring units for use in playing hopping games. 3,115,340, 12-24-63, Cl. 273-1.
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- Stasse, Alex C., to UCB (Union Chimique-Chemische Bedrijven) S.A. Process for the treatment of polyamide fabrics. 3,081,193, 3-12-63, Cl. 117-68.
- Stastny, Edwin O., D. F. Reinertson, and R. W. Krolopp, to Motorola, Inc. Receiver assembly. 3,087,013, 4-23-63, Cl. 178-7.9.
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- Dumas, Roger E., and Hughes. 3,076,343.
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- Statham, Louis D. 3,084,542.
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- Stathoplos, Anthony, and L. A. Wills, to United Nuclear Corp. Nuclear reactor shield. 3,103,052, 10-22-63, Cl. 204-193.2.
- Statia, Edwin V., Sr. Grate-rotating device for portable brazier. 3,085,497, 4-16-63, Cl. 99-340.
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- Statz, Hermann, to Raytheon Co. High frequency response transistors. 3,091,701, 5-28-63, Cl. 307-88.5.
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- Stau, Elvert H., and R. F. Kolec, to Olympic Screw & Rivet Corp. Blind rivet and mandrel with ribs for notching engagement with a pulling tool. 3,072,009, 1-8-63, Cl. 85-40.
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- Stauffer, Arthur L., to Continental Copper & Steel Industries, Inc. (Hanover Wire Cloth Division). Wire screen sealing system. 3,094,302, 6-18-63, Cl. 245-10.
- Stauffer, Arthur L., and G. E. Meckley, to Continental Copper & Steel Industries, Inc. (Hanover Wire Cloth Division). Apparatus for weaving wire cloth. 3,081,798, 3-19-63, Cl. 139-127.
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- Lauck, Robert M., Vanstrom, and Tucker. 3,097,949.
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- Price, Glenn R., Walsh, and Hallett. 3,083,135.
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- Toy, Arthur D. F., Fearing, and Dewald. 3,103,433.
- Toy, Arthur D. F., and Uhing. 3,110,727.
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- Valkanias, George N., and Hopff. 3,086,968.
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- Staunt, Martin, Plastic bur sleeve for dental handpieces. 3,088,745, 5-7-63, Cl. 279-102.
- Staunton, Frederic J., to International Telephone and Telegraph Corp. Electro-magnetic motion converting rotary actuator. 3,105,915, 10-1-63, Cl. 310-37.
- Staunton, John J. J., to Coleman Instruments, Inc. Ultramicro cuvette assembly. 3,097,928, 7-16-63, Cl. 23-292.
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- Stavis, Gus, to General Precision, Inc. Microwave beaming system. 3,083,362, 3-26-63, Cl. 343-100.
- Stavis, Gus, to International Standard Electric Corp. Radio direction indicator. 3,101,471, 8-20-63, Cl. 343-16.
- Stavis, Gus, to General Precision, Inc. Radar and television navigation aid. 3,111,663, 11-19-63, Cl. 343-6.
- Stavis, Gus, to General Precision, Inc. Frequency modulated altimeter. 3,111,667, 11-19-63, Cl. 343-14.
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- Stearns, Thomas H., and T. A. Nalette, to Sanders Associates, Inc. Printed circuit automotive dashboard. 3,074,043, 1-15-63, Cl. 339-148.
- Stearns, William M., to North American Aviation, Inc. Combination spring-piston vibration isolator. 3,101,937, 8-27-63, Cl. 267-1.
- Stease, Ralph E., to The Mead Corp. Reinforced shipping carton. 3,099,379, 7-30-63, Cl. 229-23.
- Stebbins, Larry O., to Automation Industries, Inc. Apparatus for inspection of metal pipe. 3,105,380, 10-1-63, Cl. 73-67.8.
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- Stebbins, Ray M. Puller for universal joints. 3,076,259, 2-5-63, Cl. 29-259.
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- Steck, Edgar A., to Sterling Drug Inc. 6-methoxy-8-(5-N-propylaminopentylamino) quinoline, its salts and its preparation. 3,096,334, 7-2-63, Cl. 260-286.
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- Stedman, Cecil K., to Statham Instruments, Inc. Motion sensing device. 3,090,238, 5-21-63, Cl. 73-515.
- Stedman, Cecil K., to Statham Instruments, Inc. Damped vibrational systems. 3,091,971, 6-4-63, Cl. 73-515.
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- Stedman, Sarah W. and W. D. to Stedman Mfg. Co., Inc. Men's wearing apparel. 3,088,121, 5-7-63, Cl. 2-226.
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- Steel, Homer J. Pipe rack. 3,098,567, 7-23-63, Cl. 211-49.
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- Steele, Glen R., to Bathe Mfg. Co. Shelf panel for storage racks. 3,086,660, 4-23-63, Cl. 211-153.
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- Steele, Thomas, deceased, by R. Steele, executor, to Morton Machine Co. Ltd. Valves. 3,114,389, 12-17-63, Cl. 137-583.
- Steels Engineering Products Ltd.: *See*—  
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- Steen, James B., to Chicago Pneumatic Tool Co. Jetting device for rock bit. 3,096,834, 7-9-63, Cl. 175-340.
- Steen, Richard C., to Western Electric Co. Inc. Strand tension control apparatus. 3,113,746, 12-10-63, Cl. 242-155.
- Steen, Stephen N., and F. L. Grissman, to St. Barnabas Hospital For Chronic Diseases. Apparatus for measuring systolic and diastolic blood pressures. 3,101,082, 8-20-63, Cl. 128-2.05.
- Steen, William E., to A. O. Smith Corp. Temperature and coefficient expansion compensators for liquid flow recorders. 3,088,317, 5-7-63, Cl. 73-233.
- Steen, William E., to A. O. Smith Corp. Liquid blending control. 3,092,129, 6-4-63, Cl. 137-100.
- Steenek, Robert, to The Western Union Telegraph Co. Key-punch jam detector. 3,101,893, 8-27-63, Cl. 234-32.
- Steenfeld, Joseph, and G. V. Zito, to The Bendix Corp. Ion air density sensor for atmospheric pressure and altitude measurements. 3,093,792, 6-11-63, Cl. 324-33.



- Steer, David C., and N. R. Smith, to The Procter & Gamble Co. Liquid detergent composition. 3,085,982, 4-15-63, Cl. 252-137.
- Steer, Donald E., to National Distillers and Chemical Corp. Reverse core check valve. 3,104,676, 9-24-63, Cl. 137-234.5.
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- Steggerda, Johannes J., to Stamicarbon, N.V. Preparation of melamine. 3,093,644, 6-11-63, Cl. 260-249.7.
- Steghart, Fritz L. F., P. L. Kershaw, and J. P. Harvey, to The Rheostatic Co. Ltd. Burner control means. 3,083,758, 4-2-63, Cl. 158-28.
- Stegler, Richard E., and C. Raphael, to Republic Aviation Corp. Method and means for making lap joints. 3,107,195, 10-15-63, Cl. 161-36.
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- Steichele, Joseph, to SKF Kugellagerfabriken Gesellschaft mit beschränkter Haftung. Spindle drive arrangement for a spinning or twisting frame. 3,098,346, 7-23-63, Cl. 57-103.
- Steidinger, Donald J., to Uarco, Inc. Multi-ply fully-fastened continuous-form stationery. 3,092,401, 6-4-63, Cl. 282-11.5.
- Steidinger, Donald J., to Uarco, Inc. Envelope assembly. 3,104,799, 9-24-63, Cl. 229-69.
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- Steiger, Norbert, to Hoffmann-La Roche Inc. Formamides of primary amines. 3,073,851, 1-15-63, Cl. 260-397.6.
- Steiger, Werner, to Hughes Aircraft Co. Magnetic deflection apparatus for cathode ray tube. 3,092,753, 6-4-63, Cl. 315-27.
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- Stern, William, to Illinois Tool Works Inc. Screw shank slotting machine with clamp carrying work turret rotatably movable past a tangentially disposed helical saw. 3,085,264, 4-16-63, Cl. 10-2.
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- Sterner, Leander J. and G. J., to Sterner Industries, Inc. Bale shredder. 3,101,759, 8-27-63, Cl. 146-70.1.
- Sterner, Melvin F., to Holley Carburetor Co. Multi-stage carburetor. 3,085,790, 4-16-63, Cl. 261-23.
- Sternglass, Ernest J. Thermal detection method and apparatus. 3,072,819, 1-8-63, Cl. 315-11.
- Sternglass, Ernest J., to Westinghouse Electric Corp. Electron multiplier isolating electrode structure. 3,114,044, 12-10-63, Cl. 250-207.
- Sternlicht, Beno, to General Electric Co. Method of Making self-lubricating bearings. 3,110,085, 11-12-63, Cl. 29-149.5.
- Sternlicht, Beno, to General Electric Co. Combined journal and thrust bearing. 3,110,525, 11-12-63, Cl. 308-9.
- Sternlicht, Beno, to General Electric Co. Bearing support. 3,110,526, 11-12-63, Cl. 308-26.
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- Steuernagel, Walter, to Metallgesellschaft Aktiengesellschaft. Cleaning means for channel-shaped dust collecting electrodes. 3,113,852, 12-10-63, Cl. 55-112.
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- Stevens, Bennie A., to The Gates Rubber Co. Adhesive treatment and article of manufacture. 3,090,716, 5-21-63, Cl. 154-52.1.
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- Stevens, Bryce L., to General Motors Corp. Electrical temperature indicating systems. 3,107,531, 10-22-63, Cl. 73-382.
- Stevens, Calvin L., and R. W. Fleming, to Parke, Davis & Co. Isobutyrophenone compounds and the production thereof. 3,082,255, 3-19-63, Cl. 260-570.5.
- Stevens, Charles H., Jr., to Empire Products, Inc. Cable connector assembly. Re. 25,506, 12-31-63, Cl. 339-59.
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- Stevens, James I., and J. E. Cottle, to Phillips Petroleum Co. Purification of solvents used in the polymerization of olefins. 3,084,149, 4-2-63, Cl. 260-94.9.
- Stevens, Kenneth, to The Distillers Co. Ltd. Polyethylene irradiation process. 3,099,611, 7-30-63, Cl. 204-154.
- Stevens, Lewis F., to Pittsburgh Plate Glass Co. Preparation of wettable powders of 2-heptadecyl-2-imidazole. 3,100,174, 8-6-63, Cl. 167-33.
- Stevens, Lloyd L., to United States Steel Corp. Cam-follower selector device. 3,099,170, 7-30-63, Cl. 74-569.
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- Stevenson, Donald L., to Consolidated Vacuum Corp. Vacuum pump. 3,075,689, 1-29-63, Cl. 230-101.
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- Stevenson, Donald E. Delivery system for flat objects. 3,076,649, 2-5-63, Cl. 271-71.
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- Stevenson, Donald H., to Air Products and Chemicals, Inc. Dehydrogenation method. 3,088,986, 5-7-63, Cl. 260-680.
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- Stevenson, Donald L., to Consolidated Vacuum Corp. Heater for a diffusion pump. 3,113,717, 12-10-63, Cl. 230-101.
- Stevenson, George G., to Semco Research, Inc. Portable fluid mixer. 3,073,577, 1-15-63, Cl. 259-37.
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- Stevenson, Thomas, W. W. Cavell, and W. A. Dischert, to United States of America, Army. Electrically initiated spotter tracer bullet. 3,101,054, 8-20-63, Cl. 102-60.
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- Steward, Jerry H., to Multifastener Corp. Feed head. 3,089,340, 5-14-63, Cl. 78-46.
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- Steward, George H. Sterile package. 3,112,031, 11-26-63, Cl. 206-63.2.
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- Steward Iron Works Co., Inc.: *See—*
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- Steward, James R., and C. H. Willard, to Motorola, Inc. Radio telephone system. 3,087,998, 4-30-63, Cl. 179-41.
- Steward, James R., and C. H. Willard, to Motorola, Inc. Mobile dialing system. 3,087,999, 4-30-63, Cl. 179-84.
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- Steward, John K. Track aligning device. 3,105,306, 10-1-63, Cl. 33-214.
- Steward, John K., to Canada Iron Foundries, Ltd. Tie remover and spike puller. 3,105,674, 10-1-63, Cl. 254-18.
- Steward, John T. Journal bearing wear detector. 3,102,759, 9-3-63, Cl. 308-1.
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- Stewart, Merritt G., to Hadley, Inc. Composing machine improvements. 3,071,383, 1-1-63, Cl. 276-8.
- Stewart, Paul H., to Eastman Kodak Co. Merocyanine sensitized photoconductive compositions comprising zinc oxide. 3,110,591, 11-12-63, Cl. 96-1.
- Stewart, Ralph H. Combination picture frame stand and hanger. 3,074,680, 1-22-63, Cl. 248-224.
- Stewart, Raymond A., and L. A. McLeod, to Polymer Corp. Ltd. Polymerization of butadiene with a TiCl<sub>4</sub>-AlR<sub>3</sub>-organic compound catalyst. 3,116,272, 12-31-63, Cl. 260-94.3.
- Stewart, Richard F., to Texas Instruments Inc. Light sensitive solid state relay device. 3,096,442, 7-2-63, Cl. 250-211.
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- Kyle, William K., and Stewart. 3,103,794.
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- Stewart, Tyler P. Foot exercising appliance. 3,088,458, 5-7-63, Cl. 128-57.
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- Stewart, Warren A., to Koppers Co., Inc. Misalignment device for flexible couplings. 3,102,402, 9-3-63, Cl. 64-14.
- Stewart, Warren A., and J. W. Drenning, to Koppers Co., Inc. Device for detecting the linear speed of a moving web of single-face corrugated paper. 3,104,997, 9-24-63, Cl. 156-378.
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- Stewart, William H., Jr. Rodding machine. 3,098,251, 7-23-63, Cl. 15-104.3.
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- Stickel, Carl A., to General Motors Corp. Defrosting control for refrigerating apparatus. 3,107,501, 10-22-63, Cl. 62-156.
- Stickel, Herbert P., to Smith-Corona Marchant, Inc. Fan-fold card guide. 3,081,015, 3-12-63, Cl. 226-168.
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- Stieber, Fred. Game apparatus. 3,073,600, 1-15-63, Cl. 273-120.
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- Stilwell, Robert E., to FMC Corp. Drive means for a portable irrigation system. 3,088,350, 5-7-63, Cl. 81-90.
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- Stilwell, William E., Jr., deceased; F. H. Stilwell, executrix, to The Murray Corp. of America. Leveling and stabilizing apparatus. 3,088,593, 5-7-63, Cl. 210-144.
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- Stineman, James C. Razor blade knife. 3,077,034, 2-12-63, Cl. 30-339.
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- Stivender, Paul M., to General Motors Corp. Fluid circuit control for turbine powerplant heaters. 3,092,971, 6-11-63, Cl. 60-59.
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- Stoddard, Nicholas J., and W. A. Seem, to Leesona Corp. Method of processing stretch yarn and yarns produced thereby. 3,091,912, 6-4-63, Cl. 57-140.
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- Stoddard, Stephen D., and D. E. Nuckolls, to United States of America, Atomic Energy Commission. Magnesium oxide slip casting method. 3,116,153, 12-31-63, Cl. 106-58.
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- Stone, John G.: *See*—  
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- Stone, Joseph J., Jr., to A. B. Dick Co. Scanner system. 3,087,987, 4-30-63, Cl. 178-7.6.
- Stone, Leslie F., to The Richardson Co. Automatic feed rate compensation for automatic weighing system. 3,091,301, 5-28-63, Cl. 177-1.
- Stone, Morris D., to United Engineering and Foundry Co. Method of manufacturing tinplate. 3,095,361, 6-25-63, Cl. 204-28.
- Stone, Morris D., and H. H. Talbot, to Kelsey-Hayes Co. Apparatus for rolling disks. 3,090,264, 5-21-63, Cl. 80-16.
- Stone, Ralph K., to United States Envelope Co. Bag closure. 3,104,798, 9-24-63, Cl. 229-62.
- Stone, Richard S.: *See*—  
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- Stone, Richard S., and G. P. Kraker, to General Dynamics Corp. Nuclear reactor and irradiating system. 3,094,470, 6-18-63, Cl. 204-154.2.
- Stone, Vernon H., to General Mills, Inc. Balloon having an external ballonnet. 3,108,765, 10-29-63, Cl. 244-31.
- Stone, Virgil D., and K. R. Shirley; said Stone assor. to Gulf Oil Corp., and said Shirley assor. to The Servco Co. Underreaming tool. 3,105,562, 10-1-63, Cl. 175-268.
- Stone, W. E., & Co., Inc.: *See*—  
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- Stone, Wayne B., Sr. Card dealing device. 3,114,553, 12-17-63, Cl. 273-149.
- Stone & Webster Engineering Corp.: *See*—  
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- Stone, Winthrop R., to Union Carbide Corp. Fluid discharge gun. 3,074,648, 1-22-63, Cl. 239-107.
- Stonebrook, Edward E., to Aluminum Co. of America. Rotor winding. 3,092,744, 6-4-63, Cl. 310-211.
- Stoneham, John L., Jr. Type size gauge. 3,106,778, 10-15-63, Cl. 33-1.
- Stonehill, Albert A., to Ethicon, Inc. Surgical lubricating cream. 3,072,537, 1-8-63, Cl. 167-91.
- Stoner, Eugene M., to Fairchild Engine and Airplane Corp. Ammunition magazine with a coil spring. 3,087,270, 4-30-63, Cl. 42-50.
- Stoner, Eugene M., to Fairchild Engine and Airplane Corp. Hand guard construction. 3,090,150, 5-21-63, Cl. 42-71.
- Stoner, Eugene M. Method of fabricating airfoils. 3,097,982, 7-16-63, Cl. 156-211.
- Stoner, George G., to The General Aniline & Film Corp. Sprayable, anhydrous solution of 1-vinyl-2-pyrrolidone polymer in chlorofluoro hydrocarbon propellant. 3,073,794, 1-15-63, Cl. 260-33.8.
- Stoner, George H., to Air-Shields, Inc. Infant incubator. 3,076,451, 2-5-63, Cl. 128-1.
- Stoner, George H., to Air-Shields, Inc. Aspirator. 3,084,691, 4-9-63, Cl. 128-278.
- Stoner, Harold B. Sauce applying brush. 3,106,741, 10-15-63, Cl. 15-541.
- Stoner, Willis A., and D. A. Rains, to Curtiss-Wright Corp., Propulsion Products Division. Pump. 3,102,481, 9-3-63, Cl. 103-5.
- Stonich, Elwood H.: *See*—  
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- Stonor, Charles R. P., to Sound Diffusion (Auto-Thermatic) Ltd. Detecting and indicating apparatus, particularly for fire. 3,083,358, 3-26-63, Cl. 340-227.
- Stonor, Charles R. P., to Sound Diffusion (Sales) Ltd. Automatic signalling apparatus. 3,098,123, 7-16-63, Cl. 179-2.
- Stoops, Bobby G.: *See*—  
McGay, John B., and Stoops. 3,082,596.
- Stoops, Bobby G., to Barton Instrument Corp. Recording chart and changer therefor. 3,103,402, 9-10-63, Cl. 346-68.
- Stoops, Charles E., to Phillips Petroleum Co. Synthesis of fatty acids. 3,105,802, 10-1-63, Cl. 204-162.
- Stoops, Charles E., and J. M. Day, to Phillips Petroleum Co. Color improvement of lubricating oils. 3,112,252, 11-26-63, Cl. 204-154.
- Stoothoff, Stanley T., to Minnesota Mining and Mfg. Co. Reciprocable die mechanism including cooperating ejector means operative to halt the die movement. 3,104,573, 9-24-63, Cl. 83-61.
- Stopek, Benjamin, to Ideal Toy Corp. Toy submarine. 3,091,895, 6-4-63, Cl. 46-244.
- Stop-Motion Devices Corp.: *See*—  
Vossen, Edward. 3,094,855.  
Vossen, Edward. 3,103,463.
- Stopp, Robert B. Linear compressed air metering device. 3,072,289, 1-8-63, Cl. 222-3.
- Stora Kopparbergs Bergslags Aktiebolag: *See*—  
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Cederquist, Karl N. 3,073,672.  
Cederquist, Karl N., and Effring. 3,078,208.
- Storch, Edward A., by court order to R. E. Storch. Electromagnet assembly. 3,111,607, 11-19-63, Cl. 317-123.
- Storch, Ruth E.: *See*—  
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- Storcheim, Samuel, to Alloys Research & Mfg. Corp. Method of cladding metals. 3,108,871, 10-29-63, Cl. 75-208.
- Storck, Edward A.: *See*—  
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- Storer, Clyde K.: *See*—  
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- Storer, Kenneth: *See*—  
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- Storey, Edgar J., to Zimmon & Co., Inc. Body and limb holder. 3,098,479, 7-23-63, Cl. 128-134.
- Storey, William R., to C. W. Cheney & Son Ltd. Carrying handles for portable articles. 3,103,267, 9-10-63, Cl. 190-58.
- Storey, William R., to C. W. Cheney & Son Ltd. Carrying handles for portable articles. 3,107,761, 10-22-63, Cl. 190-58.
- Stork & Cos. Apparatenfabriek N.V. Gebr.: *See*—  
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- Stork, Gilbert, J. E. Herz, and M. Wendt, to Syntex Corp. Process for preparing 16 $\alpha$ -methyl-17 $\alpha$ -hydroxy-20-ketopregnanes from the corresponding 16-dehydro-20-ketopregnanes. 3,080,393, 3-5-63, Cl. 260-397.4.
- Stork, Karl: *See*—  
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- Storkline Corp.: *See*—  
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- Storrae, Inc.: *See*—  
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- Story, Benjamin A., to Bausch & Lomb Inc. Gas discharge lamp with a collimating reflector electrode. 3,114,855, 12-17-63, Cl. 313-113.
- Story, John. Duck decoy. 3,115,721, 12-31-63, Cl. 43-3.



- Stoterau, Donald A., and D. E. Cochran, to A. R. Wood Mfg. Co. Automatic multi-tier poultry feeder. 3,075,495, 1-29-63, Cl. 119-21.
- Stothert & Pitt, Ltd.: *See*—  
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Kerridge, Norman E. 3,106,298.
- Stott, Albert M., to United States of America, Army. Multi-choice firing mechanism. 3,099,961, 8-6-63, Cl. 102-70.
- Stott, Albert M., and C. J. Litz, Jr., to United States of America, Army. Seat positioning device. 3,111,293, 11-19-63, Cl. 244-122.
- Stott, Clifford, and F. P. Harthman, to British Insulated Callender's Cables Ltd. Two-part couplings for multiple conductor cables. 3,080,544, 3-5-63, Cl. 339-48.
- Stott, Frank D., to National Research Development Corp. Magnetic stirrers. 3,088,716, 5-7-63, Cl. 259-144.
- Stott, Ted: *See*—  
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- Stott, Ted, W. E. Groeneveld, and L. J. Gynou, to Ayco Corp. Universal tractor mounting and drive means for a corn harvester. 3,108,417, 10-29-63, Cl. 56-15.
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- Stoudt, Thomas H., and F. Tausig, to Merck & Co., Inc. Fermentative production of oxytetracycline by a new species of streptomycetes. 3,113,077, 12-3-63, Cl. 195-80.
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Churley, George. 3,071,473.
- Štourač, Oldřich, to SVIT. Control device for sole-attaching machines. 3,086,231, 4-23-63, Cl. 12-33.2.
- Stout, Allison B., Jr., to Kennecott Copper Corp. Electrical conductivity analyzer for acid gases. 3,111,392, 11-19-63, Cl. 23-255.
- Stout, Bill A.: *See*—  
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- Stout, Frank M. Aquarium structural unit. 3,095,853, 7-2-63, Cl. 119-5.
- Stout, Gerald J. Floor construction for basementless buildings and the like. 3,094,745, 6-25-63, Cl. 20-6.
- Stout, Glenn M.: *See*—  
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- Stout, Perry R., H. K. Skramstad, T. C. Merkle, Jr., E. C. Bailey, W. Spangenberg, J. Rabnow, and C. Raudenbush, to United States of America, Navy. Object tracking antenna and system of missile guidance. 3,084,340, 4-2-63, Cl. 343-7.
- Stout, Robert K. Brick veneer construction material. 3,077,059, 2-12-63, Cl. 50-341.
- Stout, Robert L.: *See*—  
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- Stout, Rodney W. Beverage bottle cases. 3,092,284, 6-4-63, Cl. 220-21.
- Stout, Thomas M.: *See*—  
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- Stout, William J., to Sun Oil Co. Wax composition having non-flaking characteristics for use in coating fibrous materials. 3,090,538, 5-21-63, Cl. 229-3.1.
- Stouten, Jacobus J. N.: *See*—  
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- Stoutenburg, Garnet H. Apparatus for photographing the interior of pipes. 3,096,698, 7-9-63, Cl. 95-11.
- Stovall, Wilbur C., Jr., to Penn Metal Co., Inc. Joined sheet metal structures. 3,083,794, 4-2-63, Cl. 189-34.
- Stovall, William J. Collapsible form for concrete tanks. 3,106,007, 10-8-63, Cl. 25-130.
- Stover, Clifford M., to United States of America, Atomic Energy Commission. Hygrometer. 3,075,385, 1-29-63, Cl. 73-335.
- Stover, Edward R.: *See*—  
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- Stover, Harris A., to Collins Radio Co. Automatic direction finder receiver. 3,106,710, 10-8-63, Cl. 343-117.
- Stover, Harry E., to Anchor Hocking Glass Corp. Mechanism for feeding closure caps. 3,082,911, 3-26-63, Cl. 221-174.
- Stover, Harry E., to Anchor Hocking Glass Corp. Cap applicator. 3,112,591, 12-3-63, Cl. 53-316.
- Stover, Harry E., and D. D. Action, to Anchor Hocking Glass Corp. Closure cap and method of making. 3,095,104, 6-25-63, Cl. 215-40.
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- Stow, George C., Jr.: *See*—  
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Rhyne, Johnathan L. 3,082,593.
- Stowe, Lloyd W.: *See*—  
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- Stowell, Nathan J., to J. W. Hughes. Lecterns, pulpits, speakers' stands, and the like. 3,115,548, 12-24-63, Cl. 179-1.
- Stowell, Philip A., to Burroughs Corp. Dielectric recording medium. 3,097,964, 7-16-63, Cl. 117-155.
- Stowell, Philip A., to Burroughs Corp. Electrostatic charge production. 3,108,894, 10-29-63, Cl. 117-17.5.
- Stoyke, Ludwig T., to Lear, Siegler Inc. Vented fill nozzle and adapter therefor. 3,092,153, 6-4-63, Cl. 141-302.
- Strachan, Donald R.: *See*—  
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- Strachan, Heath C.: *See*—  
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- Strader, Don S. Pressure operated reciprocating hydraulic valve. 3,073,332, 1-15-63, Cl. 137-112.
- Strader, Don S., to The Frank G. Hough Co. Reciprocating hydraulic motor. 3,101,651, 8-27-63, Cl. 92-252.
- Strader, Don S., to The Frank G. Hough Co. Reciprocating hydraulic motor. 3,115,071, 12-24-63, Cl. 92-257.
- Strahorn, Francis W., to E. I. du Pont de Nemours and Co. Device for printing plates. 3,107,610, 10-22-63, Cl. 101-415.1.
- Strain, James E.: *See*—  
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Dubsky, Borivoj, Straka, Felkel, and Feuerelsl. 3,081,766.
- Straley, James M., and R. R. Giles, to Eastman Kodak Co. 1-amino-4-sulfonamidoanthraquinone compounds containing an ether group in the 2-position. 3,072,683, 1-8-63, Cl. 260-347.2.
- Straley, James M., and R. C. Harris, to Eastman Kodak Co. 2-nitro-4-trifluoromethylbenzeneazo-2'-hydroxy-3'-naphthamide compounds. 3,079,373, 2-26-63, Cl. 260-152.
- Straley, James M., and R. C. Harris, to Eastman Kodak Co. Monoazo dyestuffs and acrylonitrile polymers dyed therewith. 3,079,374, 2-26-63, Cl. 260-152.
- Straley, James M., and R. C. Harris, to Eastman Kodak Co. Metallizable and metallized azo dyestuffs for acrylonitrile polymers. 3,079,375, 2-26-63, Cl. 260-152.
- Straley, James M., and R. R. Giles, to Eastman Kodak Co. Linear polyester materials dyed with anthraquinone dyes. 3,087,773, 4-30-63, Cl. 8-39.
- Straley, James M., J. G. Fisher, and R. C. Harris, to Eastman Kodak Co. Benzothiazole azo  $\beta$ -naphthol dye compounds. 3,096,318, 7-2-63, Cl. 260-146.
- Straley, James M., and R. C. Harris, to Eastman Kodak Co. Aminobenzenesulfonamide azo dyes for acrylic fibers prepared therefrom. 3,096,322, 7-2-63, Cl. 260-204.
- Straley, James M., and J. G. Fisher, to Eastman Kodak Co. Ni complexes of monoazo compounds prepared from a benzothiazole compound and an  $\alpha$ -naphthol compound. 3,097,196, 7-9-63, Cl. 260-146.
- Straley, James M., J. G. Fisher, and R. C. Harris, to Eastman Kodak Co. Benzothiazoleazopyrazolone dye compounds. 3,099,652, 7-30-63, Cl. 260-147.
- Straley, James M., and R. C. Harris, to Eastman Kodak Co. Benzothiazole azo 2,3-dihydroxynaphtholic acid amide dyes. 3,099,653, 7-30-63, Cl. 260-158.
- Straley, James M., and R. R. Giles, to Eastman Kodak Co. 1-amino-4-thiocyano-5-nitroanthraquinone. 3,113,952, 12-10-63, Cl. 260-378.
- Straley, Margaret. Rake and brush attachment therefor. 3,084,498, 4-9-63, Cl. 56-400.04.
- Stram, George H., to Baker Perkins Inc. Bread pan greasing nozzle. 3,098,610, 7-23-63, Cl. 239-441.
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- Stranahan, Everett B. Game hoist. 3,116,049, 12-31-63, Cl. 254-135.
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- Strand, Kenneth T. and A. E., and W. Wolman. Chance controlled game apparatus with compartmented gameboard. 3,109,652, 11-5-63, Cl. 273-134.
- Strand, Lewis, to Lewis Strand Hydraulisk Vinsjefabrikk OG Maskinverktst. Improvements in hydraulic transmission systems for winches. 3,080,719, 3-12-63, Cl. 60-53.
- Strand, Lewis, Hydraulisk Vinsjefabrikk OG Maskinverktst: *See*—  
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- Strandgren, Carl B. Driving screws and method of fabricating the same. 3,071,022, 1-1-63, Cl. 74-458.
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- Strang, Clifford B., and W. M. Furlow, Jr., to Martin-Marietta Corp. Non-gyroscopic inertial reference. 3,088,324, 5-7-63, Cl. 73—505.
- Strang, John M., J. R. Davy, and A. J. N. Hope. Glass sandwiches primarily for windows of optical instruments. 3,111,570, 11-19-63, Cl. 219—19.
- Strang, John R., to Ivers-Lee Co. Pilfer-proof dispensing carton for package strips. 3,115,989, 12-31-63, Cl. 221—25.
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- Strange, William M. 3,083,866.
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- Michael, Paul L., Strange, and Stewart. 3,089,561.
- Strange, William M., to John Strange Carton Co. Sheet tissue dispensing carton. 3,083,866, 4-2-63, Cl. 221—48.
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- Strasberg, Murray, to United States of America, Navy. Interference reduction apparatus. 3,071,752, 1-1-63, Cl. 340—5.
- Strasel, Raymond K., to Jacobsen Mfg. Co. Rotary mower. 3,091,073, 5-28-63, Cl. 56—25.4.
- Strasel, Raymond K., to Jacobsen Mfg. Co. Lawn mower roller adjustment. 3,099,124, 7-30-63, Cl. 56—249.
- Strasel, Raymond K., to Jacobsen Mfg. Co. Reel type lawn mower cutting adjustment. 3,106,813, 10-15-63, Cl. 56—249.
- Strasser, Georg. Multi-purpose furniture. 3,102,756, 9-3-63, Cl. 297—313.
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- Strate, Myron E., to United States Steel Corp. Open hearth furnace and method of constructing the same. 3,112,920, 12-3-63, Cl. 263—46.
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- Senior, Frank C. 3,079,450.
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- Stratton, Desmond G., to Ford Motor Co. Motor vehicle construction. 3,105,431, 10-1-63, Cl. 98—2.
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- Stratton, Robert, to Associated Electrical Industries (Manchester) Ltd. Electron emitters. 3,114,070, 12-10-63, Cl. 313—346.
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- Stratton, Thomas G.: See—
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- Straub, John C., to Bell Intercontinental Corp. Polishing method and device. 3,090,166, 5-21-63, Cl. 51—9.
- Straub, John C., to Bell Intercontinental Corp. Polishing method and means. 3,098,324, 7-23-63, Cl. 51—9.
- Straub, Joseph E., to Illinois Tool Works Inc. Oscillating step-motor. 3,079,517, 2-26-63, Cl. 310—37.
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- Gutmann, Hugo, Straub, and Zeller. 3,092,680.
- Straub, Otto, and P. Zeller, to Hoffmann-La Roche Inc. Hydrazine derivatives. 3,073,819, 1-15-63, Cl. 260—240.
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- Klein, Claude A., and Straub. 3,086,117.
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- Mayer, Edward F., and Straughan. 3,082,055.
- Straumann, Reinhard, to Institut Dr. Ing. Reinhard Straumann A.G. Watchwork mechanisms. 3,099,123, 7-30-63, Cl. 58—59.
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- Stubnitz Greene Corp.: *See*—
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- Stuchbery, Arthur L., to The Metal Box Co. Ltd. Manufacture of hollow articles. 3,084,382, 4-9-63, Cl. 18-5.
- Stuchbery, Arthur L., and J. Franek, to The Metal Box Co. Ltd. Manufacture of cans. 3,083,663, 4-2-63, Cl. 113-121.



- Stuchbery, Arthur L., and J. Franek, to The Metal Box Co. Ltd. Beading thin metal cylinders. 3,089,533, 5-14-63, Cl. 153-70.
- Stuchbery, Arthur L., and F. D. Brookes, to The Metal Box Co. Ltd. Can body-making apparatus. 3,094,092, 6-18-63, Cl. 113-115.
- Stuchbery, Arthur L., and J. E. Cook, to The Metal Box Co. Ltd. Drying liquid-coated thin metal coil stock. 3,098,725, 7-23-63, Cl. 34-13.
- Stucka, Edward P., to Minneapolis-Honeywell Regulator Co. Pneumatic thermostat with pressure compensated valving. 3,100,079, 8-6-63, Cl. 236-87.
- Stucke, Charles G., to Garlock Inc. Expansion-compensating sealing device. 3,084,944, 4-9-63, Cl. 277-26.
- Stuckens, Leo J., to American Photocopy Equipment Co. Sheet separating device. 3,112,926, 12-3-63, Cl. 271-64.
- Stucker, Richard O.: *See—*  
Boyer, Thomas W., Stucker, and Ries. 3,099,650.
- Stuckert, Robert H., to Crown Zellerbach Corp. Spacer insert in a container. 3,107,780, 10-22-63, Cl. 206-46.
- Stuckey, Albert D. C., to The Cincinnati Milling Machine Co. Precision grinding machine. 3,109,263, 11-5-63, Cl. 51-100.
- Stucki, Frank F., to Lockheed Aircraft Corp. Tunnel diode switched to low-state by discharging capacitor, pulse sensing device charged by coincidently applied high-state producing inputs. 3,096,449, 7-2-63, Cl. 307-88.5.
- Studebaker Corp.: *See—*  
Dawkins, Kenneth. 3,098,188.  
Pugh, Merlin L. 3,101,227.  
Turner, Arthur A. 3,092,018.  
Warnken, Elmer P. 3,081,705.  
Warnken, Elmer P. 3,095,138.  
Warnken, Elmer P. 3,115,988.
- Studebaker-Packard Corp.: *See—*  
Nemeth, John K. 3,075,605.  
Warnken, Elmer P. 3,070,844.  
Warnken, Elmer P. 3,077,002.  
Warnken, Elmer P. 3,095,156.
- Studer, Lewis O.: *See—*  
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- Studer, Lewis O., to The Bauer Mfg. Co. Ladder leveling apparatus. 3,083,788, 4-2-63, Cl. 182-205.
- Studer, Philip A.: *See—*  
Van Zyl, Bernard, and Studer. 3,101,002.
- Studer, Richard R.: *See—*  
Kirkpatrick, James S., and Studer. 3,103,294.
- Studer, Victor V.: *See—*  
Mitchell, William A., and Studer. 3,077,411.
- Studer, Walter, to Brac AG. Guarantee closure. 3,112,838, 12-3-63, Cl. 215-41.
- Studiengesellschaft Kohle m.b.H.: *See—*  
Koster, Roland. 3,087,953.  
Koster, Roland. 3,092,648.  
Koster, Roland. 3,111,372.  
Koster, Roland, Bruno, and Lehmkuhl. 3,097,066.  
Koster, Roland, and Larbig. 3,100,219.  
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- Studio Gesellschaft für Industrie- und Modephotographie: *See—*  
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- Studley Paper Co., Inc.: *See—*  
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- Stuebe, Carl W.: *See—*  
Le Suer, William M., and Stuebe. 3,084,203.
- Stueck, David D.: *See—*  
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- Stuerzl, Henry C., and H. D. Wright, to General Motors Corp. Laminated panel device having electroluminescent indicating areas. 3,110,882, 11-12-63, Cl. 340-52.
- Stuessel, John K., to Flexiflor Electrical Systems, Inc. Wiring ducts. 3,091,657, 5-28-63, Cl. 174-68.
- Stuessel, John K., and G. K. Segerlund, to Flexiflor Electrical Systems, Inc. Adapter for use in an access passage for electrical wiring systems. 3,115,539, 12-24-63, Cl. 174-48.
- Stuffing Equipment Corp.: *See—*  
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- Stuhl, Arthur H.: *See—*  
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- Stuhldreher, Earl D., to Triangle Mold & Machine Co., Inc. Die block holder. 3,075,416, 1-29-63, Cl. 78-44.
- Stuijts, Andreas L., to North American Philips Co., Inc. Method of manufacturing monocrystalline bodies. 3,102,099, 8-27-63, Cl. 252-62.5.
- Stukane, Michael M.: *See—*  
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- Stull, Morton B. Turn-to-open tamper-proof closure for containers. 3,081,011, 3-12-63, Cl. 222-541.
- Stull, Morton B. Roll-on dispensing cap. 3,103,691, 9-17-63, Cl. 15-572.
- Stull, Morton B. Multi-position snap cap for containers. 3,113,693, 12-10-63, Cl. 220-60.
- Stults, John O., to Dayton Machine Tool Co. Perforating apparatus. 3,087,366, 4-30-63, Cl. 83-145.
- Stultz, Posy G., Jr.: *See—*  
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- Stummer, Wilfried. Device for translating axial motion into swinging motion. 3,097,750, 7-16-63, Cl. 212-66.
- Stummeyer, Herbert: *See—*  
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- Stump, Eugen, to Daimler-Benz Aktiengesellschaft. Cylinder liner construction particularly for internal combustion engines. 3,073,290, 1-15-63, Cl. 123-41.69.
- Stump, Eugen, to Daimler-Benz Aktiengesellschaft. Steering arrangement for automotive vehicles. 3,073,616, 1-15-63, Cl. 280-95.
- Stump, Eugen, to Daimler-Benz Aktiengesellschaft. Transmission. 3,090,254, 5-21-63, Cl. 74-710.5.
- Stump, Fred, to White Sewing Machine Corp. Thermostatic valve. 3,075,704, 1-29-63, Cl. 236-66.
- Stump, Harry B., to True Temper Corp. Hand tools. 3,090,653, 5-21-63, Cl. 306-33.
- Stump, Homer C. Carpet fastener with contouring surface. 3,092,869, 6-11-63, Cl. 16-7.
- Stump, Joseph H., Jr., and O. G. Wilson, to Newport Industries Co. Method of making a glycol from an ocimene peroxide. 3,088,981, 5-7-63, Cl. 260-635.
- Stump, Paul W., to The Cleveland Container Corp. Fluid container. 3,072,312, 1-8-63, Cl. 229-3.1.
- Stump, Paul W., to The Cleveland Container Co. Container. 3,113,714, 12-10-63, Cl. 229-51.
- Stumpers, Frans L. H. M.: *See—*  
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- Stumph, Richard V., and H. A. Williamson, to General Motors Corp. Detachable core pin with elongated hollow space. 3,075,265, 1-29-63, Cl. 22-152.
- Stupar, Wesley E., to General Precision, Inc. Analogue-to-digital converter. 3,111,660, 11-19-63, Cl. 340-347.
- Stupfel, Clifford L., to Crown Zellerbach Corp. Sawmill lumber sorting apparatus. 3,101,754, 8-27-63, Cl. 143-157.
- Stupfel, Clifford L., and E. H. McClane, to Crown Zellerbach Corp. Lumber edging and separating apparatus. 3,101,755, 8-27-63, Cl. 143-157.
- Stuppy, Mark L., to F. B. Leopold Co., Inc. Filter bottom. 3,110,667, 11-12-63, Cl. 210-275.
- Sturdevant Mfg. Corp.: *See—*  
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- Sturla, Peter L., to Sperry Rand Corp. Hay baler. 3,082,634, 3-26-63, Cl. 100-142.
- Sturm, Bernard J., to United States of America, Atomic Energy Commission. Method for preparation of sinterable beryllium oxide. 3,100,686, 8-13-63, Cl. 23-183.
- Sturm, Edward L.: *See—*  
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- Sturm, Justin. Temperature sensing device. 3,105,229, 9-24-63, Cl. 340-227.
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- Sturm & Scheinberg, Inc.: *See—*  
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- Sturm, Walter, to Quarzlampen Gesellschaft m.b.H. Remote control apparatus for moving an operating lamp. 3,110,815, 11-12-63, Cl. 250-217.
- Sturmberg, Paul, to Bochumer Verein für Gusstahlfabrikation Aktiengesellschaft. Device for the drilling of steel plant ingot molds. 3,110,200, 11-12-63, Cl. 77-61.
- Sturrock, Donald G.  $\frac{1}{2}$  to Gravier Mfg. Co. Ltd., and  $\frac{1}{2}$  to Wilkinson Sword Ltd. Missile fuzes. 3,078,802, 2-26-63, Cl. 102-72.
- Sturrock, Murray G., E. L. Cline, and K. R. Robinson; said Robinson assor. to Koppers Co., Inc. Process for preparing 3,8-dihydroxy-4,5,6,7-benzo-1,2-dioxacyclooctane. 3,091,620, 5-28-63, Cl. 260-340.3.
- Sturrock, Peter A., to Varian Associates. Adiabatic beam condenser method and apparatus. 3,102,211, 8-27-63, Cl. 313-84.
- Sturtevant Mill Co.: *See—*  
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- Sturzinger, Oskar: *See—*  
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- Stutrud, Theodore O.: *See—*  
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- Stutsman, Paul W., to Raytheon Co. Gaseous discharge indicator devices. 3,114,860, 12-17-63, Cl. 315-169.
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- Stutz, Richard G., to United Aircraft Corp. Compound helicopter. 3,105,659, 10-1-63, Cl. 244-7.
- Stutz, Sherla L., to United States of America, Air Force. Direction finding antenna. 3,093,828, 6-11-63, Cl. 343-118.
- Stutzke, Robert E., and A. B. Cox, to Vermont American Corp. Sheet metal file. 3,077,024, 2-12-63, Cl. 29-78.
- Stutzke, Robert E., and A. B. Cox, to Vermont American Corp. Apparatus for making sheet metal files. 3,077,126, 2-12-63, Cl. 76-12.



- Stutzke, Robert E., and A. B. Cox, to Vermont American Corp. Method of making sheet metal files. 3,077,127, 2-12-63, Cl. 76-24.
- Stuver, Paul M. Fluid motor. 3,090,363, 5-21-63, Cl. 121-121.
- Style-Crafters, Inc.: *See*—
- Martin, Clarence B., Jr. 3,094,725.
- Styler, John M., to Potlatch Forests, Inc. Automatic bottom hexagonal carton. 3,101,167, 8-20-63, Cl. 229-41.
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- Strazdins, Atis, and Stylis. 3,101,712.
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- Styner, Rudolf. 3,088,357.
- Styner, Rudolf, to Styner & Bienz A.G. Apparatus for cutting to size photographic pictures. 3,088,357, 5-7-63, Cl. 83-247.
- Stypulkowski, Walter C., and K. C. Jacobs, to Aeronad Electronic Corp. Air rescue transmission apparatus. 3,102,982, 9-3-63, Cl. 325-112.
- Styra, Gerd A., to I. Behrens. Frames, specifically window-frames, door-frames, and kindred frames, as well as apparatus and processes for the manufacture thereof. 3,087,207, 4-30-63, Cl. 20-11.
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- Subilia, Maurice H.: *See*—
- Rose, Frank L., and Subilia. 3,075,199.
- Subkle, Hermann, to Berkley Machine Co. Roll changing apparatus. 3,085,762, 4-16-63, Cl. 242-58.
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- Submarine Cables, Ltd.: *See*—
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- Submarine Trenching, Inc.: *See*—
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- Rogers, Gail C., and Williams. 3,080,302.
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- Sucher, Joseph R., to Emsig Mfg. Co. Process for compression molding embossed articles. 3,075,249, 1-29-63, Cl. 18-55.
- Sucker G.m.b.H., Gebrüder: *See*—
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- Suckling, Charles W., and J. Raventos, to Imperial Chemical Industries Ltd. Anaesthetic 1:1:1:3:3:3-hexafluoro-2-halopropane. 3,097,133, 7-9-63, Cl. 167-52.
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- Sudarsky, Jerry M., and R. A. Fisher, to Bioferm Corp. Yeast-bioflavonoid composition and process of producing the same. 3,112,248, 11-26-63, Cl. 195-16.
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- Fischer, Thomas, and Knoblauch. 3,093,454.
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- Suderow, George E., to Delong Corp. Mobile apparatus for placing and driving marine piling or the like. 3,107,496, 10-22-63, Cl. 61-46.5.
- Sudman, Charles F., to The Goodyear Tire & Rubber Co. Seat cushion and method of making same. 3,081,077, 3-12-63, Cl. 267-111.
- Sudmeier, Gustav H. Compressor apparatus. 3,080,495, 3-5-63, Cl. 310-104.
- Sudmeier, Gustav H. Temperature-stabilized plumbing system. 3,089,514, 5-14-63, Cl. 137-563.
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- Lto, Suekichi, Takamura, and Sudo. 3,103,631.
- Sudrabin, Leon P., to Electro Rust-Proofing Corp. Cathodic protection of metal surfaces exposed to aqueous liquid. 3,074,862, 1-22-63, Cl. 204-147.
- Sudrow, Lyle K. V., to Helipod, Inc. Ducted rotor with pressure balancing and lift augmenting means. 3,101,917, 8-27-63, Cl. 244-23.
- Sudrow, Lyle K. V., to Helipod, Inc. Stabilizing and forward thrust augmenting means for rotor sustained aircraft. 3,106,370, 10-8-63, Cl. 244-17.19.
- Sudrow, Lyle K. V., to Helipod, Inc. Forward thrust means for ducted rotor sustained aircraft. 3,108,764, 10-29-63, Cl. 244-23.
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- Suessle, Joseph F., to Edwin B. Stimpson Co., Inc. Fastening device. 3,092,175, 6-4-63, Cl. 160-390.
- Suetsugu, Kenji, to Sony Corp. Magnetic tape recorder. 3,107,280, 10-15-63, Cl. 179-100.2.
- Sugar Chemical Co. Etablissement: *See*—
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- Suggs, Thomas F., to Cocker Machine & Foundry Co. Textile treating apparatus. 3,070,898, 1-1-63, Cl. 34-87.
- Suggs, Thomas F., to Cocker Machine & Foundry Co. Textile treating apparatus. 3,110,169, 11-12-63, Cl. 68-5.
- Suggs, Thomas F., G. H. Browne, and L. R. Brumby, to Cocker Machine & Foundry Co. Textile packaging and handling apparatus. 3,081,511, 3-19-63, Cl. 28-21.
- Sugihara, Takashi F.: *See*—
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- Sugimura, Kazuo. Protecting apparatus for gas reservoir of oil accumulator. 3,082,793, 3-26-63, Cl. 138-30.
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- Suhovecky, Albert J.: *See*—
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- Suhr, Robert N., and R. M. Goodman, Jr., to Pioneer Heddle and Reed Co., Inc. Loom harness. 3,096,793, 7-9-63, Cl. 139-92.
- Suhrmann, Robert, to North American Philips Co., Inc. Automatic brightness and contrast control circuit. 3,112,424, 11-26-63, Cl. 315-10.
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- Suits, Irvin U., and Thompson. 3,104,547.
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- Suits, Irvin U., and Thompson. 3,104,547.
- Suits, Irvin U., and D. J. Thompson, 30% to F. H. Suits, Sr., and E. F. U. Suits, jointly, and of 10% to H. R. Bauer. Air speed indicator. 3,104,547, 9-24-63, Cl. 73-181.
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- Sulkie, Thomas A. Rubber stamp device. 3,090,304, 5-21-63, Cl. 101-333.
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- Sullivan, Arthur M., to Lamkin Leather Co. Slip-on handle grip. 3,087,729, 4-30-63, Cl. 273-81.5.
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- Sullivan, Edward J.: *See*—
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- Sullivan, Edward J., 1/2 to M. M. Hanson. Fire-fighting system and apparatus. 3,104,720, 9-24-63, Cl. 169-25.
- Sullivan, Edward M., and W. A. Boucher, to The Electro-Temp Corp. Heating and/or cooling system. 3,105,137, 9-24-63, Cl. 219-40.
- Sullivan, Edward M., E. W. Wise, and F. P. Reding, to Union Carbide Corp. Solid poly(3,3,3-trifluoropropene). 3,110,705, 11-12-63, Cl. 260-92.1.
- Sullivan, Edward W. Method and means for aging alcoholic beverages. 3,083,098, 3-26-63, Cl. 99-48.
- Sullivan, Elbert P., Jr.: *See*—
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- Sullivan, Gregory B.: *See*—
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- Sullivan, Herbert D., B. L. Bledsoe, and C. G. Barfield, to International Harvester Co. Knott hook for balers. 3,101,963, 8-27-63, Cl. 289-11.
- Sullivan, Hubert C., and R. W. Prichard, to Plasmadyne Corp. High-temperature spray apparatus. 3,114,826, 12-17-63, Cl. 219-76.
- Sullivan, James D., to A. O. Smith Corp. Vitreous enamel-coated ferrous article and method of making the same. 3,098,758, 7-23-63, Cl. 117-70.
- Sullivan, John F.: *See—*  
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- Sullivan, Lawrence J. Disposable, collapsible urinal. 3,099,017, 7-30-63, Cl. 4-110.
- Sullivan, Leo P., to Consolidated Engineering Service, Inc. Coiled wire nut fastener and conductor. 3,074,046, 1-15-63, Cl. 339-256.
- Sullivan, Leo S., Jr., to General Motors Corp. Bearing structure and method of manufacture therefor. 3,097,060, 7-9-63, Cl. 18-59.
- Sullivan, Melvin. Screw driver for bending wire. 3,095,912, 7-2-63, Cl. 140-124.
- Sullivan, Miles V., to Bell Telephone Laboratories, Inc. Process for electropolishing semiconductor surfaces. 3,073,764, 1-15-63, Cl. 204-140.5.
- Sullivan, Norman M., to The Alvey-Ferguson Co. Conveyor stop. 3,104,749, 9-24-63, Cl. 193-35.
- Sullivan, Philip W.: *See—*  
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- Sullivan, Raymond F., to Preformed Line Products Co. Appliance for linear bodies. 3,089,567, 5-14-63, Cl. 189-31.5.
- Sullivan, Richard A.: *See—*  
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- Sullivan, Robert H., to E. I. du Pont de Nemours and Co. Process for the preparation of trans, cis, trans-1,2,4-tricarboxy-cis-3-carboxymethylcyclopentane. 3,080,418, 3-5-63, Cl. 260-514.
- Sullivan, Robert H., to E. I. du Pont de Nemours and Co. Resolution of racemic aminoisopropanol. 3,116,332, 12-31-63, Cl. 260-584.
- Sullivan, Robert L., to Weyerhaeuser Co. Safety device for saws. 3,101,104, 8-20-63, Cl. 143-159.
- Sullivan, Robert T., to Polaroid Corp. Folding camera. 3,091,163, 5-28-63, Cl. 95-40.
- Sullivan, Russell C.: *See—*  
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- Sullivan, Timothy J. 3,112,876.
- Sullivan, Warren W., to Electro-Mechanical Research, Inc. Position sensing apparatus. 3,113,300, 12-3-63, Cl. 340-347.
- Sullivan, Wilbur M., and L. A. Carlson, to Union Carbide Corp. Aqueous polyvinylacetate compositions producing hammer effect coating. 3,080,332, 3-5-63, Cl. 260-29.6.
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- Sulzer, Robert I., to Advance Transformer Co. Ballast canister construction. 3,113,694, 12-10-63, Cl. 220-62.
- Sumegi, Lawrence W. Golf indoor practice device. 3,083,016, 3-26-63, Cl. 273-35.
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- Sumida, Kunio A. Sheet-separating and feeding means for addressing machines. 3,077,833, 2-19-63, Cl. 101-132.5.
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- Summers, Lionel M. Water's edge holding device. 3,111,693, 11-26-63, Cl. 9-8.
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- Sds, Oskar, and W. Schaefer, to Azoplate Corp. Light sensitive azides, printing plates comprising such compounds and process for the production thereof. 3,092,494, 6-4-63, Cl. 96-33.
- Susi, Peter V.: *See*—  
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- Suskari, William V. H. Navigational plotting and drafting device. 3,082,534, 3-26-63, Cl. 33-32.
- Sussina, Stan J. Lock for tubular frame gates. 3,083,561, 4-2-63, Cl. 70-139.
- Sussman, Martin V.: *See*—  
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- Sussman, Max: *See*—  
Pendleton, David W., and Sussman. 3,096,516.
- Sussman, Robert E.: *See*—  
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- Sussman, Vincent: *See*—  
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- Sutcliffe, Richard, Ltd.: *See*—  
Baines, Leslie. 3,109,378.
- Suter, Hans: *See*—  
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- Suter, Henry, to United States of America, Navy. Flexible rotochute. 3,115,831, 12-31-63, Cl. 102-4.
- Suter, Oswald, to Technical Oil Tool Corp. Time delay actuating mechanism. 3,087,385, 4-30-63, Cl. 89-1.
- Suter, Oswald, and J. H. De Lacy, to Technical Oil Tool Corp., Ltd. Rate of penetration and weight recorder. 3,076,966, 2-5-63, Cl. 346-33.
- Sutherland, William B. Collapsible container. 3,080,083, 3-5-63, Cl. 217-12.
- Sutherland, William B. Knock-down shelving structure. 3,102,501, 9-3-63, Cl. 108-114.
- Sutherland, Charles A., and A. G. White, to The Consolidated Mining and Smelting Co. of Canada Ltd. Process for the production of niobium pentachloride. 3,085,855, 4-16-63, Cl. 23-87.
- Sutherland, Dan: *See*—  
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- Sutherland, Frank R., to Union Carbide Corp. Multi-layer shell mold. 3,077,648, 2-19-63, Cl. 22-193.
- Sutherland, Gordon O. Tilttable X-ray table structure. 3,086,115, 4-16-63, Cl. 250-55.
- Sutherland, John B.: *See*—  
Collins, Richard V., and Sutherland. 3,071,061.
- Sutherland, John D., Jr.: *See*—  
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- Sutherland, John M.: *See*—  
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- Sutherland, Robert J.: *See*—  
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- Sutliff, Wayne N. Apparatus for actuating a deep well pump. 3,079,863, 3-5-63, Cl. 103-46.
- Sutliff, Wayne N. Sleeve valve and oil well tool embodying the same. 3,088,533, 5-7-63, Cl. 175-297.
- Sutter, David L.: *See*—  
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- Sutter, Robert C.: *See*—  
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- Sutton, B. M.: *See*—  
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- Sutton, Donald E., to Hammond Machinery Builders, Inc.  
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- Sutton, Earl W., and J. C. Albright, to Continental Oil Co.  
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- Sutton H. G.: *See*—  
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- Sutton H. G., Jr.: *See*—  
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- Sutton, James F., to Lockheed Aircraft Corp. Aircraft propulsion system. 3,085,770, 4-16-63, Cl. 244-23.
- Sutton, John R. Offshore equipment supports. 3,082,607, 3-26-63, Cl. 61-46.5.
- Sutton, Reid E., and J. L. Bame, to Shell Oil Co. Gasoline composition. 3,090,680, 5-21-63, Cl. 44-69.
- Sutton, Roy N., to Sutton Shoe Machinery Co. Grindings collector. 3,098,332, 7-23-63, Cl. 51-270.
- Sutton Shoe Machinery Co.: *See*—  
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- Sutton, Steele & Steele, Inc.: *See*—  
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- Suzumura, Hideo, and H. Miyahara, to Kurashiki Rayon Co., Ltd. Cold-water-soluble polyvinyl alcohol. 3,087,920, 4-30-63, Cl. 260-91.3.
- Svala, Carl G.: *See*—  
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- Svala, Carl G., E. Åro, and G. L. Kjellberg, to Telefonaktiebolaget L. M. Ericsson. Low-pass filter for pulse amplitude modulated signal transmission systems. 3,100,320, 8-13-63, Cl. 179-15.
- Svanoe, Hans, to Struthers Wells Corp. Process for the preparation of fresh water from sea water. 3,098,734, 7-23-63, Cl. 62-58.
- Svarz, Jerry J.: *See*—  
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- Svaty, Vladimir, to Sdruzeni podniku textilniho strojirenstvi. Means for fastening the heald frame in looms. 3,074,438, 1-22-63, Cl. 139-91.
- Svec, Emil F., deceased; V. M. Svec, executrix, to Flexigrip, Inc. Rib and groove fastener structure. 3,088,495, 5-7-63, Cl. 138-128.
- Svec, Viera M.: *See*—  
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- Svedres, Edward V.: *See*—  
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- Svendsen, James W., to Boone Box Co. Figure 4 corner post. 3,072,313, 1-8-63, Cl. 229-14.
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- Svensk Torofoadning, Aktiebolaget: *See*—  
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- Svenska Ackumulator Aktiebolaget Jungner: *See*—  
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- Svenska Aktiebolaget Bromsregulator: *See*—  
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- Svenska Kullagerfabriken Aktiebolaget: *See*—  
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- Svenska Maskinaktiebolaget Greiff: *See*—  
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- Svenska Metallverken, Aktiebolaget: *See*—  
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- Svenska Relafabriken AB: *See*—  
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- Svenska Tandsticks Aktiebolaget: *See*—  
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- Svenson, Bror N. A.: *See*—  
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- Svenson, Ernest J., to Odin Corp. Automatic assembling machine. 3,076,257, 2-5-63, Cl. 29-156.4.
- Svenson, Ernest J., 1/2 to W. F. and John Barnes Co., and 1/2 to Odin Corp. Metal working apparatus. 3,078,742, 2-26-63 Cl. 77-33.5.
- Svenson, Ernest J., to Odin Corp. Apparatus for assembling and testing pump parts. 3,088,198, 5-7-63, Cl. 29-208.
- Svenson, Ernest J., 1/2 to Odin Corp. and 1/2 to W. F. and John Barnes Co. Hydraulically actuated machine tool. 3,100,450, 8-13-63, Cl. 103-4.
- Svensson, Assar N., and B. Brandt, to Skelleftea Gummifabriks A.-B. Wear lining. 3,107,867, 10-22-63, Cl. 241-102.
- Svensson, Birger O., 1/2 to E. Martin. Laterally and angularly adjustable coupling for tool reciprocating mechanism. 3,111,053, 11-19-63, Cl. 83-124.
- Svensson, Nils V., to Aktiebolaget Gotaverken. Conveyor track for heavy loads. 3,105,583, 10-1-63, Cl. 193-38.
- Svensson, Nils V., and B. N. A. Svenson, to Gotaverken, Aktiebolaget. Building-bed for large structures, such as ships or parts thereof. 3,083,541, 4-2-63, Cl. 61-67.
- Svensson, Stig A. G., to Separator, Aktiebolaget. Clothes washing machine. 3,085,420, 4-16-63, Cl. 68-173.
- Svensson, Stig A. G., to Separator, Aktiebolaget. Automatic shut-off device. 3,096,784, 7-9-63, Cl. 137-463.
- Svit, narodni podnik: *See*—  
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Richter, Jiri, and Cernoch. 3,089,162.  
Richter, Jiri, and Cernoch. 3,113,847.
- Svoboda, Ernst. Floats for fishing. 3,087,275, 4-30-63, Cl. 43-44.87.
- Svoboda, James, to Caterpillar Tractor Co. Multi-purpose loader bucket. 3,077,999, 2-19-63, Cl. 214-145.
- Svoboda, Vladimir: *See*—  
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- Swaim, Frank H., to United States of America, Navy. Elastic fin erector. 3,114,287, 12-17-63, Cl. 89—1.7.
- Swaim, Frank H., and D. W. Rabenhorst, to United States of America, Navy. Low torque rotary seal. 3,109,661, 11-5-63, Cl. 277—70.
- Swain, Arthur B.: See—  
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- Swain, Frank E., to David F. Wiseman & Sons Ltd. Butterfly valves. 3,080,145, 3-5-63, Cl. 251—306.
- Swain, Joseph H.: See—  
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- Swainson, Edward L., to Northrop Corp. Transverse supported torsion bar. 3,081,991, 3-19-63, Cl. 267—1.
- Swainson, Edward L., to Northrop Corp. Linear motion, signal-producing, magnetic transducer. 3,101,462, 8-20-63, Cl. 336—75.
- Swakon, Edward A., to Standard Oil Co. Aromatic acid purification. 3,115,521, 12-24-63, Cl. 260—525.
- Swallert, Sven A. Indicating assembly for container. 3,073,272, 1-15-63, Cl. 114—5.
- Swalm, Calvin D. Anti-theft grocery cart caster. 3,083,398, 4-2-63, Cl. 16—18.
- Swan, Allan H. B., to The British Oxygen Co. Ltd. Turning roll apparatus. 3,094,232, 6-18-63, Cl. 214—340.
- Swan, Charles M., to Crown Zellerbach Corp. Printable sheet and method. 3,096,014, 7-2-63, Cl. 229—87.
- Swan, Harold A. Fire hose nozzle. 3,082,960, 3-26-63, Cl. 239—383.
- Swanberg, Edward W.: See—  
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- Swanberg, Melvin E., to General Precision, Inc., Link Division. Electronic training apparatus. 3,071,876, 1-8-63, Cl. 35—19.
- Swaney, C. R., Co., Inc.: See—  
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- Swann, Robert T.: See—  
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- Swanson, Albert S., Jr. Back scrubbing bath accessory. 3,085,276, 4-16-63, Cl. 15—244.
- Swanson, Alex O. Detachable hoisting boom for powered vehicle. 3,092,259, 6-4-63, Cl. 212—35.
- Swanson, Allan C., to Nu-Matic Nailer International Corp. Foot-guided nailing machine. 3,107,355, 10-22-63, Cl. 1—106.
- Swanson, Arthur F.: See—  
Schinske, William G., and Swanson. 3,107,273.
- Swanson, Arthur M., and C. H. Amundson, to Wisconsin Alumni Research Foundation. Agglomeration process. 3,083,099, 3-26-63, Cl. 99—56.
- Swanson, Carl E., to Duro-Test Corp. Multiple arc fluorescent lamp. 3,084,271, 4-2-63, Cl. 313—1.
- Swanson, Dale C.: See—  
Schroer, Charles A., Swanson, and Steedly. 3,111,732.
- Swanson, Donald F.: See—  
Hanson, Warren A., Winkler, and Swanson. 3,084,519.
- Swanson, Edwin C., to Unit Rail Anchor Corp. Rail anchor applicator. 3,095,826, 7-2-63, Cl. 104—2.
- Swanson, Elmer G., and W. C. Hyland, to St. Regis Paper Co. Carrying handle construction for cartons. 3,094,268, 6-18-63, Cl. 229—52.
- Swanson-Erie Corp.: See—  
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- Swanson, Floyd A., to National Automatic Tool Co., Inc. Honing apparatus. 3,097,453, 7-16-63, Cl. 51—34.
- Swanson, Fred R., and C. F. Erikson, to Sundstrand Corp. Multi-speed transmission. 3,073,174, 1-15-63, Cl. 74—354.
- Swanson, Fred R., and C. F. Erikson, to Sundstrand Corp. Machine tool. 3,083,617, 4-2-63, Cl. 90—17.
- Swanson, George J., to The Bendix Corp. Electrical connector. 3,076,951, 2-5-63, Cl. 339—91.
- Swanson, Harry G.: See—  
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- Swanson, James R.: See—  
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- Swanson, Kermit M., C. E. Thompson, and E. H. Wilk, to R. R. Donnelley & Sons Co. Flystick packer box for signatures. 3,111,312, 11-19-63, Cl. 271—87.
- Swanson, Linwood B.: See—  
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- Swanson, Norman F. Multiple cutter power mower. Re. 25,379, 5-7-63, Cl. 56—254.
- Swanson, Robert D.: See—  
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- Swanson, Robert K., C. E. Jameson, and G. W. Dingus. Method of and apparatus for radioactivity well logging. 3,090,867, 5-21-63, Cl. 250—833.
- Swanson, Roger W., to General Electric Co. AFC with search sweep control. 3,076,151, 1-29-63, Cl. 331—4.
- Swanson, Victor E., to Procon Pump & Engineering Co. Pump and motor construction. 3,097,610, 7-16-63, Cl. 103—118.
- Swanton, Charles L.: See—  
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- Swarner, John L.: See—  
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- Swarofsky, Walter, and F. Renneberg, to Voigtlander A.G. Photographic camera with scanner for exposure meter indicator. 3,076,394, 2-5-63, Cl. 95—10.
- Swarofsky, Walter, and F. Renneberg, to Voigtlander A.G. Photographic camera with interchangeable objectives. 3,082,672, 3-26-63, Cl. 95—10.
- Swarofsky, Walter, and F. Renneberg, to Voigtlander A.G. Single lens reflex camera with exposure meter. 3,109,356, 11-5-63, Cl. 95—10.
- Swarr, John H., and L. A. Hurwitz, to Hamilton Watch Co. Heat treatment of stainless steel. 3,097,980, 7-16-63, Cl. 148—135.
- Swart, Gilbert H.: See—  
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- Swarthout, Earl J., to Miles Laboratories, Inc. Process for lycopene production. 3,097,146, 7-9-63, Cl. 195—78.
- Swarthout, Raselle E., to Challenge-Cook Bros., Inc. Piston head. 3,104,619, 9-24-63, Cl. 103—204.
- Swarthout, Richard J., and R. E. Klauss, to Eastman Kodak Co. Housing for photoelectric sensing unit. 3,099,750, 7-30-63, Cl. 250—239.
- Swartout, Willson C., to Westinghouse Electric Corp. Voltage regulating servomechanism. 3,078,399, 2-19-63, Cl. 318—28.
- Swartwood, Ira T.: See—  
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- Swartz, Charles A. Can crusher. 3,079,856, 3-5-63, Cl. 100—50.
- Swartz, George A., to Radio Corp. of America. Plasma heating apparatus and process. 3,090,737, 5-21-63, Cl. 204—154.2.
- Swartz, Henry D., to Thermoplastic Industries, Inc. Self-sealing container. 3,089,636, 5-14-63, Cl. 229—62.5.
- Swartz, Paul C., to Eitel-McCullough, Inc. Apparatus for applying a metallizing coating to ceramic parts. 3,080,846, 3-12-63, Cl. 118—66.
- Swartz, Paul C., to Eitel-McCullough, Inc. Electron tube assembly apparatus. 3,081,531, 3-19-63, Cl. 29—203.
- Swartz, William E., and W. L. Krayer, to Calgon Corp. Detachable actuator for valves. 3,112,761, 12-3-63, Cl. 137—382.5.
- Swartz, William P., Jr. Envelopes. 3,088,653, 5-7-63, Cl. 229—68.
- Swartzwelder, John. Adjustable motor vehicle transport. 3,104,127, 9-17-63, Cl. 296—1.
- Swasey, Samuel E.: See—  
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- Swasey, Samuel E., and L. J. Ward, to Sylvania Electric Products Inc. Lead-wire feeding apparatus. 3,088,498, 5-7-63, Cl. 140—71.6.
- Swayne, Kenneth G.: See—  
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- Sweadner, Emma J.: See—  
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- Swearingen, Ernest W., to Boyte Colostom-Ease Inc. Colostomy appliance. 3,083,704, 4-2-63, Cl. 128—1.
- Swed, James P.: See—  
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- Swed, James P., to E. I. du Pont de Nemours and Co. Compaction process. 3,084,398, 4-9-63, Cl. 18—59.3.
- Sweden Freezer Mfg. Co.: See—  
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- Clark, Charles W., Jr. 3,086,675.
- Patten, Leigh M., and Ridgway. 3,086,563.
- Sweely, Donald B.: See—  
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- Sweeney, B. K., Mfg. Co.: See—  
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- Sweeney, Edward A., and J. B. Carr, to General Motors Corp. Process for the manufacture of laminated magnetic cores. 3,095,333, 6-25-63, Cl. 148—121.
- Sweeney, Francis M., to Armstrong Cork Co. Method of forming fine polyethylene powders. 3,101,329, 8-20-63, Cl. 260—94.9.
- Sweeney, Francis R., to A. J. Rose Mfg. Co. Battery terminal and cable cleaning brush. 3,088,150, 5-7-63, Cl. 15—106.
- Sweeney, George J.: See—  
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- Sweeney, Harold E., to Westinghouse Electric Corp. Stereophonic receiving method and apparatus. 3,103,555, 9-10-63, Cl. 179—15.
- Sweeney, Harold L., and J. Faneros. Cleaning pads. 3,085,372, 4-16-63, Cl. 51—185.
- Sweeney, James R.: See—  
Dunn, Lyman D. 3,073,703.
- Sweeney, John L., to International Business Machines Corp. Closed loop control system. 3,108,272, 10-22-63, Cl. 343—10.
- Sweeney, John L., to International Business Machines Corp. Raster scanning system. 3,116,436, 12-31-63, Cl. 315—18.
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- Sweeny, Herbert W. Piano playing attachment. 3,115,802, 12-31-63, Cl. 84-160.
- Sweeny, Wilfred: *See—*
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- Sweet, Corliss M. Reduction of saw dust in cutting wood by bending the wood. 3,089,524, 5-14-63, Cl. 144-312.
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- Sweet, Donald H. Ram jet unit. 3,076,308, 2-5-63, Cl. 60-35.3.
- Sweet, Floyd H.: *See—*
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- Sweet, George B.: *See—*
- Bailey, William A. 3,082,576.
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- Sweet, Monroe H., deceased; R. Easton and First-City National Bank, Binghamton, N.Y., administrators, to General Aniline & Film Corp. Photometric instruments. 3,102,202, 8-27-63, Cl. 250-207.
- Sweet, Roger G., to Chilean Nitrate Sales Corp. Scraper-condenser unit. 3,079,993, 3-5-63, Cl. 165-94.
- Sweetnam, William G. Chemical cutting method and apparatus for use in wells. 3,076,507, 2-5-63, Cl. 166-35.
- Sweeton, Kenneth W. Circuit assembly board. 3,078,596, 2-26-63, Cl. 35-19.
- Sweetser, Donald A., to Lightolier Inc. Ceiling light and air diffusing fixture. 3,108,529, 10-29-63, Cl. 98-40.
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- Swengel, Robert C., to AMP Inc. Spring clip terminal for printed circuit board. 3,079,578, 2-26-63, Cl. 339-17.
- Swengel, Robert C., to AMP Inc. Printed circuit multiple connector block. 3,112,145, 11-26-63, Cl. 339-17.
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- Swenson, Armand R., to Continental Carbon Co. Bag-filling and handling machine. 3,083,780, 4-2-63, Cl. 177-52.
- Swenson, Charles. Timer with reversible motor. 3,087,103, 4-23-63, Cl. 318-265.
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- Swetiltz, Myron, to General Electric Co. Plant surface heating unit. 3,083,286, 3-26-63, Cl. 219-19.
- Swett, Alton P., to Ingersoll-Rand Co. Safety circuit. 3,094,646, 6-18-63, Cl. 317-13.
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- Switzer, Joseph L., to Switzer Brothers, Inc. Self-developing penetrant method of flaw detection and penetrant therefor. 3,114,039, 12-10-63, Cl. 250-71.
- Switzer, Robert L., W. C. Loeffers, and C. H. O. Berg, to Collier Carbon and Chemical Corp. Apparatus for submerged combustion heating of liquids. 3,073,683, 1-15-63, Cl. 23-275.
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- Bowers, Albert. 3,097,199.
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- Kincl, Fred A. 3,074,933.
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- Ringold, Howard J., and Rosenkranz. 3,088,950.
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- Szaj, Arnold P., to Nordberg Mfg. Co. External main frame pin. 3,088,684, 5-7-63, Cl. 241-290.
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- Tabet, Michael A. Light sensitive control device. 3,093,744, 6-11-63, Cl. 250-239.
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- Taggart, Wilmer R., to Riley Stoker Corp. Steam generating unit. 3,088,444, 5-7-63, Cl. 122-459.
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- Tait, Robert, and A. E. Wright, to United Kingdom Atomic Energy Authority. Cable winding apparatus. 3,106,368, 10-8-63, Cl. 242-107.1.
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- Takaya, Nagatake. Tachometers. 3,103,628, 9-10-63, Cl. 324-70.
- Takayama, Gozo: *See*—  
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- Takayama, Kazuo, and S. Ohara, to Nippon Telegraph and Telephone Public Corp. Electrical discharge tube. 3,101,426, 8-20-63, Cl. 313-152.
- Takazawa, Ietsugu. Curtain hanger. 3,105,265, 10-1-63, Cl. 16-87.4.
- Takeda Chemical Industries, Ltd.: *See*—  
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- Takeda, Kenichi, and T. Komeno, to Shionogi & Co., Ltd. 16 $\beta$ -mercapto-17 $\beta$ -hydroxy-2-androsten-3-one 16,17-cyclic acetals and intermediates thereof. 3,112,306, 11-26-63, Cl. 260-239.55.
- Takeda Pharmaceutical Industries, Ltd.: *See*—  
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Nakazawa, Koiti, Shibata, Higashide, Kanzaki, Yamamoto, Miyake, Hitomi, Horii, Yamaguchi, Araki, Nishikawa, Masamoto, and Noguchi. 3,094,465.  
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- Takehara, Kokuji. Fiber feeding and cutting device. 3,110,209, 11-12-63, Cl. 83-322.
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- Takeo, Kenji: *See*—  
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- Takes, Donald E., and M. W. Boyd, to General Dynamics Corp. Electrical connector. 3,091,748, 5-28-63, Cl. 339-65.
- Takeuchi, Kazumi, to Hitachi Ltd. System for demodulating chrominance signal in color television. 3,078,339, 2-19-63, Cl. 178-5.4.
- Takeuchi, Shoichi. Process and apparatus for manufacturing floating soap. 3,097,057, 7-9-63, Cl. 18-55.
- Takikawa, Masahiko: *See*—  
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- Talaat, Mostafa E., to Carrier Corp. Thermoelectric generators. 3,082,275, 3-19-63, Cl. 136-4.
- Talaat, Mostafa E., to Carrier Corp. Thermoelectric generators. 3,116,167, 12-31-63, Cl. 136-4.
- Talambiras, Robert P.: *See*—  
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- Talarico, Lawrence J., to Adolph Gottsch, Inc. Marking apparatus. 3,112,690, 12-3-63, Cl. 101-35.
- Talb Industries, Inc.: *See*—  
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- Talbot, Abner P. Combination weeding and cultivating attachment for a towing vehicle. 3,106,968, 10-15-63, Cl. 172-78.
- Talbot, John E., to American Machine and Foundry Co. Carbons for elongated articles. 3,099,382, 7-30-63, Cl. 229-44.
- Talbot, Howard H.: *See*—  
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- Talbot, James E., and D. H. Blatt, to American Viscose Corp. Closure for car doors and the like. 3,099,314, 7-30-63, Cl. 160-368.
- Talbot, Richard C.: *See*—  
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Talbot, Richard C., G. K. Bahr, and E. Rose, to Peters Machinery Co. Carton gluing and forming machine. 3,105,418, 10-1-63, Cl. 93-44.
- Talbot, William Y., and J. Chess. Rotary valve. 3,096,788, 7-9-63, Cl. 137-625.11.
- Talbott, Edmond L., to Pittsburgh Plate Glass Co. Diaphragm type electrolytic cell. 3,116,228, 12-31-63, Cl. 204-266.
- Talboys, Doris C.: *See*—  
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- Talboys, Henry H.: *See*—  
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- Talboys, Henry H., deceased, D. C. Talboys, executrix, to Nordberg Mfg. Co. Tamping jack for railway track maintenance. 3,071,082, 1-1-63, Cl. 104-12.
- Talboys, Henry H., to Nordberg Mfg. Co. Impact deflector for track work. 3,084,362, 4-9-63, Cl. 15-55.
- Talboys, Henry H., to Nordberg Mfg. Co. Brush for track and right-of-way. 3,087,179, 4-30-63, Cl. 15-55.
- Talboys, Henry H., deceased (D. C. Talboys, executrix), to Nordberg Mfg. Co. Insulated flanged wheel. 3,101,214, 8-20-63, Cl. 295-1.
- Talboys, Henry H. Method of and means for making rail joints. 3,107,054, 10-15-63, Cl. 238-151.
- Talge, Foster L.: *See*—  
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- Talge, Henry J.: *See*—  
McLean, Robert E., Chappell, and Briar. 3,078,568.
- Tallet, Joseph, and A. Ben-Ezra, to General Aniline & Film Corp. Photographic film and process of producing same. 3,080,317, 3-5-63, Cl. 252—49.6.
- Talley, Robert M.: *See*—  
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- Tallis, Ernest E., and J. Singleton, to Courtaulds Ltd. Production of yarns or irregular denier. 3,110,059, 11-12-63, Cl. 18—8.
- Tallman, Charles V.: *See*—  
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- Tallman, Ralph C., to Monsanto Chemical Co. Conversion of cyclohexane to cyclohexene. 3,108,143, 10-22-63, Cl. 260—666.
- Tallman, Ralph C., to Monsanto Chemical Co. Conversion of cyclohexane to cyclohexene. 3,108,144, 10-22-63, Cl. 260—666.
- Talmo, Robert E.: *See*—  
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- Talon, Inc.: *See*—  
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- Talongmaskiner, Aktiebolaget: *See*—  
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- Tama, Manuel, and W. E. Sherman, to Ajax Magnethermic Corp. Submerged resistor type induction furnaces and method and processes therefor. 3,092,682, 6-4-63, Cl. 13—29.
- Tama, Mario, and W. E. Shearman, to Ajax Magnethermic Corp. Furnace. 3,088,182, 5-7-63, Cl. 22—79.
- Tamagawa, Yoshio: *See*—  
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- Tamar Electronics, Inc.: *See*—  
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- Tamar Electronics Industries Inc.: *See*—  
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Mills, Allan K. 3,114,269.
- Tambaugh, Roy W., to Westinghouse Electric Corp. Lubricating composition and method for the hot extrusion of metals. 3,096,881, 7-9-63, Cl. 207—10.
- Tamblyn, John W.: *See*—  
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- Tamborski, Christ, and H. Gilman; said Gilman assor. to United States of America, Air Force. Method of preparing heterocyclic compounds containing metals or metaloids. 3,079,414, 2-26-63, Cl. 260—429.
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- Tamburini, Floraldo: *See*—  
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- Tamburro, Peter J.: *See*—  
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- Tamm, Christoph, to Sandoz A.G. Process for the reduction of cardenolide and bufadienolide steroids. 3,080,362, 3-5-63, Cl. 260—239.57.
- Tamm, Christoph, and G. Volpp, to Sandoz Ltd. 1a,11a-epoxy-3β,5,14,19-tetrahydroxy-carden-(20,22)-olide. 3,073,818, 1-15-63, Cl. 260—239.57.
- Tamm, Emil S., to Baldor Electric Co. Bearing seal for electric motor. 3,112,417, 11-26-63, Cl. 310—90.
- Tamm, Richard F.: *See*—  
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- Tamm, Rudolf: *See*—  
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- Tammixer, Pentti J., to A. A. B. Oy. Method used in the manufacture of galvanic batteries. 3,076,052, 1-29-63, Cl. 136—175.
- Tamny, Simon, to Borg-Warner Corp. Oil well line tensioning indicators. 3,082,733, 3-26-63, Cl. 116—67.
- Tamny, Simon, to Wayne Mfg. Co. Power sweeper broom chamber. 3,093,853, 6-18-63, Cl. 15—83.
- Templen, Jack W., to Sun Oil Co. Flow control devices for flow conductors. 3,079,996, 3-5-63, Cl. 166—115.
- Templen, Jack W., to Otis Engineering Corp. Well tools for plugging a well flow conductor. 3,100,532, 8-13-63, Cl. 166—125.
- Templen, Jack W., to Otis Engineering Corp. Anchoring and sealing device. 3,100,536, 8-13-63, Cl. 166—185.
- Templen, Jack W., to Otis Engineering Corp. Perforator for well flow conductors. 3,111,989, 11-26-63, Cl. 166—55.3.
- Tamuki, Teikichi: *See*—  
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- Tamura, Kihachi, Y. Yoshikawa, I. Ito, and M. Takamizawa, to Shin-Etsu Chemical Industry Co., Ltd. Method for preparing monomethyldichlorosilane. 3,109,014, 10-29-63, Cl. 260—448.2.
- Tamura, Mitsugu. Shoe polishing machine. 3,099,850, 8-6-63, Cl. 15—35.
- Tanabe, Kenichi: *See*—  
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- Tanabe, Kenichi, and Y. Ohno, ¾ to Kurashiki Rayon Co., Ltd., and ¼ to Air Reduction Co. Inc. Preparation of polyvinyl alcohol bodies having improved knot strength. 3,080,207, 3-5-63, Cl. 8—115.5.
- Tanabe, Kenichi, and K. Matsubayashi, ¾ to Kurashiki Rayon Co., Ltd., and ¼ to Air Reduction Co. Inc. Nitrogen-containing polyvinyl alcohol shaped articles. 3,095,257, 6-25-63, Cl. 8—115.5.
- Tanabe, Masato, to Schering Corp. 20-keto-17,21-alkylidenedioxy steroids and processes for their manufacture and transformation. 3,116,289, 12-31-63, Cl. 260—239.55.
- Tanabe Seiyaku Co., Ltd.: *See*—  
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- Tanaka, Katsunobu: *See*—  
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- Tanaka, Kuniyoshi and M. Honjo, to Takeda Pharmaceutical Industries, Ltd. Method for the preparation of adenosine 5'-triphosphate. 3,079,379, 2-26-63, Cl. 260—211.5.
- Tanaka, Masao: *See*—  
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- Tanaka, Tetsuro, and S. Miura, to Murata Mfg. Co., Ltd. Mechanical filter. 3,105,208, 9-24-63, Cl. 333—71.
- Tanaka, Yukio, to To-a Kako Kabushiki Kaisha. Method of quick nitrification in which fluidized particles are employed. 3,096,221, 7-2-63, Cl. 148—20.3.
- Tanaka, Yukio, to To-a Kako Kabushiki Kaisha. Method of cementation in which fluidized carbon power particles are employed. 3,099,589, 7-30-63, Cl. 148—20.3.
- Tănăsescu, Dumitru: *See*—  
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- Tanatex Chemical Corp., The: *See*—  
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- Tanchuk, Nicholas R. Stamp hinge moistener. 3,095,328, 6-25-63, Cl. 118—268.
- Tancig, William J., to Standard Oil Co. Comparison instrument. 3,090,993, 5-28-63, Cl. 18—14.
- Tanczyn, Harry, to Armo Steel Corp. Stainless steel composition. 3,071,460, 1-1-63, Cl. 75—124.
- Tanczyn, Harry, to Armo Steel Corp. Alloy steel and method. 3,083,095, 3-26-63, Cl. 75—125.
- Tandler, William S., and M. Grossman, to The Warner & Swasey Co. Twist measuring apparatus. 3,101,552, 8-27-63, Cl. 33—174.
- Tanenbaum, Joseph. Long load vehicle. 3,087,744, 4-30-63, Cl. 280—404.
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- Tanenbaum, Morris, to Bell Telephone Laboratories, Inc. Uniform N-type silicon. 3,076,732, 2-5-63, Cl. 148—1.5.
- Tanenbaum, Morris, to Bell Telephone Laboratories, Inc. Ferromagnetic crystals. 3,085,981, 4-16-63, Cl. 252—62.5.
- Tang, Hamburg, to Alloys Unlimited Inc. Gold silicon alloy. 3,099,539, 7-30-63, Cl. 29—183.5.
- Tangorra, Louis D., to United States of America, Navy. Map transparency curvature device. 3,103,702, 9-17-63, Cl. 18—19.
- Tanguy, Lewis L., Jr.: *See*—  
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- Tanguy, Lewis L., Jr., to Burroughs Corp. Item transport monitoring system. 3,114,902, 12-17-63, Cl. 340—259.
- Tanimura, Katsuo, S. Kawamura, H. Suzumura, S. Sakakibara, and K. Nagano, to Kurashiki Rayon Co., Ltd. Method of manufacturing polyvinyl alcohol films. 3,080,249, 3-5-63, Cl. 117—9.
- Tanke, Willard H., to Allis-Chalmers Mfg. Co. Implement bearing mounting. 3,111,351, 11-19-63, Cl. 308—181.
- Tankersley, James A., and P. A. Driscoll; said Tankersley assor. to The Bendix Corp. Combination adjuster and reset mechanism. 3,095,064, 6-25-63, Cl. 188—72.
- Tankus, Harry, to Crane Packing Co. Tandem seal. 3,090,627, 5-21-63, Cl. 277—85.
- Tann Corp., The: *See*—  
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- Tann, David, to The Tann Corp. Self-lubricated ball bearing. 3,073,656, 1-15-63, Cl. 308—187.
- Tann, David. Vibrating electric razor. 3,077,663, 2-10-63, Cl. 30—34.
- Tannenberger, Helmuth, to Institut Dr. Ing. Reinhard Straumann A.G. Lubrication of totally enclosed mechanisms. 3,091,917, 6-4-63, Cl. 58—90.
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Cline, Edward T., and Tanner. 3,090,664.  
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- Tanner, David, to E. I. du Pont de Nemours and Co. Nitrogenous condensation polymer containing grafted acid. 3,099,631, 7-30-63, Cl. 260—2.5.



- Tanner, Francis A., Jr.: *See*—  
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- Tanner, Hans, to Georg Fischer Aktiengesellschaft. Pipe cutting device. 3,088,352, 5-7-63, Cl. 82-39.
- Tanner, Herbert G. Coordination compounds and use thereof. 3,093,670, 6-11-63, Cl. 260-431.
- Tanner, Hugh W.: *See*—  
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- Tanner, Maurice C.: *See*—  
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- Tanner, Maurice C., to United Kingdom Atomic Energy Authority. Liquid-liquid contacting apparatus. 3,089,756, 5-14-63, Cl. 23-270.5.
- Tanner, Robert L., to Granger Associates. Low-noise corona discharge devices. 3,106,663, 10-8-63, Cl. 317-2.
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- Tanner, Troy B. Aeration apparatus. 3,080,154, 3-5-63, Cl. 261-30.
- Tansey, Richard G. Single point screw thread cutting tool having means for feeding the tool after successive cuts. 3,088,141, 5-7-63, Cl. 10-101.
- Tansey, Robert P.: *See*—  
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- Tantillo, Alfred, and J. Nelson, to General Bathroom Products Corp. Bathroom cabinet. 3,081,397, 3-12-63, Cl. 240-4.1.
- Tantlinger, Keith W., to Sea-Land Service Inc. Freight containers adapted to be stacked. 3,085,707, 4-16-63, Cl. 220-1.5.
- Tantlinger, Keith W., and H. Locker, to Fruehauf Trailer Co. Longitudinally adjustable trailer suspension. 3,085,816, 4-16-63, Cl. 280-80.
- Tantlinger, Keith W., and G. A. Wooldridge, to Fruehauf Trailer Co. Container tie. 3,086,673, 4-23-63, Cl. 220-1.5.
- Tantlinger, Keith W., and G. Chieger, to Fruehauf Trailer Co. Landing gear. 3,089,711, 5-14-63, Cl. 280-150.5.
- Tantlinger, Keith W., and R. T. Fujioka, to Fruehauf Trailer Co. Automatic container tie. 3,092,282, 6-4-63, Cl. 220-1.5.
- Tantlinger, Keith W., and R. G. Flagan, to Fruehauf Trailer Co. Trailer wheel suspension and landing gear removable as a unit. 3,101,202, 8-20-63, Cl. 280-30.
- Tantlinger, Keith W., R. T. Fujioka, and A. F. Hulverson, to Fruehauf Trailer Co. Separable equalized tandem axle wheel suspension. 3,108,822, 10-29-63, Cl. 280-104.5.
- Tantram, Anthony D. S.: *See*—  
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- Tantram, Anthony D. S., and B. S. Harris, to National Research Development Corp. Fuel cells. 3,101,285, 8-20-63, Cl. 136-120.
- Tanuma, Kazuo. Tool or utensil fastening means. 3,100,057, 8-6-63, Cl. 220-48.
- Tanzberger, Eric W., to Dresser Industries. High pressure centrifugal compressor. 3,105,632, 10-1-63, Cl. 230-130.
- Taormina, Anthony J. Wire brush chain. 3,086,235, 4-23-63, Cl. 15-201.
- Tap, Jan W., to North American Philips Co., Inc. Direct-voltage converter. 3,079,525, 2-26-63, Cl. 321-2.
- Tapas, John C., and I. J. Disson, to Velsicol Chemical Corp. Flame retardant cellular product. 3,098,047, 7-16-63, Cl. 260-2.5.
- Tape, Robert L., to C. B. Harris. Razor blade for hair trimmer. 3,106,020, 10-8-63, Cl. 30-336.
- Taplin, Howard A. Lint removing means for vacuum cleaner nozzles. 3,089,179, 5-14-63, Cl. 15-371.
- Taplin, John F. Rolling seal diaphragm. 3,083,734, 4-2-63, Cl. 137-795.
- Tappan Co., The: *See*—  
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- Tappan, Gene F.: *See*—  
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- Tappan, Peter W., A. C. Vaccaro, and B. R. Kuhl, to Warwick Mfg. Corp. Whistle. 3,103,911, 9-17-63, Cl. 116-137.
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- Tapper, Samuel. Tablet or capsule dispenser. 3,073,433, 1-15-63, Cl. 206-42.
- Tapper, Samuel. Tablet storage case with dispensing control unit. 3,077,261, 2-12-63, Cl. 206-42.
- Taramasso, Marco, and A. Guerra, to Laboratori Riuniti Studi e Ricerche S.p.A. Microsyringe for gas-chromatography. 3,094,155, 6-18-63, Cl. 141-329.
- Taras, Andrew, to International Business Machines Corp. Apparatus for effecting concurrent record, read and checking operations. 3,096,511, 7-2-63, Cl. 340-174.1.
- Tarascon, Jean P. Seat or other articles such as couch, etc. 3,095,238, 6-25-63, Cl. 297-306.
- Tarasevich, Michael, to American Bosch Arma Corp. Composite piezoelectric element. 3,093,760, 6-11-63, Cl. 310-9.1.
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- Tarbox, John P., to Sperry Rand Corp. Wire tier. 3,086,450, 4-23-63, Cl. 100-22.
- Tarbox, Robert H., to Dana Corp. Shift knob switch. 3,073,918, 1-15-63, Cl. 200-6.
- Tarczy-Hornoch, Zoltan, to W. H. Rosenberry. High resolution ring-type counter. 3,105,195, 9-24-63, Cl. 328-43.
- Tardy, Pierre A., M. Bruma, and M. Magat, to Compagnie Francaise de Raffinage and Centre National de la Recherche scientifique (C.N.R.S.). Electro-discharge machining of metals and the like. 3,084,245, 4-9-63, Cl. 219-69.
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- Tariello, Paul J.: *See*—  
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- Tarifa, Carlos S., and J. V. Pedrosa. Hydraulic pumps. 3,093,080, 6-11-63, Cl. 103-5.
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- Tarkington, Terry W., and C. D. Whitt, to Monsanto Chemical Co. Acrylonitrile polymer composition and stabilized with zinc oxalate, zinc acetate, or chromium acetate. 3,088,932, 5-7-63, Cl. 260-45.75.
- Tarkoey, Nikolaus: *See*—  
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- Tarlton, Edward J., and A. F. McKay, to Monsanto Canada Ltd. Arylmethyl isothiocyanates. 3,111,536, 11-19-63, Cl. 260-454.
- Tarrant, James H., and R. B. Anderson, to Farmer Bros. Co. Means for supplying brewing water to coffee urns. 3,074,341, 1-22-63, Cl. 99-305.
- Tarrson, Sidney A., Co.: *See*—  
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- Tarson, Frank A. Spaghetti fork. 3,083,458, 4-2-63, Cl. 30-322.
- Tartter, Arnold: *See*—  
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- Tartter, Arnold, W. Rohland, D. Ludsteck, and R. Schroedel, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. New phthalocyanine dyes. 3,096,340, 7-2-63, Cl. 260-314.5.
- Tarwater, James P., and J. A. Griesemer, to International Business Machines Corp. Method of curing magnetic tape binder comprising butadiene-acrylonitrile and phenolic resin with subatomic radiation. 3,104,983, 9-24-63, Cl. 117-93.31.
- Tasca, Angelo G., to Aerojet-General Corp. Fluid storage vessel. 3,097,768, 7-16-63, Cl. 222-389.
- Taschek, Walter G., to United States of America, Army. Electrode for fuel cell. 3,098,772, 7-23-63, Cl. 136-120.
- Taschinger, Otto, to Vereinigte Leichtmetall-Werke Gesellschaft mit beschränkter Haftung. Method of spot welding light-gage metallic stock. 3,115,572, 12-24-63, Cl. 219-127.
- Tasi, Vasil: *See*—  
Goodell, John D., Ivins, Wistrand, and Tasi. 3,100,090.
- Task Corp., The: *See*—  
Acosta, Allan J. 3,111,142.  
Ward, Howard E. 3,088,083.
- Tasker Instruments Corp.: *See*—  
Daspit, John I., and Thomas. 3,096,433.  
Hollowich, Garrison G., and McCullough. 3,096,512.
- Tasope Co., The: *See*—  
Martz, Charles S. 3,072,133.
- Tassie, Douglas F., to United States of America, Army. Flexible mount for remote-controlled sight. 3,070,886, 1-1-63, Cl. 33-47.
- Tassie, Douglas P., and L. K. Wetzel, to General Electric Co. Turret mount. 3,115,062, 12-24-63, Cl. 89-37.
- Tate, Charles G., Jr. Adjustable toothbrush. 3,110,918, 11-19-63, Cl. 15-167.
- Tate, Clarence R. Magnetic writing materials set. Re. 25,363, 4-2-63, Cl. 35-66.
- Tate, Francis E., and J. H. Wild, to Imperial Chemical Industries Ltd. Polymerization of organic isocyanates with organic hydroxides. 3,108,100, 10-22-63, Cl. 260-248.
- Tate, James D.: *See*—  
Smith, Mainard L., and Tate. 3,085,616.
- Tate, John E., to Monsanto Chemical Co. Apparatus for melt spinning of synthetic filaments. 3,108,322, 10-29-63, Cl. 18-8.
- Tate, Lawrence A., to International Business Machines Corp. Core code translator. 3,086,198, 4-16-63, Cl. 340-347.
- Tate, Orphus O. Slide covers for hay balers. 3,084,619, 4-9-63, Cl. 100-19.
- Tate, Russell S. Pressurized fountain pen. 3,075,497, 1-29-63, Cl. 120-42.4.
- Tate, William H.: *See*—  
Meeker, Jess, and Tate. 3,100,712.
- Tate, William M. Window muntin bar elements. 3,108,336, 10-29-63, Cl. 20-56.
- Tateishi, Arthur K. Audio-amplifier-radio tuner combination and low drain tuner therefor. 3,090,919, 5-21-63, Cl. 325-356.
- Tateishi, Kazuma. Tumbler switch. 3,090,846, 5-21-63, Cl. 200-67.
- Tateishi, Kazuma. Magnetic switch. 3,099,730, 7-30-63, Cl. 200-104.



- Tateishi, Toshio, to Nihon Mishin Seizo Kabushiki Kaisha. Stitch-forming mechanism of a sewing machine. 3,082,722, 3-26-63, Cl. 112-181.
- Tatel, Howard E., deceased; M. Tatel, executrix, 15% to J. H. Sreb, 21.25% to W. L. Abramowitz, 21.25% to W. Epstein, and 15% to J. Zallen. Anti-collision system for ships and planes. 3,091,764, 5-28-63, Cl. 343-101.
- Tatel, Howard E., deceased; M. Tatel, executrix, 15% to J. H. Sreb, 21.25% to W. L. Abramowitz, 21.25% to W. Epstein, and 15% to J. Zallen. Anti-collision system for ships and planes. 3,091,765, 5-28-63, Cl. 343-102.
- Tatel, Molly: *See*—
- Tatel, Howard E. 3,091,764.
- Tatel, Howard E. 3,091,765.
- Tatelman, Harvey J., to Originals By Claire, Inc. Reversible handbag. 3,108,627, 10-29-63, Cl. 150-28.
- Tatge, Robert B., to General Electric Co. Resilient mounting for motor and fan unit. 3,101,889, 8-27-63, Cl. 230-117.
- Tatham, Thomas H., Jr., to General Dynamics Corp. Matrix for a character display tube. 3,111,598, 11-19-63, Cl. 313-86.
- Tatlow, John C.: *See*—
- Buxton, Michael W., and Tatlow. 3,113,976.
- Tatnall, George J., A. F. Scarelli, and G. A. Gimber, to United States of America, Navy. Air-dropped miniature sonobuoy. 3,093,808, 6-11-63, Cl. 340-2.
- Tatone, John. Model airplane fuel and flight timer. 3,074,204, 1-22-63, Cl. 46-78.
- Tatsch, Richard. Method of forming passages through concrete floors, and the like. 3,082,504, 3-26-63, Cl. 25-155.
- Tatsumi, Takeji: *See*—
- Fukita, Eiji, Tatsumi, and Adachi. 3,113,851.
- Tatsukawa, Sueo, K.-I. Kanazawa, T. Araki, K. Nakazawa, A. Miyake, H. Hitomi, J. Ueyanagi, M. Shibata, F. Hiraiwa, K. Tsuchiya, H. Iwasaki, and T. Yamaguchi, to Takeda Pharmaceutical Industries, Ltd. L-6-hydroxy- $\gamma$ -oxonorvaline. 3,112,341, 11-26-63, Cl. 260-534.
- Tatter, Charles W.: *See*—
- Noznick, Peter P., and Tatter. 3,098,748.
- Noznick, Peter P., Tatter, and Obenauf. 3,098,746.
- Tatusko, Philip A.: *See*—
- Bock, Jorgen, Hartman, and Tatusko. 3,113,901.
- Taub, Alvin, M. M. Feldman, and C. E. Le Bell, to General Electric Co. Adjustable jet propulsion nozzle with secondary air flow control. 3,098,352, 7-23-63, Cl. 60-35.6.
- Taub, Bernard, to Allied Chemical Corp. Esters of N-carboalkoxy-E-aminocaproic acid. 3,078,301, 2-19-63, Cl. 260-482.
- Taub, David: *See*—
- Wendler, Norman L., and Taub. 3,084,175.
- Taub, David, N. L. Wendler, and C.-H. Kuo, to Merck & Co., Inc. Hydrolysis of 3-semicarbazido steroids. 3,079,409, 2-26-63, Cl. 260-397.45.
- Taub, David, N. L. Wendler, and H. L. Slates, to Merck & Co., Inc. 16 $\beta$ -alkyl steroids and processes. 3,116,303, 12-31-63, Cl. 260-397.45.
- Taub, David, and N. L. Wendler, to Merck & Co., Inc. 15-alkyl steroids. 3,116,304, 12-31-63, Cl. 260-397.45.
- Taub, Robert S. Ash tray. 3,101,753, 8-27-63, Cl. 141-248.
- Taub, Ronald H., to Creative Displays Inc. Display sign fixture. 3,071,880, 1-8-63, Cl. 40-11.
- Tauber, Andrew G.: *See*—
- Kolenko, Evgeny A., Tauber, and Czerbina. 3,097,425.
- Taubman, Samuel. Bathtub enclosure. 3,074,077, 1-22-63, Cl. 4-149.
- Taubman, Samuel. Rolling panel closure means. 3,075,255, 2-26-63, Cl. 20-19.
- Taubner, Fred R.: *See*—
- Homer, Horace H., and Taubner. 3,097,103.
- Tauch, Ernest J., to E. I. du Pont de Nemours and Co. Process for preparing aqueous silicate solutions. 3,090,679, 5-21-63, Cl. 23-312.
- Taut, James E., to International Business Machines Corp. Single transistor magnetic multivibrator amplifier. 3,114,115, 12-10-63, Cl. 331-113.
- Tausch, Gilbert H., to Camco, Inc. Safety valve for wells. 3,078,923, 2-26-63, Cl. 166-224.
- Tausch, Harry W., to The Goodyear Tire & Rubber Co. Heat treatment of a blend of butadiene-acrylonitrile copolymer and vinyl chloride polymer latices and resulting coalesced latex product. 3,097,180, 7-9-63, Cl. 260-29.7.
- Tauschinski, Stephan, and F. Woyrsch, to J. Pfrimmer & Co. Containers for medicinal liquids. 3,081,002, 3-12-63, Cl. 222-105.
- Tausner, Charles H. Punching apparatus. 3,112,666, 12-3-63, Cl. 83-133.
- Tausig, Fred: *See*—
- Stoudt, Thomas H., and Tausig. 3,113,077.
- Tausig, Frederick, to Arundale Mfg. Co. Screen. 3,107,991, 10-22-63, Cl. 55-511.
- Tautner, Erwin, and T. H. J. de Laat, to North American Philips Co., Inc. Circuit arrangements for frequency modulation. 3,088,080, 4-30-63, Cl. 332-24.
- Tauty, René L., to Etudes et Fabrications Aeronautiques. Quick-release fastening device for a parachute harness. 3,115,321, 12-24-63, Cl. 244-151.
- Tavis, John R., to Edcliff Instruments. Pressure adapter for pressure transducers. 3,106,095, 10-8-63, Cl. 73-407.
- Tawney, Pliny O., to United States Rubber Co. Bonding butyl rubber to nylon. 3,111,448, 11-19-63, Cl. 161-92.
- Tax, Edward J. Wild fowl call. 3,100,948, 8-20-63, Cl. 46-189.
- Tax, Hans, and H. Biedermann; said Biedermann assor. to said Tax. Vehicle for movement on curved tracks. 3,093,091, 6-11-63, Cl. 105-215.
- Tay, John. Audible fish lures. 3,112,576, 12-3-63, Cl. 43-42.14.
- Tayco Development, Inc.: *See*—
- Taylor, Paul H. 3,115,003.
- Taylor, Frederick M., to Imperial Chemical Industries Ltd. Iron hydroxide complexes and process for their preparation. 3,103,528, 9-10-63, Cl. 260-439.
- Taylor, Frederick M., and J. Dewing, to Imperial Chemical Industries Ltd. Production of boron compounds. 3,103,417, 9-10-63, Cl. 23-204.
- Taylor, Alan F.: *See*—
- Stockdale, James T., and Taylor. 3,079,322.
- Taylor, Albert J.: *See*—
- McNeese, Robert A., Jr., and Taylor. 3,116,106.
- Taylor, Alton R.: *See*—
- Brandon, Frank B., and Taylor. 3,105,012.
- Lo Grippo, Gerald A., Timm, and Taylor. 3,076,748.
- Taylor, Anthony J., to Babcock & Wilcox Ltd. Nuclear reactors. 3,075,910, 1-29-63, Cl. 204-193.2.
- Taylor, Anthony J., to Babcock & Wilcox Ltd. Heat exchanger construction. 3,104,653, 9-24-63, Cl. 122-32.
- Taylor, Arthur L. Domestic carving and slicing knives or cutters. 3,103,745, 9-17-63, Cl. 30-283.
- Taylor, Arthur S.: *See*—
- Cooper, Murray S., Taylor, and Place. 3,074,403.
- Taylor, Arthur S., and W. P. Konazewski, to American Cyanamid Co. Machine for slitting tissues. 3,076,365, 2-5-63, Cl. 83-63.
- Taylor, Athos J. Broaching machine having means for laterally positioning a plurality of punch mechanisms. 3,089,374, 5-14-63, Cl. 83-560.
- Taylor, Bert S., to FMC Corp. Veneer finishing method. 3,108,030, 10-22-63, Cl. 156-332.
- Taylor, Bert S., J. L. Thomas, and C. A. Heiberger, to FMC Corp. New allylic resin compositions. 3,093,619, 6-11-63, Cl. 260-78.5.
- Taylor, Billy W., to Fisher Scientific Co. Apparatus for blood gas analysis. 3,111,390, 11-19-63, Cl. 23-253.
- Taylor, Billy W., and A. A. Poll, Jr., to Fisher Scientific Co. Apparatus for gas analysis. 3,097,518, 7-16-63, Cl. 73-23.
- Taylor, Charles B., to Continental Can Co., Inc. Gravure printing surface. 3,093,071, 6-11-63, Cl. 101-401.
- Taylor, Charles P., to Ideal Stencil Machine Co. Tube marking machine. 3,082,686, 3-26-63, Cl. 101-37.
- Taylor, Charles H. Sweeper. 3,097,383, 7-16-63, Cl. 15-41.
- Taylor, Charles W., to Taylor, Pallister & Co. Ltd. Bollards. 3,073,276, 1-15-63, Cl. 114-230.
- Taylor, Charles W., to Taylor, Pallister & Co. Ltd. Fairleads for cables and ropes. 3,112,097, 11-26-63, Cl. 254-190.
- Taylor, Charles W., Jr., and J. J. Wadlinger, to The Goodyear Tire & Rubber Co. Method and apparatus for laminating. 3,081,212, 3-12-63, Cl. 156-164.
- Taylor, Charles W., Jr., and K. N. Remita, to The Goodyear Tire & Rubber Co. Wood products and method. 3,085,920, 4-16-63, Cl. 154-43.
- Taylor, Clarence R. Lead sharpening device. 3,099,253, 7-30-63, Cl. 120-94.
- Taylor, Clarence R. Dispensing device having shifted top portion. 3,099,372, 7-30-63, Cl. 222-490.
- Taylor, Clement F., to General Electric Co. Frequency compensated mass flowmeter. 3,084,544, 4-9-63, Cl. 73-194.
- Taylor, Clement F., J. R. Macintyre, and H. D. Oakley, to General Electric Co. Frequency compensated mass flowmeter. 3,110,180, 11-12-63, Cl. 73-194.
- Taylor, Clyde E.: *See*—
- Post, Richard F., and Taylor. 3,090,894.
- Post, Richard F., and Taylor. 3,100,730.
- Taylor Corp.: *See*—
- Hildebrand, Harry L. 3,112,084.
- Taylor, Dana L. Helicopter control system. 3,108,641, 10-29-63, Cl. 170-160.16.
- Taylor, Daniel G., to Minneapolis-Honeywell Regulator Co. Velocity sensing apparatus. 3,094,693, 6-18-63, Cl. 343-7.
- Taylor, Dennis G.: *See*—
- Favill, William A., and Taylor. 3,075,383.
- Taylor, Don A. Measuring tape tension holder. 3,100,941, 8-20-63, Cl. 33-189.
- Taylor, Don A. Detachable ventilating seat cover for automobile seats. 3,101,037, 8-20-63, Cl. 98-2.
- Taylor, Don A. Ventilating hood for seat cushions. 3,101,660, 8-27-63, Cl. 98-2.
- Taylor, Don A. Finger grip pad for bowling balls. 3,113,775, 12-10-63, Cl. 273-63.
- Taylor, Donald O., to Scovill Mfg. Co. Top stops for zipper fasteners. 3,086,269, 4-23-63, Cl. 24-205.11.
- Taylor, Douglas C.: *See*—
- Johnson, Paul B. 3,115,849.
- Taylor, Edward L., to KVP Sutherland Paper Co. Watermarked vegetable parchment. 3,076,689, 2-5-63, Cl. 8-119.
- Taylor, Edward L., to KVP Sutherland Paper Co. Parchmentized paper. 3,108,847, 10-29-63, Cl. 8-119.
- Taylor, Edwin A.: *See*—
- Moore, Donald C., and Taylor. 3,083,448.
- Taylor, Elmer A., Jr., to Daystrom Inc. Display chart mechanism. 3,077,043, 2-12-63, Cl. 40-95.
- Taylor, Elmore C., to FMC Corp. Fluid seal. 3,112,113, 11-26-63, Cl. 277-95.



- Taylor, Ernest A., Jr., to Monsanto Chemical Co. Transferring and cutting apparatus. 3,083,923, 4-2-63, Cl. 242-19.
- Taylor, Ernest A., Jr., to Monsanto Chemical Co. Electrical apparatus for producing a variable frequency. 3,093,787, 6-11-63, Cl. 321-61.
- Taylor, Ernest A., Jr., to Monsanto Chemical Co. Apparatus for texturizing filaments. 3,113,366, 12-10-63, Cl. 28-1.
- Taylor, Ewart W. E.: See—  
Brockbank, Robert A., Piggott, Clarke, Jury, and Taylor. 3,105,676.
- Taylor, Floyd E.: See—  
Mason, Roy C. 3,082,563.
- Taylor, Francis A., and G. S. Flanders. Well packing devices. 3,082,824, 3-26-63, Cl. 166-134.
- Taylor, Frank F., Co., The: See—  
Gill, Donald W. 3,083,050.
- Taylor, Frank W., to Westinghouse Electric Corp. Apparatus for dispensing articles alternately from two adjacent columns. 3,107,030, 10-15-63, Cl. 221-116.
- Taylor, Frederick J. D., to Her Majesty's Postmaster General. Automatically actuated gate cut-off valve, responsive to pressure drop, with gate sealing means, useful in pressurized waveguides. 3,089,511, 5-14-63, Cl. 137-456.
- Taylor, Geoffrey I., K. C. Logan, and J. Mardon, to Anglo Paper Products Ltd. Wet end drainage system for paper machines. 3,079,990, 3-5-63, Cl. 162-350.
- Taylor, George A.: See—  
Anderberg, Axel W., Reid, and Taylor. 3,085,797.
- Taylor, George H., Jr. Acoustical enclosure and low frequency sound amplifier for a loudspeaker. 3,097,720, 7-16-63, Cl. 181-31.
- Taylor, George W.: See—  
Goodings, Eric P., O'Neill, and Taylor. 3,099,515.  
Goodings, Eric P., Taylor, and O'Neill. 3,082,053.
- Taylor, George W.,  $\frac{1}{2}$  to W. F. Wessendorf, Jr. Control system for warp knitting machine. 3,098,367, 7-23-63, Cl. 66-164.
- Taylor, Glenn. Saboted-projectile, obturator. 3,111,902, 11-26-63, Cl. 102-94.
- Taylor, Halsey W., Co., The: See—  
Freer, Clyde P. 3,086,373.
- Taylor, Harvey C., to Dorr Sales & Engineering Co., Inc. Printing cylinder with improved means for securing flexible dies thereto. 3,103,169, 9-10-63, Cl. 101-415.1.
- Taylor, Herbert E., G. C. Rannenberg, and M. R. Macklin, to United Aircraft Corp. Liquid vapor separator. 3,107,988, 10-22-63, Cl. 55-311.
- Taylor, Howard N. Simulated golf cup. 3,086,779, 4-23-63, Cl. 273-177.
- Taylor Instrument Companies: See—  
Cefaly, Ralph. 3,109,508.
- Taylor, Jack A.: See—  
Vadus, Joseph R., and Taylor. 3,080,555.
- Taylor, James M.: See—  
Farris, Ralph J., and Taylor. 3,092,188.
- Taylor, James S. Support for gas and oil strings. 3,094,852, 6-25-63, Cl. 175-200.
- Taylor, Jennie M.: See—  
Allan, Charles G. 3,106,335.
- Taylor, John, to Columbia Products Co. High-Q loading coil having plural interleaved paralleled windings in combination with axial antenna. 3,099,010, 7-23-63, Cl. 343-749.
- Taylor, John A., and H. R. Tuck, to General Motors Corp. Combination clothes washer and drier. 3,091,955, 6-4-63, Cl. 68-19.
- Taylor, John A. M. Device for measuring, indicating and adding time increments. 3,078,413, 2-19-63, Cl. 324-68.
- Taylor, John H.: See—  
Hauser, Richard, and Taylor. 3,072,765.
- Taylor, John J.: See—  
Ryan, Edmund C., and Taylor. 3,076,868.
- Taylor, John R., to General Motors Corp. Parts feeding device. 3,099,359, 7-30-63, Cl. 214-8.
- Taylor, John S., to The Budd Co. Method of stress-relieving free-sintered polytetrafluoroethylene. 3,076,233, 2-5-63, Cl. 18-55.
- Taylor, John S., to The Budd Co. Suction box cover for Fourdrinier machines. 3,096,235, 7-2-63, Cl. 162-374.
- Taylor, John S., to Tifcon Co. Tobacco curing apparatus. 3,109,637, 11-5-63, Cl. 263-19.
- Taylor, John W., to United States of America, Navy. Ionizing radiation detector of the scintillation photoconductive type. 3,101,408, 8-20-63, Cl. 250-71.5.
- Taylor, Keith M., to Monsanto Chemical Co. Preparation of chloroacrolein. 3,100,227, 8-6-63, Cl. 260-601.
- Taylor, Keith M., to Monsanto Chemical Co. Preparation of  $\alpha$ -chloroacrylonitrile. 3,114,765, 12-17-63, Cl. 260-465.7.
- Taylor, Kelley G., to A. E. Staley Mfg. Co. Method of preparing a starch carboxyl alkyl ether derivative. 3,071,573, 1-1-63, Cl. 260-233.3.
- Taylor, Kelley G., to A. E. Staley Mfg. Co. Modified starch product for coating cellulosic webs. 3,081,199, 3-12-63, Cl. 117-156.
- Taylor, Kenneth M.: See—  
Lenie, Camille A., and Taylor. 3,108,887.
- Taylor, Kenneth M., to The Carborundum Co. Bearing combination. 3,097,879, 7-16-63, Cl. 308-188.
- Taylor, Kirman, and C. E. Miltstead, Jr., to Diamond Alkali Co. Chromic chloride complexes. 3,076,833, 2-5-63, Cl. 260-438.
- Taylor, La Vern L.: See—  
Keatley, Lawrence E. 3,115,212.
- Taylor, Le Roy M. Game apparatus. 3,091,461, 5-28-63, Cl. 273-95.
- Taylor, Leta E.: See—  
Johnson, Paul B. 3,115,849.
- Taylor, Leta S.: See—  
Johnson, Paul B. 3,115,849.
- Taylor, Louis H., to The Youngstown Research and Development Co. Apparatus and method for detecting and compensating for roll deflection on a rolling mill. 3,077,800, 2-19-63, Cl. 80-32.
- Taylor, Max W. Underwater breathing apparatus. 3,082,766, 3-26-63, Cl. 128-145.
- Taylor, Milford J., to Erving Paper Mills. Dispenser for paper products. 3,071,289, 1-1-63, Cl. 221-59.
- Taylor, Milford J., to Erving Paper Mills. Dispenser for paper products. 3,071,290, 1-1-63, Cl. 221-59.
- Taylor, Norman W., to Harris-Intertype Corp. Sheet separating and lifting sucker. 3,076,648, 2-5-63, Cl. 271-31.
- Taylor, Olin C., to Barter Laboratories, Inc. Dispensing closure. 3,096,915, 7-9-63, Cl. 222-495.
- Taylor, Pallister & Co. Ltd.: See—  
Taylor, Charles W. 3,073,276.  
Taylor, Charles W. 3,112,097.
- Taylor, Paul E.: See—  
Bookout, Charles C., and Taylor. 3,085,645.
- Taylor, Paul H., to Tayco Development, Inc. Accumulator for vehicle suspension. 3,115,003, 12-24-63, Cl. 60-23.
- Taylor, Ralph E., to United States of America, Army. Thyatron firing circuit. 3,088,410, 5-7-63, Cl. 102-70.2.
- Taylor, Ray D.: See—  
Morris, Roger E., and Taylor. 3,112,286.
- Taylor, Raymond G., Jr., to Borg-Warner Corp. Hinged casing protector transfer sleeve. 3,099,877, 8-6-63, Cl. 29-236.
- Taylor, Raymond L.: See—  
Haring, Horace E., and Taylor. 3,093,883.
- Taylor-Reed Corp., The: See—  
Reed, Charles M. D. 3,082,906.
- Taylor, Richard E.: See—  
Hickman, Carl V., Taylor, Butterworth, Miller, Young, and Powell. 3,075,434.
- Taylor, Richard L.: See—  
Gray, Edward E., Pappas, and Taylor. 3,113,989.
- Taylor, Robert B., to Rocket Pogo Stick Co. Pogo stick. 3,074,715, 1-22-63, Cl. 272-57.
- Taylor, Robert B., and R. G. Walker, to H. & A. Selmer, Inc. Apparatus for and method of testing wind instruments for leakage. 3,101,607, 8-27-63, Cl. 73-40.
- Taylor, Robert C. Rural mailbox. 3,081,023, 3-12-63, Cl. 232-24.
- Taylor, Robert S. Heat placement. 3,094,301, 6-18-63, Cl. 244-134.
- Taylor, Roger K., to W. R. Grace & Co. Trap for mercury retention. 3,107,534, 10-22-63, Cl. 73-401.
- Taylor, Roger K., to W. R. Grace & Co. Apparatus for maintaining uniform humidity. 3,110,442, 11-12-63, Cl. 236-44.
- Taylor, S Blackwell. Hydraulic windshield wiper and washer. 3,114,168, 12-17-63, Cl. 15-250.02.
- Taylor, Samuel K.: See—  
Cool, Kenneth A., and Taylor. 3,104,146.
- Taylor, Santford G.: See—  
Allan, Charles G. 3,106,335.
- Taylor, Smith & Taylor Co.: See—  
Elliott, Walter L. 3,074,138.
- Taylor, Taylor & Hobson: See—  
Adams, John R. 3,074,176.  
Cook, Gordon H. 3,081,671.
- Rawstron, George O. 3,072,014.
- Rawstron, George O. 3,079,739.
- Rawstron, George O., and Reason. 3,079,731.
- Rawstron, George O., and Reason. 3,079,732.
- Taylor, Thomas D., deceased, by G. Brueggjenjohann, executrix, to Union Special Machine Co. Thread control mechanism for chainstitch blindstitch machines. 3,099,236, 7-30-63, Cl. 112-176.
- Taylor, Thomas D., deceased, by G. Brueggjenjohann, executrix, to Union Special Machine Co. Blindstitch sewing machine with eccentric mounting for work support. 3,100,468, 8-13-63, Cl. 112-178.
- Taylor, Thomas D., deceased, by G. Brueggjenjohann, executrix, to Union Special Machine Co. Blindstitch sewing machine with selectable node former. 3,105,450, 10-1-63, Cl. 112-178.
- Taylor, Thomas I., to Isomet Corp. Electrolytic production of O from Co. 3,079,237, 2-26-63, Cl. 23-209.5.
- Taylor, Thomas I., to Isomet Corp. Reversed fuel cell and oxygen generator. 3,085,053, 4-9-63, Cl. 204-60.
- Taylor, Thomas I., to Isomet Corp. Production of O<sub>2</sub> from CO<sub>2</sub> by electric arc or radiant energy. 3,113,086, 12-3-63, Cl. 204-164.
- Taylor, Thomas & Sons, Inc.: See—  
Yuryan, Joseph B. 3,082,808.
- Taylor, Walter J. Handkerchief pocket formed with folded corner portion thereof. 3,110,334, 11-12-63, Cl. 150-37.
- Taylor, Walter P., Jr. Hand winder for flexible material. 3,096,040, 7-2-63, Cl. 242-85.1.
- Taylor, Warren C.: See—  
Altice, Maryland V., Waldin, and Taylor. 3,074,286.
- Taylor, Wilfred K., to International Business Machines Corp. Optimizing automatic control servosystem. 3,096,471, 7-2-63, Cl. 318-448.



- Taylor, William C., to Owens-Corning Fiberglas Corp. Thermal insulating materials and method of making. 3,116,158, 12-31-63, Cl. 106-120.
- Taylor, William E., to United States of America, Air Force. Pivot support for miniature floated units. 3,072,446, 1-8-63, Cl. 308-59.
- Taylor, William E., to Motorola, Inc. Transistor. 3,087,098, 4-23-63, Cl. 317-234.
- Taylor, William E., to American Can Co. Can package. 3,113,668, 12-10-63, Cl. 206-47.
- Taylor-Wilson Mfg. Co.: See—  
McConnell, William M. 3,095,729.
- Taylor-Winfield Corp., The: See—  
Cooper, Joseph H., and Seeloff. 3,088,020.  
Jones, Raymond C., and Woodward. 3,102,189.  
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- Taylor, Winfield P., and L. A. Tillman, to J. P. Stevens & Co., Inc. Intermittent control apparatus. 3,091,909, 6-4-63, Cl. 57-34.
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Bailey, William D. 3,079,682.  
 Dorst, Richard W. 3,109,407.  
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 Kubilos, Charles A. 3,109,606.  
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Thaeter, Hans, to Atlas-Werke Aktiengesellschaft. Method and apparatus for operating loading equipment for ships. 3,106,300, 10-8-63, Cl. 212-58.

Thal, Bernard. Helicopter with central airfoil. 3,081,963, 3-19-63, Cl. 244-6.

Thaler, Anton, and A. Siebert, to Gebrueder Buehler. Holding device for scraper blades of roller mills. 3,097,390, 7-16-63, Cl. 15-256.51.

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- Thaler, Samuel, to Hughes Aircraft Co. Amplitude ratio detector circuit. 3,072,857, 1-8-63, Cl. 329-130.
- Thallner, Karl A., to I-T-E Circuit Breaker Co. Automatic high speed grounding switch. 3,089,006, 5-7-63, Cl. 200-48.
- Thames, Francis C.: *See*—  
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- Thames, Pauline: *See*—  
Zihlman, Frederick A., Bernstein, and Thames. 3,116,190.
- Thamme, Eric P. Discharge controlled hydraulic classifier. 3,077,265, 2-12-63, Cl. 209-158.
- Thaning, Neils O. Valves for the control of fluid flow. 3,095,904, 7-2-63, Cl. 137-625.28.
- Thannhauser, Fred G. Projection means. 3,072,015, 1-8-63, Cl. 88-27.
- 't Hart, W. C., & Zn. Instrument-en Apparatenfabriek N.V.: *See*—  
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- Thatcher, Chester R. Meter run heater. 3,097,667, 7-16-63, Cl. 138-32.
- Thatcher, Donald N.: *See*—  
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- Thaw, Norman L. Paper securement device. 3,108,823, 10-29-63, Cl. 281-25.
- Thaxton, Bernard E. Window mounted ventilator. 3,083,630, 4-2-63, Cl. 98-2.
- Thaxton, Green O., 50% to Mary C. Thaxton. Polygonal electric lighting dining table. 3,116,088, 12-31-63, Cl. 297-157.
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- Thayer, Frederick D., Jr.: *See*—  
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- Thayer, Helen I., to Gulf Research & Development Co. Fuel oil additives and compositions. 3,115,398, 12-24-63, Cl. 44-66.
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- Thayer, Julius A. Portable log debarking machine. 3,093,170, 6-11-63, Cl. 144-208.
- Theberge, Lionel J. Vehicle door receptacle. 3,081,126, 3-12-63, Cl. 296-37.
- Theenhausen, Heinrich, and W. Siebrasse, to Anker-Phoenix Nähmaschinen A.G. Zigzag sewing machine with control device for producing composite enclosed-area stitch patterns. 3,083,657, 4-2-63, Cl. 112-158.
- Theilemann, Horst A., to Agfa Aktiengesellschaft. Protective coatings for photographic films. 3,079,837, 3-5-63, Cl. 88-19.5.
- Theilemann, Horst A. Film splice tape. 3,108,925, 10-29-63, Cl. 161-231.
- Theilheimer, Werner K., to United Aircraft Corp. Method and apparatus for compensating for eccentricity. 3,096,639, 7-9-63, Cl. 73-1.
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- Theimer, Oscar. Turbines. 3,091,429, 5-28-63, Cl. 253-39.15.
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- Theisen, Paul, to Telefunken G.m.b.H. Protective circuit for cathode ray tube. 3,112,425, 11-26-63, Cl. 315-30.
- Theisen, Vincent A., to Diversified Products, Inc. Amusement and educational device. 3,115,344, 12-24-63, Cl. 273-116.
- Thelen, Herbert A. Instructional device. 3,106,027, 10-8-63, Cl. 35-9.
- Thelen, Zeno J. Pelt fleshing machines. 3,081,615, 3-19-63, Cl. 69-46.
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- Theobald, Walter, to Siemens Siegener Maschinenbau G.m.b.H., Firma. Hydraulic system providing successive application of force to shear means. 3,081,659, 3-19-63, Cl. 83-554.
- Theodore, Charles, to Ling-Temco Vought, Inc. High power pulse type modulator employing vacuum tube to divert current for ignition deionization. 3,078,418, 2-19-63, Cl. 328-67.
- Theodore, David T., to The Dore Development Co. Wire feeding mechanism. 3,109,571, 11-5-63, Cl. 226-167.
- Theodore, Michael J., to United States of America, Navy. Cargo handling device. 3,088,608, 5-7-63, Cl. 214-77.
- Theodoseau, Nicholas, to International Business Machines Corp. Superconductive solderless connector. 3,111,352, 11-19-63, Cl. 339-30.
- Theodosiou, Emmanuel, to Cutting Room Appliances Corp. High speed cloth laying machine. 3,112,107, 11-26-63, Cl. 270-31.
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- Theriot, Eugene J., to Bell Telephone Laboratories, Inc. Strip line wave guide coupler. 3,094,677, 6-18-63, Cl. 333-10.
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- Thesz, Adam. Fishing poles. 3,091,048, 5-28-63, Cl. 43-15.
- Theuerer, Henry C., to Bell Telephone Laboratories, Inc. Preparation of purified semiconductor material. 3,071,444, 1-1-63, Cl. 23-223.5.
- Theuerkauf, Fred, to The Pipe Machinery Co. Lead gauge device. 3,082,538, 3-26-63, Cl. 33-199.
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- Thevenaz, Louis, to Thorens S.A. Actuating mechanism for the friction wheel of a pyrophoric lighter. 3,074,260, 1-22-63, Cl. 67-7.1.
- Thew Shovel Co., The: *See*—  
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- Kuhl, Bernard A. 3,076,571.
- Noll, George C., and Wesebaum. 3,092,260.
- Noll, George C., and Zook. 3,109,542.
- Vos, Henry J. 3,109,248.
- Thews, Richard F., to Minneapolis-Honeywell Regulator Co. Enabling device for collision warning apparatus. 3,113,211, 12-3-63, Cl. 250-83.3.
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- Thibault, Alpheé. Fruit picker. 3,083,520, 4-2-63, Cl. 56-334.
- Thibert, Joseph A. Building construction. 3,107,755, 10-22-63, Cl. 189-34.
- Thibodeau, Wilfred E. Sonic vibrator. 3,095,942, 7-2-63, Cl. 181-32.
- Thibodeaux, Clifford. Concrete mixer. 3,081,983, 3-19-63, Cl. 259-178.
- Thiebes, Gunter, to Westfälische Verlagsanstalt Thiebes & Co. Picture book. 3,094,791, 6-25-63, Cl. 35-26.
- Thiel, Alfons W. Apparatus for the production of shaped plastic workpieces. 3,115,677, 12-31-63, Cl. 18-19.



- Thiel, Horst, to Battenfeld, Gebr. Firma. Closure for the dye cylinder of die-casting machines for thermoplastic material. 3,108,326, 10-29-63, Cl. 18-30.
- Thiel, Otto, to Midwest Supply and Mfg. Co. Reciprocating buffing spindle structure. 3,101,573, 8-27-63, Cl. 51-34.
- Thiel, Walter E. Crane boom load height, radius, angle, and elevation indicator. 3,073,280, 1-15-63, Cl. 116-124.
- Thiele, Berthold, W. Fey, and S. Hendel, to Losenhausenwerk Dusseldorfer Maschinenbau A.G. Hydraulic load device. 3,091,928, 6-4-63, Cl. 60-52.
- Thiele, Fred W., to Babson Bros. Co. Loose material distributing apparatus. 3,074,534, 1-22-63, Cl. 198-66.
- Thiele, Hans, to Spinnfaser Aktiengesellschaft. Lift truck attachments. 3,090,494, 5-21-63, Cl. 212-13.
- Thiele, Heinz, and R. Hochstein, to Zeiss Ikon Aktiengesellschaft. Camera for producing motion pictures and individual pictures. 3,094,033, 6-18-63, Cl. 88-17.
- Thiele, Norbert J. Grass trimmer. 3,074,220, 1-22-63, Cl. 56-25.4.
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- Thielking, Raymond H., to Schenectady Chemicals, Inc. Insulating varnish including an oil-modified alkyl resin and an oil soluble phenol-formaldehyde resin. 3,080,331, 3-5-63, Cl. 260-20.
- Thielman, Russell F., to Thompson Ramo Wooldridge Inc. Variable expansion ratio nozzle. 3,079,752, 3-5-63, Cl. 60-35.6.
- Thielman, Russell F., to Thompson Ramo Wooldridge Inc. Rocket motor and control system. 3,098,625, 7-23-63, Cl. 244-4.
- Thielman, Russell F., to Thompson Ramo Wooldridge Inc. Attitude control system. 3,116,038, 12-31-63, Cl. 244-78.
- Thielsch, Helmut J., to Grinnell Corp. Inert gas sealer. 3,095,844, 7-2-63, Cl. 113-111.
- Thiem, Darold W., and G. W. Gottschalk. Hot top bottom ring and method for forming same. 3,110,942, 11-19-63, Cl. 22-147.
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- Thieme, Julius F., to General Binding Corp. Slide lock for a binding element. 3,077,888, 2-19-63, Cl. 129-24.
- Thieme, Siegfried, to Electroacoustic Gesellschaft mit beschränkter Haftung. Speed-regulating system for direct-current commutator motors. 3,079,523, 2-26-63, Cl. 318-309.
- Thiermann, William E. Pole setter. 3,112,037, 11-26-63, Cl. 214-3.
- Thierry, Rene: *See—*  
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- Thies, Karl, H. Quitmann, U. Zboralski, and K. Gotzmann. Montimocillonite adsorption of fibrin from bovine blood plasma. 3,083,194, 3-26-63, Cl. 260-112.
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- Thiessen, Henry F. Replaceable heel-lifts. 3,109,247, 11-5-63, Cl. 36-42.
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- Cohen, Murray S., and Pearl. 3,098,877.
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- Collier, Joseph B. 3,115,010.
- Comer, Robert C. 3,106,060.
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- Gobran, Riad H., Tobolsky, and Colodny. 3,114,734.
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- Mann, David J., Perry, and Dudak. 3,083,235.
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- Monroe, Joseph W., and Neal. 3,085,422.
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- Schaeffer, Paul F., and Perry. 3,086,895.
- Sherman, Arthur, Ferris, and Youngquist. 3,094,837.
- Wood, Memnon J. 3,092,962.
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- Thlrsk, James H., to Amchem Products, Inc. Method of applying a chromate conversion coating to the surface of aluminum. 3,098,775, 7-23-63, Cl. 148-6.2.
- 3435 Inc.: *See—*  
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- Thode, Lester. Liner for window and like openings. 3,070,854, 1-1-63, Cl. 20-56.5.
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- Tholstrup, Clarence E., to Eastman Kodak Co. Poly- $\alpha$ -olefin compositions containing dialkyl-3,3'-thiodipropionates and a nitrogen containing compound. 3,072,603, 1-8-63, Cl. 260-45.85.
- Tholstrup, Clarence E., to Eastman Kodak Co. Poly- $\alpha$ -olefin compositions containing dialkyl-3,3'-thiodipropionates and a nitrogen containing compound. 3,072,604, 1-8-63, Cl. 260-45.85.
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- Thoma Co.: *See—*  
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- Thoma, Hans. Piston type hydrostatic power units. 3,106,138, 10-8-63, Cl. 92-156.
- Thoma, Hans J. Transmission with hydrostatic control. 3,095,757, 7-2-63, Cl. 74-687.
- Thoma, Heinrich: *See—*  
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- Thoma, Jean U. Axial piston hydraulic units. 3,079,870, 3-5-63, Cl. 103-162.
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- Thoma, Oswald, and E. H. Bowers, to Dowty Hydraulic Units Ltd. Hydraulic apparatus. 3,091,930, 6-4-63, Cl. 60-53.
- Thoma, Oswald, and E. V. Ward, to Dowty Hydraulic Units Ltd. Hydraulic apparatus. 3,106,108, 10-8-63, Cl. 74-733.
- Thoma, Richard W.: *See—*  
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- Thoma, Wilhelm, and H. Genth, to Farbenfabriken Bayer Aktiengesellschaft. Preservatives consisting of mixed anhydrides of alkylcarbonic acids. 3,097,996, 7-16-63, Cl. 167-22.
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- Seeger, Ernst, and Kottler. 3,109,845.
- Thomas, Klaus, and Jerchel. 3,101,342.
- Thoman, Joseph K.: *See—*  
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- Thoman, Richard E.: *See—*  
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- Thomander, Veron S., to Westinghouse Electric Corp. Adjustment for calibration of instrument. 3,074,016, 1-15-63, Cl. 324-147.
- Thomander, Veron S., to Westinghouse Electric Corp. Filar suspended instrument movement. 3,111,623, 11-19-63, Cl. 324-154.
- Thomann, Robert, Jr.: *See—*  
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- Thomas, A. G.,  $\frac{1}{2}$  to T. Thomas. Rotary bone file. 3,101,546, 8-27-63, Cl. 32-48.
- Thomas, Alan J.: *See—*  
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- Thomas, Albert G., to Industrial Controls Corp. Step motor and controls. 3,089,069, 5-7-63, Cl. 318-138.
- Thomas, Alexander: *See—*  
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- Thomas, Alexander, to Laboratory For Electronics, Inc. Apparatus for providing audible indication of radioactivity. 3,114,837, 12-17-63, Cl. 250-83.3.
- Thomas, Alfred B.: *See—*  
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- Thomas, Arba H.: *See—*  
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- Thomas, Benjamin F. Trailer frame. 3,092,396, 6-4-63, Cl. 280-106.
- Thomas & Betts Co.: *See—*  
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- Hedstrom, Lars. 3,079,458.
- Martin, Harold B., Gibson, and O'Loughlin. 3,102,311.
- Whitney, Robert U., Jr. 3,084,780.
- Thomas, Boyd F., to Young Spring & Wire Corp. Silver soldering apparatus and method. 3,080,648, 3-12-63, Cl. 29-494.



- Thomas, Boyd F., to Young Spring & Wire Corp. Apparatus for forming sheet metal. 3,091,836, 6-4-63, Cl. 29-33.
- Thomas, Chester A.: *See—*
- Merritt, Thomas W., and Thomas. 3,078,870.
- Thomas, Dalton A. Socket wrench. 3,114,278, 12-17-63, Cl. 81-124.1.
- Thomas, David F., and R. C. Ewing, to Watrous Co. Centrifugal pump with double mechanical seal. 3,079,605, 2-26-63, Cl. 277-27.
- Thomas, David G., to Lord Mfg. Co. Fifth wheel coupler. 3,073,624, 1-15-63, Cl. 280-438.
- Thomas, David G., to Lord Mfg. Co. Damper. 3,078,966, 2-26-63, Cl. 188-88.
- Thomas, David G., to Lord Mfg. Co. Railway journal bearing. 3,098,682, 7-23-63, Cl. 308-54.
- Thomas, Deane S.: *See—*
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- Thomas, Donald C.: *See—*
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- Thomas, Donald L. Variable speed transmission. 3,091,430, 5-28-63, Cl. 253-137.
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- Thomas, Eugene P., R. L. Guentner, and E. W. Vaughn, to Westinghouse Electric Corp. X-ray apparatus with automatic shutter control means. 3,099,747, 7-30-63, Cl. 250-105.
- Thomas, Eugene P., C. H. Jennings, and C. R. Griffith, to Westinghouse Electric Corp. Radiation beam saping device. 3,114,043, 12-10-63, Cl. 250-105.
- Thomas, Everett V., to Universal Controls, Inc. Electrical interlock system for fare collection apparatus. 3,108,741, 10-29-63, Cl. 232-1.
- Thomas, Frank M., to Sylvania Electric Products Inc. Method for preparing semiconductor elements. 3,078,559, 2-26-63, Cl. 29-413.
- Thomas, Frank W.: *See—*
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- Thomas, Friedrich: *See—*
- Beltz, Klaus, Rodis, and Thomas. 3,081,150.
- Thomas, Garland S.: *See—*
- Thomas, Hollis M. 3,091,193.
- Thomas, George: *See—*
- Gerrand, Fred, and Thomas. 3,111,578.
- Thomas, George E. Lawn sprinkler. 3,082,958, 3-26-63, Cl. 239-234.
- Thomas, George L.: *See—*
- Duncan, James E., and Thomas. Re. 25,312.
- Thomas, George W., and P. J. McGervy, to Wood Conversion Co. Production of acoustic tile material and tile therefrom. 3,077,945, 2-19-63, Cl. 181-33.
- Thomas, Glen H.: *See—*
- Lucka, Eugene R., and Thomas. 3,072,868.
- Thomas, Glen H., to International Research and Development Corp. Plane resolver for unbalance measuring. 3,115,041, 12-24-63, Cl. 73-466.
- Thomas, Glen H., and E. R. Lucka, to International Research and Development Corp. Balancing apparatus. 3,115,042, 12-24-63, Cl. 73-466.
- Thomas, Glenn R., and R. H. Flick, to Westinghouse Electric Corp. Circuit breaker. 3,073,925, 1-15-63, Cl. 200-88.
- Thomas, Gordon H.: *See—*
- Fried, Josef, and Thomas. 3,116,288.
- Thomas, Gordon H., and J. Fried, to Olin Mathieson Chemical Corp. Synthesis of steroids of the 12-alkylidenepregnene. 3,080,388, 3-5-63, Cl. 260-397.3.
- Thomas, Griffith L.: *See—*
- Olson, John E., and Thomas. 3,071,926.
- Thomas, Harold A.: *See—*
- Schwan, Herbert A., and Thomas. 3,106,519.
- Thomas, Harry M. Railroad car floor panel latch. 3,080,623, 3-12-63, Cl. 20-92.4.
- Thomas, Hollis M., deceased, by G. S. Thomas, administratrix, to United States Steel Corp. Hinged stake for flat-car loading. 3,091,193, 5-28-63, Cl. 105-386.
- Thomas, Horace F., and J. M. Adams. Mixer for viscous liquids. 3,089,683, 5-14-63, Cl. 259-4.
- Thomas Industries Inc.: *See—*
- Benson, Benjamin S., Jr., and Geocarls. 3,090,434.
- Boutelle, Allen O. 3,093,322.
- La Force, Walter P. 3,109,464.
- Stuart, Charles J., and McGinty. 3,104,833.
- Thomas, Jacob E., Jr., to The Bendix Corp. Semiconductor and unitary connector structure comprising alternately stacked base and emitter leads. 3,114,865, 12-17-63, Cl. 317-234.
- Thomas, James C., III, to Young Spring & Wire Corp. Tracer valve mechanism. 3,081,060, 3-12-63, Cl. 251-3.
- Thomas, James G. Removable power and manually operated outriggers for carrier frames. 3,096,887, 7-9-63, Cl. 212-145.
- Thomas, James K., III: *See—*
- Korach, Malcolm, and Thomas. 3,095,270.
- Thomas, James L.: *See—*
- Heiberger, Charles A., and Thomas. 3,087,915.
- Heiberger, Charles A., and Thomas. 3,113,123.
- Taylor, Bert S., Thomas, and Heiberger. 3,093,619.
- Thomas, James L., to North American Aviation, Inc. Short circuit protection device. 3,078,410, 2-19-63, Cl. 323-22.
- Thomas, James W.: *See—*
- Benninghoff, William E., and Thomas. 3,098,146.
- Thomas, Jess W.: *See—*
- Brody, Aaron L., and Thomas. 3,102,779.
- Thomas, Jesse B., to Reynolds Metals Co. Lined engine members and methods of making the same or the like. 3,082,752, 3-26-63, Cl. 123-32.
- Thomas, Jesse B., to Reynolds Metals Co. Passageway panel expansion apparatus. 3,095,843, 7-2-63, Cl. 113-44.
- Thomas, Jesse B., and J. A. Hall, to Reynolds Metals Co. Method of expanding passageway panel on one side. 3,098,290, 7-23-63, Cl. 29-157.3.
- Thomas, John C.: *See—*
- Hill, Oliver W., and Thomas. 3,093,597.
- Thomas, John C., to E. I. du Pont de Nemours and Co. Dispersions of C<sub>2</sub>-Cs polyolefins in water-soluble dialkyl amide of an alkanolic acid. 3,093,611, 6-11-63, Cl. 260-29.6.
- Thomas, John C., and L. W. Morgan, to Phillips Petroleum Co. System for metering flow. 3,083,569, 4-2-63, Cl. 73-194.
- Thomas, John F. Lock and key construction. 3,112,637, 12-3-63, Cl. 70-258.
- Thomas, John H., and F. L. Gillespie. Lamp tube handling device. 3,101,966, 8-27-63, Cl. 294-20.
- Thomas, John L. Trailer mechanism. 3,095,585, 7-2-63, Cl. 9-1.
- Thomas, Klaus, and D. Jerchel, to Dr. Karl Thomas, G.m.b.H. Diquaternary bis-[4-alkylthio-pyridyl-(1)]-alkanes. 3,101,342, 8-20-63, Cl. 260-294.8.
- Thomas, Louis. Automatically folding boom for cranes. 3,073,457, 1-15-63, Cl. 212-144.
- Thomas, Lucius P., Jr., to Radio Corp. of America. Television receiver circuits. 3,096,399, 7-2-63, Cl. 178-7.5.
- Thomas, Martin, Ltd.: *See—*
- Nicholls, John W. 3,072,425.
- Thomas, Nickolaus: *See—*
- Roth, Arthur, and Thomas. 3,105,635.
- Thomas, Norman S., Jr.: *See—*
- Ford, Thomas E., and Thomas. 3,082,923.
- Thomas, Owen H.: *See—*
- Bartlett, Ronald S., Michaels, and Thomas. 3,079,447.
- Bartlett, Ronald S., Michaels, and Thomas. 3,113,979.
- Mooi, John, Thomas, and Burk. 3,085,971.
- Thomas, Paul P., to American Metal Products Co. Elements having low friction material compacted on the face thereof. 3,082,485, 3-26-63, Cl. 18-59.
- Thomas, Paul P., to American Metal Products Co. Method of construction of low friction elements. 3,094,376, 6-18-63, Cl. 18-59.
- Thomas, Philip R., to The Carborundum Co. Method for dressing grinding wheels. 3,078,835, 2-26-63, Cl. 125-11.
- Thomas, Ralph B., to Sylvania Electric Products Inc. Apparatus for staking and forming tabs. 3,112,786, 12-3-63, Cl. 153-16.
- Thomas, Ralph H., to Bristol-Myers Co. Safety cap. 3,071,271, 1-1-63, Cl. 215-9.
- Thomas, Ralph H., to Bristol-Myers Co. Dispensing closure. 3,076,573, 2-5-63, Cl. 215-6.
- Thomas, Ralph H., to Bristol-Myers Co. Roller applicator supporting means. 3,083,397, 4-2-63, Cl. 15-574.
- Thomas, Randal H.: *See—*
- Koblenz, Avrom M., Krishnaswamy, and Thomas. 3,078,712.
- Thomas, Richard O.: *See—*
- Stewart, William D., and Thomas. 3,075,926.
- Stewart, William D., and Thomas. 3,075,930.
- Thomas, Robert M.: *See—*
- Bishop, John J., Thomas, and Weiss. 3,110,715.
- Kuntz, Irving, Baldwin, Thomas, and Serniuk. 3,104,235.
- Weiss, Guenter K., and Thomas. 3,093,451.
- Thomas, Robert W., and R. S. Young, to The British Aluminium Co. Ltd. Electrolytic etching of aluminum foil. 3,085,950, 4-16-63, Cl. 204-141.
- Thomas, Roy, to McGraw-Edison Co. Suds depresser. 3,070,984, 1-1-63, Cl. 68-17.
- Thomas, Thomas R., to Auto Research Corp. Solenoid operated pump. 3,072,300, 1-8-63, Cl. 222-333.
- Thomas, Thomas R., to Auto Research Corp. Lubrication. 3,074,510, 1-22-63, Cl. 184-55.
- Thomas, Thomas R., to Auto Research Corp. Lubrication. 3,075,615, 1-29-63, Cl. 184-7.
- Thomas, Thomas R., to Auto Research Corp. Lubrication. 3,076,526, 2-5-63, Cl. 184-55.
- Thomas, Thomas R., to Auto Research Corp. Lubricant feeding means. 3,078,959, 2-26-63, Cl. 184-55.
- Thomas, Thomas R., to Auto Research Corp. Centralized rotary lubricating pump. 3,079,867, 3-5-63, Cl. 103-123.
- Thomas, Thomas R., to Auto Research Corp. Lubrication. 3,080,016, 3-5-63, Cl. 184-7.
- Thomas, Thomas R., to Auto Research Corp. Lubrication system. 3,084,762, 4-9-63, Cl. 184-6.
- Thomas, Thomas R., to Auto Research Corp. Lubricating pump. 3,084,763, 4-9-63, Cl. 184-27.
- Thomas, Thomas R., to Auto Research Corp. Lubrication system. 3,085,633, 4-16-63, Cl. 184-7.
- Thomas, Thomas R., to Auto Research Corp. Lubrication system. 3,086,616, 4-23-63, Cl. 184-55.
- Thomas, Thomas R., to Auto Research Corp. Lubrication spray device. 3,086,617, 4-23-63, Cl. 184-56.
- Thomas, Thomas R., to Auto Research Corp. Lubrication pump. 3,091,306, 5-28-63, Cl. 184-27.
- Thomas, Thomas R., to Auto Research Corp. Lubrication. 3,096,023, 7-2-63, Cl. 239-424.
- Thomas, Thomas R., to Auto Research Corp. System for distributing fluids. 3,106,346, 10-8-63, Cl. 239-366.



- Thomas, Thomas R., to Auto Research Corp. Lubrication. 3,113,638, 12-10-63, Cl. 184-55.
- Thomas, Timothy L.: *See*—  
Cotton, Beryl W., and Thomas. 3,112,963.
- Thomas, Tommy: *See*—  
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- Thomas, Tudor L., to Union Carbide Corp. Adsorptive separation process. 3,094,569, 6-18-63, Cl. 260-677.
- Thomas, Wilford H.: *See*—  
Cook, Shirli E., and Thomas. 3,093,089.
- Thomas, Wilford H., and S. E. Cook, to Ethyl Corp. Stable lead alkyl compositions and a method for preparing the same. 3,097,223, 7-9-63, Cl. 260-437.
- Thomas, Wilford H., and S. E. Cook, to Ethyl Corp. Stable lead alkyl compositions and a method of preparing the same. 3,098,090, 7-16-63, Cl. 260-437.
- Thomas, William A. Archery bow and arrow rack. 3,082,873, 3-26-63, Cl. 211-60.
- Thomas, William A., to General Electric Co. Manually and thermally operable switching device having removable heater element. 3,112,385, 11-26-63, Cl. 200-122.
- Thomas, William B., to Massachusetts Mohair Plush Co., Inc. Method of producing a composite yarn. 3,070,950, 1-1-63, Cl. 57-157.
- Thomas, William C. Aircraft with high lift airfoil construction. 3,108,768, 10-29-63, Cl. 244-45.
- Thomas, William E. Roller guide. 3,087,665, 4-30-63, Cl. 226-190.
- Thomas, William F. Illuminated antenna assembly. 3,108,277, 10-22-63, Cl. 343-721.
- Thomas, William Lowell, Inc.: *See*—  
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- Thomas, William O. Amusement ride. 3,078,090, 2-19-63, Cl. 272-29.
- Thomas and Co.: *See*—  
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- Thomason, Hjalmar. Gauge for checking relined brake shoes. 3,073,035, 1-15-63, Cl. 33-180.
- Thomason, James L. Saw blade guard. 3,112,778, 12-3-63, Cl. 145-35.
- Thomasson, Fennell R.: *See*—  
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- Thome, Nicholas T.: *See*—  
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- Thomiszser, Hubert J.: *See*—  
Brown, Fred, and Thomiszser. 3,088,404.
- Thompson, William A., to Dunlop Rubber Co. Ltd. Aircraft wheels. 3,096,123, 7-2-63, Cl. 301-36.
- Thompson, Alan W.: *See*—  
Baker, William A., and Thompson. 3,107,698.
- Baker, William A., Thompson, Lane, and Poslett. 3,100,458.
- Thompson, Arnold M., to Thompson Designs, Inc. Indexing mechanism. 3,091,135, 5-28-63, Cl. 74-826.
- Thompson, Arnold M., and V. W. Gideon, to Thompson Designs, Inc. Indexing mechanism. 3,091,134, 5-28-63, Cl. 74-826.
- Thompson Bremer & Co.: *See*—  
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- Thompson, Carson E.: *See*—  
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- Thompson, Charles E.: *See*—  
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- Thompson, Charles E., to Esso Research and Engineering Co. Electrodeposition of polymers in porous electrodes. 3,113,048, 12-3-63, Cl. 136-86.
- Thompson, Charles E., to Esso Research and Engineering Co. Fuel cell and fuel cell electrodes. 3,116,169, 12-31-63, Cl. 136-86.
- Thompson, Charles S.: *See*—  
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- Thompson Chemical Co.: *See*—  
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- Thompson, Clarence R.: *See*—  
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- Thompson, Clay H. Silo distributor. 3,105,722, 10-1-63, Cl. 302-60.
- Thompson Co., The: *See*—  
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- Thompson, Daniel P. Garden curb. 3,087,279, 4-30-63, Cl. 47-33.
- Thompson, David M.: *See*—  
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- Thompson, David P., and A. W. Earl, to California Research Corp. Underwater foundation structure and method therefor. 3,091,937, 6-4-63, Cl. 61-46.5.
- Thompson Designs, Inc.: *See*—  
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- Thompson, Arnold M. 3,091,135.
- Thompson, Arnold M., and Gideon. 3,091,134.
- Thompson, Don C.: *See*—  
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- Thompson, Donald J.: *See*—  
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- Thompson, Donald N.: *See*—  
Attanasio, Emil T., and Thompson. 3,087,443.
- Thompson, Donald V., and C. H. Wolf, to North American Aviation, Inc. Blind welding method and apparatus. 3,111,575, 11-19-63, Cl. 219-78.
- Thompson, Earl A. Mechanico-hydraulic power and control unit. 3,071,929, 1-8-63, Cl. 60-54.5.
- Thompson, Earl A. Tappet with cast iron base and tubular steel body. 3,078,194, 2-19-63, Cl. 148-31.
- Thompson, Earl A. Automatic wheel dresser. 3,079,906, 3-5-63, Cl. 125-11.
- Thompson, Earl A. Mechanical lash adjuster. 3,087,475, 4-30-63, Cl. 123-90.
- Thompson, Earl A. Mechanical lash adjuster. 3,087,479, 4-30-63, Cl. 123-90.
- Thompson, Earl A. Centrifugal pump. 3,099,221, 7-30-63, Cl. 103-108.
- Thompson, Earl A. Precision feed motion arrester. 3,103,769, 9-17-63, Cl. 51-165.
- Thompson, Earl A. Mechanico-hydraulic drive unit. 3,106,823, 10-15-63, Cl. 60-54.5.
- Thompson, Earl A., Mfg. Co.: *See*—  
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- Fairchild, John D. 3,087,477.
- Fairchild, John D. 3,087,478.
- Van Deberg, Walter H. 3,093,971.
- Thompson, Edward J., to Bausch & Lomb Inc. Spectacle shipping carton insert. 3,101,843, 8-27-63, Cl. 206-46.
- Thompson, Edward W. Speed indicators. 3,104,548, 9-24-63, Cl. 73-186.
- Thompson, Elmer D.: *See*—  
Martin, Lynn P., Thompson, Brannon, and Ross. 3,073,286.
- Thompson, Erle C. Adjustable throttle attachment. 3,105,391, 10-1-63, Cl. 74-532.
- Thompson, Ernest H., to Block and Co., Inc. Coin sorting and counting mechanism. 3,079,934, 3-5-63, Cl. 133-8.
- Thompson, Eugene D. Scrap wire compacting apparatus. 3,092,350, 6-4-63, Cl. 242-78.
- Thompson, Francis T., to Westinghouse Electric Corp. Controller circuitry with pulse width modulator. 3,090,929, 5-21-63, Cl. 332-9.
- Thompson, Francis T., to the United States of America, Navy. Conducting data take-off pencil. 3,106,707, 10-8-63, Cl. 343-7.3.
- Thompson, Gene D., and D. E. Smink, to Jersey Production Research Co. Plural completion of wells. 3,095,038, 6-25-63, Cl. 166-46.
- Thompson, Gene D., H. M. Hibbs, and E. W. Hough, to Jersey Production Research Co. Treatment of subsurface earth formations. 3,098,038, 7-16-63, Cl. 252-8.55.
- Thompson, George A.,  $\frac{1}{2}$  to himself, and  $\frac{1}{2}$  to Meiswinkel, Frederick, Inc. Floor scraper. 3,074,090, 1-22-63, Cl. 15-93.
- Thompson, George A. Well point. 3,088,534, 5-7-63, Cl. 175-314.
- Thompson, George E.: *See*—  
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- Thompson, George F., to Klekhaef Corp. Mechanical linkage for remote control. 3,088,330, 5-7-63, Cl. 74-501.
- Thompson, Gerald F.: *See*—  
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- Thompson, Gerald T., and R. F. Fuller, to The Execugraf Corp. Portable film viewer. 3,104,483, 9-24-63, Cl. 40-86.
- Thompson, Glee B., to Pioneer Heddle and Reed Co., Inc. Loom reed. 3,107,699, 10-22-63, Cl. 139-192.
- Thompson, Gordon W., to E. I. du Pont de Nemours and Co. Controlled quenching apparatus. 3,070,839, 1-1-63, Cl. 18-8.
- Thompson Grinder Co., The: *See*—  
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- Kraft, Frederick G., and Ernst. 3,083,535.
- Thompson, H. G., & Son Co., The: *See*—  
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- Gray, Alfred E., Malin, and Thompson. 3,081,872.
- Thompson, Harold D., to Piggly Wiggly Corp. Cart unloading means. 3,115,975, 12-31-63, Cl. 214-44.
- Thompson, Harris A. Artificial respirator apparatus. 3,094,274, 6-18-63, Cl. 230-224.
- Thompson, Henry E., L. C. Ebel, and G. Felck, III, to Anacanda Wire and Cable Co. Electric cable. 3,105,872, 10-1-63, Cl. 174-120.
- Thompson, Henry H. Machine for making wire garment hangers. 3,071,167, 1-1-63, Cl. 140-81.5.
- Thompson, Horace H.: *See*—  
Osmond, Desmond W. J., and Thompson. 3,095,388.
- Thompson, Howard E., Jr. Valve device comprising resilient walled nipple with slitted aperture normally biased closed. 3,104,787, 9-24-63, Cl. 222-490.
- Thompson, Howard H., to FMC Corp. Lawn mower axle mounting. 3,086,790, 4-23-63, Cl. 280-43.
- Thompson Industries, Inc.: *See*—  
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- Buechler, William R. 3,083,061.
- Buechler, William R. 3,100,574.
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- Kafoure, Lewis, and Huffman. 3,097,888.
- Thompson, James D.: *See*—  
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- Thompson, James E., and J. L. Van Meter, to Westinghouse Electric Corp. Rapid discharging of charged capacitor through triggered hyperconductive (four-layer) diode in computer circuit. 3,071,698, 1-1-63, Cl. 307-88.5.



- Thompson, James W., and R. E. Gerber, to Caterpillar Tractor Co. Vehicle brake cooling system. 3,101,815, 8-27-63, Cl. 188—264.
- Thompson, Jesse C., Jr. Anchor apparatus. 3,115,226, 12-24-63, Cl. 189—82.
- Thompson, John, (Australia) Pty. Ltd.: *See*—Clark, Edwin W. 3,089,468.
- Thompson, John E. Separation process. 3,099,561, 7-30-63, Cl. 99—7.
- Thompson, John E. Sausage stuffer. 3,108,319, 10-29-63, Cl. 17—39.
- Thompson, John H., to General Motors Corp. Ring grinding fixture. 3,104,504, 9-24-63, Cl. 51—215.
- Thompson, Joseph C. Chiropractic table. 3,092,102, 6-4-63, Cl. 128—70.
- Thompson, Josephus B., to Joseph Rogers, Inc. Snare drum. 3,113,481, 12-10-63, Cl. 84—415.
- Thompson, Junior W. Method of forming a tooth protector. 3,107,668, 10-22-63, Cl. 128—136.
- Thompson, Kenneth: *See*—Rice, John C., and Thompson. 3,076,720.
- Thompson, Kenneth W., E. Schapiro, R. T. Price, M. M. Vincent, and F. C. Jensen, to Organon, Inc. Process for culturing altered human secretory pituitary cells. 3,073,746, 1-15-63, Cl. 167—74.
- Thompson, Langham J., Ltd.: *See*—Willis, Kenneth J. 3,089,342.
- Thompson, Lee L. Pumping and mixing devices for drilling mud. 3,110,263, 11-12-63, Cl. 103—87.
- Thompson, Lionel D., and E. A. Tsakiris, to Curtiss-Wright Corp. Engine. 3,087,473, 4-30-63, Cl. 123—41.84.
- Thompson, Lloyd M.: *See*—Yates, Claire H. and Thompson. 3,076,028.
- Yates, Claire H., and Thompson. 3,076,029.
- Thompson, Lyle G., to Burroughs Corp. Waveform techniques. 3,090,872, 5-21-63, Cl. 307—88.
- Thompson, Lyle G., to Burroughs Corp. Static memory system. 3,104,378, 9-17-63, Cl. 340—174.
- Thompson, Malcolm W. and D. C., to Southwest Filter Co. Filter cartridge system for corrosive fluids. 3,080,976, 3-12-63, Cl. 210—232.
- Thompson, Marion L. Tappet. 3,089,472, 5-14-63, Cl. 123—90.
- Thompson, Michael W.: *See*—Cottrell, Alan H., and Thompson. 3,105,804.
- Thompson, Mortimer S., to United States Rubber Co. Gum plastic material comprising alpha-methyl styrene acrylonitrile resin and graft copolymer of styrene and acrylonitrile on polybutadiene. 3,111,501, 11-19-63, Cl. 260—45.5.
- Thompson, Norris J., to National Carts, Inc. Market basket cart with child's support. 3,093,385, 6-11-63, Cl. 280—33.99.
- Thompson, Oliver F. Thermally controlled door-checks. 3,089,568, 5-14-63, Cl. 189—49.
- Thompson, Orville. Combination mattress. 3,096,529, 7-9-63, Cl. 5—345.
- Thompson, Orville I., to De Vry Technical Institute, Inc. Device for facilitating construction of electrical apparatus. 3,085,177, 4-9-63, Cl. 317—101.
- Thompson, Orville I., to De Vry Technical Institute, Inc. Answer checking device. 3,089,255, 5-14-63, Cl. 35—9.
- Thompson, Paige W., and J. E. Baclawski, to General Electric Co. Cooling system for dynamoelectric machines. 3,109,947, 11-5-63, Cl. 310—64.
- Thompson, Ralph. Crop processing machine. 3,088,263, 5-7-63, Cl. 56—119.
- Thompson, Ralph B.: *See*—Gleim, William K. T., and Thompson. 3,071,548.
- Thompson, Ralph B., to Universal Oil Products Co. Reducing corrosion in plant equipment. 3,078,223, 2-19-63, Cl. 208—348.
- Thompson, Ralph B., to Universal Oil Products Co. Corrosion inhibition. 3,114,702, 12-17-63, Cl. 208—348.
- Thompson, Ralph B., J. A. Chenick, and W. J. Faust, to Universal Oil Products Co. Method of reducing surface ignition requirements. 3,090,681, 5-21-63, Cl. 44—76.
- Thompson, Ralph N., to Hagan Chemicals & Controls, Inc. Inhibiting bacterial growth. 3,089,847, 5-14-63, Cl. 252—8.55.
- Thompson Ramo Wooldridge Inc.: *See*—Baker, Melvin L. 3,103,009.
- Baker, Stuart C. 3,074,641.
- Bell, Leo R., and Britton. 3,105,361.
- Birchfield, John R., and Gulaian. 3,072,086.
- Brooks, William O. 3,096,475.
- Carlton, Stuart S. 3,110,631.
- Clark, George L. 3,096,484.
- Clark, Hubert M., and Drutchas. 3,101,673.
- Clary, Harry E. 3,080,718.
- Clary, Harry E. 3,102,488.
- Corbett, Marshall J. 3,098,387.
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- Cummings, Robert L., and Lance. 3,080,716.
- Dier, Stephen A., and Gair. 3,079,680.
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- Drutchas, Gilbert H., and Clark. 3,081,706.
- Eichenberger, Hans P. 3,075,489.
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- Fomenko, Sergei M. 3,086,119.
- Fomenko, Sergei M. 3,086,120.
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- Thompson Ramo Wooldridge Inc.: *See*—Continued
- Genung, William E., and Chulick. 3,110,756.
- Giles, William S. 3,110,298.
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- Grill, Raymond J., and Barish. 3,105,441.
- Hallmark, Clyde E. 3,109,974.
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- Herbenar, Edward J. 3,086,801.
- Herbenar, Edward J. 3,101,132.
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- Hogan, James D. 3,082,950.
- Horne, John W. 3,088,406.
- Horton, Edward C. 3,086,401.
- Horton, Edward C., and Teaf. 3,077,119.
- Humpal, Harold H., and Kitaoka. 3,094,638.
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Harrison, Robert D. 3,098,000.
- Harrison, William M. 3,105,014.
- Tidland, Charles R.: See—  
Williams, Arthur T., 3,097,808.
- Williams, Arthur T., and Smith. 3,095,634.
- Williams, Arthur T., and Tidland. 3,108,757.



- Tidman, Charles H., to Columbus Iron Works Co. Cooking grill. 3,099,951, 8-6-63, Cl. 99-446.
- Tidridge, William A., and L. E. Cohen, to FMC Corp. Creamy high-foam liquid built detergent composition. 3,072,578, 1-8-63, Cl. 252-137.
- Tidwell, Abraham O., to Centre Circuits, Inc. Photocell position control system. 3,093,778, 6-11-63, Cl. 318-31.
- Tiede, Ralph L., to Owens-Corning Fiberglass Corp. Composite fibers. 3,073,005, 1-15-63, Cl. 28-82.
- Tiede, Ralph L., to United States Atomic Energy Commission, Grantee. Glass composition. 3,084,054, 4-2-63, Cl. 106-52.
- Tiedemann, Claus: *See*—  
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- Tiedemann, Claus, to WEFO Pyrotechnische Fabrik Wistedt W. Forquignon. Flare cartridge. 3,111,899, 11-26-63, Cl. 102-37.6.
- Tiedemann, James B., and D. E. Wall, to The Kansas University Endowment Association. Impact vibration damper and control means therefor. 3,091,307, 5-28-63, Cl. 188-1.
- Tiedemann, Richard A., to A. O. Smith Corp. Mechanical lock, brake and coupling apparatus. 3,102,619, 9-3-63, Cl. 192-8.
- Tiedje, John L.: *See*—  
Butler, Roger M., Macleod, and Tiedje. 3,105,809.  
Ilnyckij, Stephan, and Tiedje. 3,087,800.
- Tiedtke, Karl-Heinz, to Electroacoustic Gesellschaft mit beschränkter Haftung. Record changing device. 3,081,093, 3-12-63, Cl. 274-10.
- Tiegel, Ralph, to Philco Corp. Mounting structure for sensitive instruments which must be exposed to widely changing conditions. 3,079,132, 2-26-63, Cl. 165-53.
- Tielens, Theo A., and J. Kunnen, to North American Philips Co., Inc. Resistor. 3,109,754, 11-5-63, Cl. 117-217.
- Tieman, James E. Apparatus for salvaging waste cotton. 3,092,948, 6-11-63, Cl. 56-28.
- Tiemann, Jerome J., to General Electric Co. Temperature responsive system. 3,083,319, 3-26-63, Cl. 317-132.
- Tiemann, Jerome J., to General Electric Co. Tunnel diode majority logical element. 3,097,311, 7-9-63, Cl. 307-88.5.
- Tiemann, Jerome J., to General Electric Co. Voltage regulator employing a narrow junction degenerate semiconductor diode. 3,104,352, 9-17-63, Cl. 321-47.
- Tiemann, Jerome J., to General Electric Co. Amplifier having variable input impedance. 3,116,459, 12-31-63, Cl. 330-24.
- Tien, Jack M. Acyl hydrazine derivatives of bis(4-methylamino-3-methylphenyl)methane. 3,073,836, 1-15-63, Cl. 260-295.
- Tiepelo, Ugo: *See*—  
Feider, Ernst, and Tiepelo. 3,108,099.
- Tierney, Hubert J., and H. Thurnauer, to Minnesota Mining and Mfg. Co. Ultra-thin glass sheet. 3,089,801, 5-14-63, Cl. 154-47.
- Tierney, Paul A.: *See*—  
Sattler, Frank A., and Tierney. 3,089,787.
- Tierney, Paul A., to Westinghouse Electric Corp. Ceramic potting composition and method of encapsulating an electrical article therewith. 3,078,186, 2-19-63, Cl. 117-201.
- Tierney, Raymond B., and R. H. Krug, to Texaco Inc. Lubricating composition. 3,074,886, 1-22-63, Cl. 252-49.8.
- Tiers, George V. D.: *See*—  
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- Tietze, Artur: *See*—  
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- Tietze, Ernst, S. Petersen, and F. Hoffmeister, to Farbenfabriken Bayer Aktiengesellschaft. Novel, water-soluble benzamide and quinoxaline salts and a process for producing the same. 3,075,982, 1-29-63, Cl. 260-256.4.
- Tifcon Co.: *See*—  
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- Tiffany Stand Co.: *See*—  
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- Tigerschild, Bo M., to Degerfors Jamverks AB. Process for producing hot tops. 3,077,646, 2-19-63, Cl. 22-192.
- Tighe, Charles L., Jr.: *See*—  
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- Tighe, Donald J.: *See*—  
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- Tightpat, Inc.: *See*—  
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- Tiikkainen, Olaf A. Loop antenna with impedance matching. 3,096,518, 7-2-63, Cl. 343-742.
- Tiikkainen, Velkko V. Game apparatus. 3,073,598, 1-15-63, Cl. 273-95.
- Tilbury, James R., to Protectomatic, Inc. Time delay safety interlock for machines. 3,103,270, 9-10-63, Cl. 192-131.
- Tilden, Carl V. Apparatus for forming sheet plastic material. 3,072,964, 1-15-63, Cl. 18-19.
- Tilden, Carl V. Phone dial aid accessory. 3,073,909, 1-15-63, Cl. 179-90.
- Tilden, Carleton D., to Cleveland Technical Center, Inc. Vortex water cooler. 3,074,243, 1-22-63, Cl. 62-5.
- Tile Council of America, Inc.: *See*—  
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- Tiley, Gerald L.: *See*—  
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- Tilgner, Ralph F., to Pittsburgh Plate Glass Co. Power driven brush. 3,105,261, 10-1-63, Cl. 15-180.
- Tilgner, Ralph F., to Pittsburgh Plate Glass Co. Corrugated tube for rotary brushes. 3,107,381, 10-22-63, Cl. 15-182.
- Tilgner, Ralph F., to Pittsburgh Plate Glass Co. Brush strip for power-driven brush. 3,107,382, 10-22-63, Cl. 15-182.
- Till, Derek E., and W. Wade, to American Viscose Corp. Method for producing filters. 3,073,735, 1-15-63, Cl. 156-38.
- Tillatson Mfg. Co., The: *See*—  
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- Tillequin, Jean F., and H. B. Blampin, to Babcock & Wilcox Ltd. Tubulous vapour generators. 3,104,652, 9-24-63, Cl. 122-32.
- Tiller, James A., to American Radiator & Standard Sanitary Corp. Drain plug mechanism. 3,099,019, 7-30-63, Cl. 4-200.
- Tiller, James A., to American Radiator & Standard Sanitary Corp. Lavatory fixture. 3,101,486, 8-27-63, Cl. 4-170.
- Tiller, Milton, to Concrete Pipe Machinery Co. Machine for making concrete pipe. 3,083,433, 4-2-63, Cl. 25-39.
- Tilles, Harry. Chlorothiolformate pesticide. 3,093,537, 6-11-63, Cl. 167-22.
- Tilles, Harry, and J. Antognini, to Stauffer Chemical Co. Method of combatting weeds. 3,078,155, 2-19-63, Cl. 71-27.
- Tilles, Harry, and J. Antognini, to Stauffer Chemical Co. Herbicidal method. 3,101,263, 8-20-63, Cl. 71-23.
- Tillet, Pierre A., to Usines Chimiques Rhone-Poulenc, Societe des. Aqueous vinyl acetate polymer emulsion containing N-n-butyl-benzamide and food product coated with same. 3,090,689, 5-21-63, Cl. 99-166.
- Tilley, Colin G.: *See*—  
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- Tilley, Colin G., and F. A. Waite, to Imperial Chemical Industries Ltd. 1-(dihalogen-triazinylaminophenyl)-4-( $\beta$ -naphthylazo)-pyrazolone dyestuffs. 3,097,197, 7-9-63, Cl. 260-153.
- Tillman, Harry L.: *See*—  
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- Tillman, Henry R.: *See*—  
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- Tillman, Linton A.: *See*—  
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- Tillotson Mfg. Co., The: *See*—  
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Phillips, Bernard C. 3,090,608.
- Tillotson, Richard D., to Arthur D. Little, Inc. Apparatus and method for prevention of skin blister in domestic fowl. 3,083,688, 4-2-63, Cl. 119-143.
- Tillson, Robert S., to General Electric Co. Enclosed multipole switch with removable contact carrier. 3,114,024, 12-10-63, Cl. 200-168.
- Tilney, Ralph B., to Alco Valve Co. Condenser pressure regulating system. 3,103,795, 9-17-63, Cl. 62-196.
- Tilney, Ralph B., and J. A. Schenk, to Alco Valve Co. Thermostatic expansion valve with compound pressure regulating override. 3,111,816, 11-26-63, Cl. 62-212.
- Tilson, Robert R., to Thompson Ramo Wooldridge Inc. Pump assembly. 3,115,841, 12-31-63, Cl. 103-87.
- Tilton, Alva R. Stepladder. 3,109,512, 11-5-63, Cl. 182-120.
- Tilton, Charles J., to International Business Machines Corp. Asynchronous multiplier. 3,085,747, 4-16-63, Cl. 235-165.
- Timax Associates: *See*—  
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Faerber, Harry W. 3,071,865.  
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Moe, William W. 3,108,265.  
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- Timely Service, Inc.: *See*—  
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- Timken Roller Bearing Co., The: *See*—  
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Baker, John B. 3,080,009.  
Cornish, Robert F., and Logan. 3,115,790.  
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- Timko, Donald J.: *See*—  
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- Timko, Joseph W.: *See*—  
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- Timm, Emmert A., to Hoefler Mfg. Co., Inc. Feed mechanism for machine tools. 3,071,989, 1-8-63, Cl. 77-33.5.
- Timm, Robert A.: *See*—  
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- Timmer, Robert L.: *See*—  
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- Timmerman, Jan, A. Koolstra, G. Starre, and H. J. Driessen, to North American Phillips Co., Inc. Cutting head for use in a dry shaving apparatus having an oval shape movable cutter. 3,078,571, 2-26-63, Cl. 30-43.
- Timmerman, Julius W.: *See*—  
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- Timmerman, Merle J., and W. F. Behm, to Houdaille Industries, Inc. Shaker-cleaner assembly. 3,082,775, 3-26-63, Cl. 134-111.
- Timmerman, Robert: *See*—  
Saller, Erik, Timmerman, and Wenzke. 3,081,359.
- Timmerman, Robert W.: *See*—  
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- Timmerman, Walter C., Jr.: *See*—  
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- Timmerman, Walter C., Sr.: *See*—  
Crawford, William B., W. C. Timmerman, Sr., W. C. Timmerman, Jr., Pekor, and Hanna. 3,113,699.
- Timmermann, Karl G., to L. B. Stickley. Adjustable table. 3,092,045, 6-4-63, Cl. 108-138.
- Timmington, Herbert: *See*—  
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- Timmler, Helmut: *See*—  
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- Timmons, Henry A. Automobile tire chains. 3,106,949, 10-15-63, Cl. 152-218.
- Timney, Mary M.: *See*—  
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- Timothy, Patrick H., to Southern Natural Gas Co. Pipe coating composition comprising asphalt and a filler graded to maximum density. 3,078,324, 2-19-63, Cl. 260-758.
- Timpner, Fred F.: *See*—  
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- Tims, Donald E., M. E. Shrader, and H. G. Livingston, to M. E. Shrader and H. G. Livingston. Apparatus for bottom hole orientation. 3,100,019, 8-6-63, Cl. 175-45.
- Timson, William J., to W. R. Grace & Co. Method and apparatus for lining container closures. 3,074,810, 1-22-63, Cl. 117-43.
- Timsons Ltd.: *See*—  
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- Tindale, John, to Elliott Brothers (London) Ltd. Latching device for use with elongated articles of rod or tube form. 3,107,109, 10-15-63, Cl. 287-58.
- Tindall, John M. Sliced food package. 3,083,107, 3-26-63, Cl. 99-171.
- Tindall, John M. Sliced food package and clip therefor. 3,086,264, 4-23-63, Cl. 24-30.5.
- Tine, Sebastian D., to Watts Regulator Co. Injection lubricator. 3,112,013, 11-26-63, Cl. 184-18.
- Tinflow, Lionel. Weather resistant door saddle. 3,083,420, 4-2-63, Cl. 20-64.
- Tingstad, James E.: *See*—  
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- Tinius Olsen Testing Machine Co.: *See*—  
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Strimel, Robert S. 3,076,331.  
Strimel, Robert S. 3,092,072.
- Tinker, Charles D., to Ohio Kilns, Inc. Kilns. 3,091,444, 5-28-63, Cl. 263-40.
- Tinker, Charles D. Kiln. 3,091,832, 6-4-63, Cl. 25-142.
- Tinker, Charles D. Heat treating furnace. 3,102,720, 9-3-63, Cl. 263-43.
- Tinker, George H., and W. B. Winkler, to T. F. Washburn Co. Method for end point determination in the production of thixotropic polyamide-modified vehicles. 3,096,193, 7-2-63, Cl. 106-287.
- Tinker, Malcolm L.: *See*—  
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- Tinke, Otto G., 1/2 to Mrs. B. E. Runde. Refrigerating apparatus including heat exchange stabilizer means. 3,108,453, 10-29-63, Cl. 62-200.
- Tinnerman, George A. Hanger for structural elements. 3,076,536, 2-5-63, Cl. 189-88.
- Tinnerman, George A. Plastic nut having metallic insert imbedded therein. 3,082,807, 3-26-63, Cl. 151-41.75.
- Tinnerman, George A. Apparatus for making nuts having wire clips. 3,108,297, 10-29-63, Cl. 10-72.
- Tinnerman Products Inc.: *See*—  
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Holton, Robert J. 3,108,666.
- Tinney, Joseph E. Omnidirectional "G" switch. 3,103,120, 9-10-63, Cl. 73-492.
- Tinnon, John M., and M. W. Leeds, to Air Reduction Co., Inc. Cleaning compositions. 3,095,381, 6-25-63, Cl. 252-161.
- Tinsley, Charles W., to Du Page Mfg. Co. Worm drive hose clamp. 3,087,220, 4-30-63, Cl. 24-274.
- Tinsley, Frederick E., to Clairol Inc. Manicuring stand. 3,070,906, 1-1-63, Cl. 35-59.
- Tinsley, Samuel W.: *See*—  
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Starcher, Paul S., Tinsley, and Phillips. 3,072,680.
- Tinsley, Samuel W., to Union Carbide Corp. 3-oxatricyclo [3.2.1.0<sup>2,4</sup>] octane-6,7-diol. 3,071,600, 1-1-63, Cl. 260-348.
- Tinsley, Samuel W., and D. L. MacPeck, to Union Carbide Corp. 1-(1,2-epoxyethyl)-2-vinylcyclobutane and polymers thereof. 3,096,315, 7-2-63, Cl. 260-88.3.
- Tinsley, Samuel W., Jr., and D. L. MacPeck, to Union Carbide Corp. Polyeoxy-1,3-dioxolanes. 3,086,025, 4-16-63, Cl. 260-340.9.
- Tiplitz, Charles I., to Kearsott Co., Inc. Self-compensated flexure pivot. 3,092,424, 6-4-63, Cl. 308-2.
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- Tipper, Maynard J. G. Casing pressure packer and sealer. 3,115,733, 12-31-63, Cl. 53-124.
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- Tipping, Roderick G.: *See*—  
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- Tippmann, Gerhard: *See*—  
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- Tippmann, Joseph R., L. E., and L. E., Jr., to Chicago Stock Yards Turbo Refrigerating Co. Ice making apparatus. 3,074,252, 1-22-63, Cl. 62-347.
- Tippmann, Lawrence E.: *See*—  
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- Tippmann, Lawrence E., Jr.: *See*—  
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- Tipton, Catherine A. Disposable cake pan and method of making same. 3,107,587, 10-22-63, Cl. 93-36.
- Tipton, Virgil W., to Tempromatic Corp. Refrigeration system with jet injector nozzle. 3,103,106, 9-10-63, Cl. 62-196.
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- Tirasposky, Wladimir. Axial pumps. 3,071,076, 1-1-63, Cl. 103-93.
- Tirasposky, Wladimir. Drill bit tool for well drilling. 3,084,752, 4-9-63, Cl. 175-404.
- Tirasposky, Wladimir, and R. F. Roviére. Drilling turbine. 3,077,937, 2-19-63, Cl. 175-107.
- Tisch, Josef. Cleaning and feeding apparatus for match-making machines. 3,106,291, 10-8-63, Cl. 209-83.
- Tischler, Edward J., and T. J. Schoenecker, to Union Tank Car Co. Valve closure means. 3,079,125, 2-26-63, Cl. 251-333.
- Tischler, Henry J.: *See*—  
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- Tischler, Henry J., to American Motors Corp. Control mechanism for reclining seat back. 3,079,199, 2-26-63, Cl. 297-367.
- Tischler, Morris, to Electronic Aids, Inc. Cardiac nerve control device. 3,109,430, 11-5-63, Cl. 128-422.
- Tischler, Nathaniel, to Heyden Newport Chemical Corp. Controlling bandweel with 2,3,6-trichlorobenzoic acid and salts thereof. 3,081,162, 3-12-63, Cl. 71-2.6.
- Tisdale, Norman F., to Molybdenum Corp. of America. Production of columbium containing steels. 3,102,831, 9-3-63, Cl. 148-12.
- Tisdale, Norman F. and R. A., to Molybdenum Corp. Molds and stools. 3,109,733, 11-5-63, Cl. 75-123.
- Tisdale, Rowland A.: *See*—  
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- Titchenal, Oliver R., to St. Regis Paper Co. Flexible conveyor. 3,092,233, 6-4-63, Cl. 193-35.
- Titchenal, Oliver R., and J. A. Dyker, to St. Regis Paper Co. Valve bag packer apparatus. 3,072,208, 1-8-63, Cl. 177-71.
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- Tits, Agnes M. L.: *See*—  
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- Titterton, William A., and R. H. Blackmer, to General Electric Co. Fuel gas system for fuel cells. 3,098,768, 7-23-63, Cl. 136-86.
- Titterton, William E.: *See*—  
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- Tittle, Charles W., and A. Thomas, to Laboratory For Electronics, Inc. Neutron generator. 3,084,256, 4-2-63, Cl. 250-84.5.
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- Titus, Richard K.: *See*—  
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- Tkacs, Henry T., to Owens-Corning Fiberglas Corp. Method and apparatus, for processing and handling fibrous materials. 3,088,573, 5-7-63, Cl. 198—20.
- Tlaker, Erich: *See*—  
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- Tobari, Kiichi. Artificial cotton. 3,080,580, 3-12-63, Cl. 5—361.
- Tobey, Alton E.: *See*—  
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- Tobias, Arthur A., to Rock-Ola Mfg. Corp. Packet ejector with optional latch. 3,095,114, 6-25-63, Cl. 221—114.
- Tobias, Darrell R., to Bostitch Industrial Stapling Machine, Co. Pneumatic stapler. 3,087,466, 4-30-63, Cl. 121—21.
- Tobin, Kenneth J., to Evans Products Co. Freight loading apparatus. 3,092,043, 6-4-63, Cl. 105—369.
- Tobita, Masao: *See*—  
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- Toccali, Nazzareno, to Ormonoterapia Richter S.p.A. Chromatographic purification of heparin. 3,099,600, 7-30-63, Cl. 167—74.
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- Tocci-Guilbert, Berne. Resilient coupling. 3,113,407, 12-10-63, Cl. 51—195.
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- Tochikura, Osamu: *See*—  
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- Tochner, Irving A., L. A. Zelenko, and E. Hammermueller, to Dake Corp. Molding apparatus. 3,084,387, 4-9-63, Cl. 18—16.
- Tocker, Stanley, to E. I. du Pont de Nemours and Co. Organic polymeric articles and preparation thereof. 3,107,199, 10-15-63, Cl. 161—231.
- Tocker, Stanley, to E. I. du Pont de Nemours and Co. Polymeric compositions and preparation thereof. 3,113,907, 12-10-63, Cl. 161—165.
- Toczylowski, Henryk S. Rangefinder sights. 3,073,211, 1-15-63, Cl. 88—27.
- Toda, Dean L., and W. H. Deierhoi, Jr., to Union Carbide Corp. Venting system for magnesium cathodic envelope cells. 3,081,371, 3-12-63, Cl. 136—111.
- Todd, Doris E., and A. A. Willard. Mounting device for floral arrangements. 3,097,079, 7-9-63, Cl. 41—13.
- Todd, George W. Closure for shipping containers. 3,099,364, 7-30-63, Cl. 220—245.
- Todd, Harold E., and G. W. Onksen, to General Motors Corp. Apparatus for aiming headlamps. 3,077,139, 2-12-63, Cl. 88—14.
- Todd, Leslie J., to E. I. du Pont de Nemours and Co. Treatment of catalyst in the chlorination of partially chlorinated hydrocarbons. 3,083,239, 3-26-63, Cl. 260—654.
- Todd, Paul H., to Farmers' Chemical Co. Treatment of peppermint oil. 3,083,105, 3-26-63, Cl. 99—140.
- Todd, Wallace M.: *See*—  
Collins, Maynard H., and Todd. 3,091,918.
- Todd, Wayne A. Frozen confection device. 3,105,643, 10-1-63, Cl. 241—95.
- Todd, William, and A. Topham, Imperial Chemical Industries Ltd. Surface active aromatic polyamino-acids and the metal salts thereof. 3,075,006, 1-22-63, Cl. 260—510.
- Todd, William L., to FMC Corp. Underwater well completion assembly. 3,099,317, 7-30-63, Cl. 166—665.
- Todoran, Ambro, F. E. Poling, and R. A. Motter, to The Yoder Co. Ring coiling and cut-off machine. 3,083,751, 4-2-63, Cl. 153—3.
- Todt, Gerhard, and W. R. Bernhardt, to Airmatic Systems Corp. Automatic ejector for pneumatic tube systems. 3,101,182, 8-20-63, Cl. 243—1.
- Todt, Joachim. Sub-miniature transducer. 3,116,377, 12-31-63, Cl. 179—115.
- Todtenhaupt, Erich K. Driving device for an agitator shaft. 3,076,684, 2-5-63, Cl. 308—187.1.
- Todtenhöfer, Horst: *See*—  
Gladitz, Walter J., and Todtenhöfer. 3,077,759.
- Toedtmann, John A. Multi-tap electrical connector. 3,085,223, 4-9-63, Cl. 339—246.
- Toekelt, Walter G.: *See*—  
Schmerling, Louis, and Toekelt. 3,075,010.
- Toekelt, Walter G., to Universal Oil Products Co. Isomerization of unsaturated compounds. 3,078,320, 2-19-63, Cl. 260—683.2.
- Toennies, Owe M., to The Grove Research and Development Co. Device for transferring a carcass from one conveyor to another. 3,077,997, 2-19-63, Cl. 214—59.
- Toensing, James W., to Minnesota Mining and Mfg. Co. Taping apparatus. 3,081,815, 3-19-63, Cl. 156—521.
- Toepffer, Carroll: *See*—  
Seligman, Robert B., and Toepffer. 3,101,723.
- Toeppen, Thurston H. Indexing clutches. 3,095,959, 7-2-63, Cl. 197—123.
- Toffemire, Benjamin F. Dental retainer with crimping device for matrix band retaining clamp. 3,105,301, 10-1-63, Cl. 32—63.
- Toffemire, Benjamin F. Dental instrument for crimping retaining clamp on matrix band. 3,105,402, 10-1-63, Cl. 81—15.
- Toffolo, Dominic S., to United States of America, Navy. Regulated transformer rectifier power supply. 3,107,325, 10-15-63, Cl. 321—25.
- Toffolo, Dominic S., and L. R. Larson. Flux switching transformer. 3,087,108, 4-23-63, Cl. 323—56.
- Tofp, Fritz: *See*—  
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- Tognella, Ugo R.: *See*—  
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- Toho Rayon Kabushiki Kaisha: *See*—  
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- Toi, Bunichi, S. Maeda, S. Ikeda, and H. Furukawa, to Ajinomoto Co., Inc. Flavoring and preparation thereof. 3,109,741, 11-5-63, Cl. 99—140.
- Tokheim Corp.: *See*—  
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- Tokutake, Norio: *See*—  
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- Tolaas, William M., to Waldorf Paper Products Co. Sliced meat package. 3,074,611, 1-22-63, Cl. 229—9.
- Toland, William G., to California Research Corp. Sulfur removal from carbonaceous solids. 3,115,426, 12-24-63, Cl. 134—30.
- Tolbert, Nathan E., to Michigan State University of Agriculture and Applied Science. Method of controlling bacterial diseases of fruit trees. 3,102,068, 8-27-63, Cl. 167—22.
- Tolbert, William P., Sr., to Anthes Force Oiler Co. Road reflector. 3,108,510, 10-29-63, Cl. 88—79.
- Tolby, Thomas F., and H. E. Leach. Disposable cargo cushion. 3,072,270, 1-8-63, Cl. 214—10.5.
- Toledo-Beaver Tool, Inc.: *See*—  
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- Toledo Scale Corp.: *See*—  
Adler, Clarence E. 3,075,460.  
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- Tolegian, Manuel J. Magnetic coupling and applications thereof. 3,113,228, 12-3-63, Cl. 310—103.
- Toler, Raymond W.: *See*—  
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- Tolin, Ernest D., to Phillips Petroleum Co. Fractionation control. 3,107,293, 10-15-63, Cl. 235—151.
- Tolin, Ernest D., and D. A. Fluegel, to Phillips Petroleum Co. Measurement and control of polymerization reactions. 3,105,896, 10-1-63, Cl. 235—151.
- Tolin, Ernest D., and D. E. Berger, to Phillips Petroleum Co. Fluid analyzer for control system. 3,108,929, 10-29-63, Cl. 202—160.



- Toliver, Stanley E. Speed changer. 3,082,648, 3-26-63, Cl. 74-793.
- Tolkmath, Henry : *See*—  
Zweigle, Maurice L., and Tolkmath. 3,099,668.
- Tolkmath, Henry, to The Dow Chemical Co. Phosphorotriamidohalidothioates. 3,074,993, 1-22-63, Cl. 260-461.
- Tolkmath, Henry, to The Dow Chemical Co. N,N'-bis (pentamethylene), and N,N'-bis (tetramethylene), isothiuronium halides. 3,087,931, 4-30-63, Cl. 260-293.4.
- Tölle, Hans G., to Kochs Adlernahmaschinenwerke AG. Zig-zag sewing machine for producing different fancy-stitch seams. 3,103,904, 9-17-63, Cl. 112-158.
- Tolles, Walter E., to Cutler-Hammer, Inc. Apparatus for measuring the electrical response of living tissue. 3,085,566, 4-16-63, Cl. 128-2.1.
- Tolles, Walter E., to Cutler-Hammer, Inc. Blood pressure measurement. 3,095,872, 7-2-63, Cl. 128-2.05.
- Tolley, Howard B., to National Biscuit Co. Process for producing a filled doughnut. 3,104,976, 9-24-63, Cl. 99-86.
- Tolmie, Robert J., to Sperry Rand Corp. Motor for ladies' shavers. 3,086,133, 4-16-63, Cl. 310-36.
- Toma, John W., to General Electric Co. Automatic washing machine including dispensing means. 3,080,742, 3-12-63, Cl. 68-12.
- Tomauolo, Theodore J. Carrier for outboard motors. 3,106,408, 10-8-63, Cl. 280-36.
- Tomalczyk, Joseph : *See*—  
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- Tomanek, Martha : *See*—  
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- Tomanek, Martha, and W. Neugebauer, to Azoplate Corp. Process for the removal of unfixed developer powder from powdered electro-photographic reproduction coatings. 3,100,726, 8-13-63, Cl. 134-7.
- Tomarkin, Leandro W. Tractive compositions. 3,115,178, 12-24-63, Cl. 152-211.
- Tomaro, Patrick M., Jr., to Walter E. Heller & Co., (Inc.). Electromagnetic stepping switch. 3,115,563, 12-24-63, Cl. 200-105.
- Tomasko, Howard M., and R. A. Hill, to Waterous Co. Premixed three-lobed rotary pump. 3,106,166, 10-8-63, Cl. 103-126.
- Tomasulo, Robert M. : *See*—  
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- Tomaszek, Edward P., and R. P. Cuny, to Avco Corp. Regulated toroidal actuator with overspeed control. 3,106,100, 10-8-63, Cl. 74-190.5.
- Tomatis, Alfred A., to Societe Civile d'Etudes et de Brevets Mota. Apparatus for the conditioning of the auditory lateralization. 3,101,081, 8-20-63, Cl. 128-1.
- Tomatis, Alfred A., to Societe Civile d'Etudes et de Brevets Mota. Apparatus for the acoustic-ambiance conditioning of a medium. 3,101,391, 8-20-63, Cl. 179-1.
- Tomayer, Robert L. Electronic moisture sensing control system. 3,079,089, 2-26-63, Cl. 239-63.
- Tomberlin, Bill M., to Petro-Electronics Corp. Method and apparatus for cleaning and thawing flow lines and the like. 3,092,514, 6-4-63, Cl. 134-1.
- Tomcik, Daniel J., to Electro-Voice, Inc. Electrical musical instrument. 3,098,888, 7-23-63, Cl. 84-1.17.
- Tomcufcik, Andrew S., S. D. Willson, and A. W. Vogel, to American Cyanamid Co. N,N'-methylene-bis-amides for the suppression of tumors. 3,085,940, 4-16-63, Cl. 167-65.
- Tomcufcik, Andrew S., S. D. Willson, and A. W. Vogel, to American Cyanamid Co. Acrylamide derivatives for the suppression of tumors. 3,085,941, 4-16-63, Cl. 167-65.
- Tomczak, Feliks : *See*—  
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- Tomita, Mary S., to The Dow Chemical Co. 1-(iodoethynyl) cyclohexanol. 3,084,202, 4-2-63, Cl. 260-631.
- Tomizawa, Tadashi : *See*—  
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- Tomkinson, John G. : *See*—  
Schmidt, Ronald G., and Tomkinson. 3,071,681.
- Tomlin, William J. Screw drivers. 3,102,565, 9-3-63, Cl. 145-52.
- Tomlinson, George H., II., to Howard Smith Paper Mills, Ltd. Sulphite pulping process. 3,092,535, 6-4-63, Cl. 162-36.
- Tomlinson, George H., II. Method for separating dirt from aqueous suspensions of pulp fibers. 3,096,275, 7-2-63, Cl. 209-2.
- Tomlinson Industries, Inc. : *See*—  
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- Seltsam, Harold O. 3,104,089.
- Tomlinson, John L. : *See*—  
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- Tomlinson, Judson B., 1/2 to Joseph Tomalczyk. Portable pickle slicer. 3,107,710, 10-22-63, Cl. 146-151.
- Tomlinson, Kenneth J., to Sprague Engineering Corp. Coupling means. 3,085,407, 4-16-63, Cl. 64-6.
- Tomlinson, Kent. Fingers for removing feathers from poultry. 3,108,317, 10-29-63, Cl. 17-11.1.
- Tomlinson, Lloyd E. : *See*—  
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- Tomlinson, Ronald M., to Stamping Specialty Co., Inc. Holding fixtures. 3,106,047, 10-8-63, Cl. 51-237.
- Tomlinson, Terence B., to Hazeltine Research, Inc. Electroluminescent apparatus and image panel. 3,084,262, 4-2-63, Cl. 250-213.
- Tomoda, Katsumi : *See*—  
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- Tomonoh, Haruki, T. Nagamatsu, and T. Teshirogi. Inductor switching circuit for TV tuner. 3,087,110, 4-23-63, Cl. 323-74.
- Tomosy, Geza : *See*—  
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- Tompkins, Edwin H., to Armour Research Foundation of Illinois Institute of Technology. Method of applying an oxide coating onto a non-porous refractory substrate. 3,081,200, 3-12-63, Cl. 117-213.
- Tompkins, Harold W. : *See*—  
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- Tompkins, James G. Bottle closure. 3,079,022, 2-26-63, Cl. 215-6.
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- Tone, Richard D. : *See*—  
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- Tone, Waldo E., and R. D. Sand shroud. 3,103,181, 9-10-63, Cl. 103-219.
- Tonelli, George, and J. M. Smith, Jr., to American Cyanamid Co. Oral compositions and method for increasing tetracycline antibiotic absorption with tartaric acid. 3,080,288, 3-5-63, Cl. 167-65.
- Toney, John J., to Sunbeam Corp. Method and apparatus for measuring and controlling the constituent potentials of gases. 3,072,792, 1-8-63, Cl. 250-83.6.
- Toney, John J., to Sunbeam Equipment Corp. Combined furnace heater and circulator. 3,091,445, 5-28-63, Cl. 263-43.
- Tong, Duncan. Artificial garland or wreath assembly. 3,110,647, 11-12-63, Cl. 161-31.
- Tong, George L. : *See*—  
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- Tongue, Ben H., to Blonder Tongue Electronics. Phase-shifting reducing apparatus. 3,071,735, 1-1-63, Cl. 330-79.
- Tonjes, Burl D. : *See*—  
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- Tonjes, Burl D., and R. A. Cline, to The Gilson Screen Co. Portable tiltable separator. 3,098,037, 7-16-63, Cl. 209-260.
- Tonna, Arthur J. : *See*—  
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- Tonna, Arthur J., and V. A. Sariotti, to Burgermeister Brewing Corp. Tapping valve for beer kegs. 3,115,149, 12-24-63, Cl. 137-240.
- Tonner, Francis L., and G. F. Dison, to The Glidden Co. Curable and cured resinous products combining epoxy resin esters and acidic acrylate ester copolymers. 3,107,226, 10-15-63, Cl. 260-23.
- Tookey, Harvey L., and V. F. Pfeifer, to United States of America. Agriculture. Crotalaria intermedia endosperm product and method of preparing the same. 3,116,281, 12-31-63, Cl. 260-209.
- Tookey, James R., to Illinois Tool Works Inc. Hobbing machine. 3,105,412, 10-1-63, Cl. 90-4.
- Tooley, Michael D., to General Precision Systems Ltd. Navigation aids. 3,114,912, 12-17-63, Cl. 343-105.
- Toombs, Alfred J. L. : *See*—  
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- Toombs, Alfred J. L., to Shell Oil Co. Tris maleic acid and fumaric acid half-esters of C<sub>6</sub> to C<sub>10</sub> saturated triols. 3,099,683, 7-30-63, Cl. 260-485.
- Tooper, Edward B., and J. R. Greenfield, to The Diversey Corp. Tank cleaners. 3,079,937, 3-5-63, Cl. 134-166.
- Toops, Emory E., Jr. : *See*—  
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- Stengel, Leonard A., and Toops. 3,093,522.
- Toorell, Sture E., to Aktiebolaget Atvidaberg Facit. Keyboards for power-operated calculating machines. 3,092,315, 6-4-63, Cl. 235-62.
- Toorks, William P. : *See*—  
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- Tootal Broadhurst Lee Co. Ltd. : *See*—  
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- Valentine, Leslie M., and Sagar. 3,106,439.
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- Topalian, Harry H., and V. D. Ludington, to General Foods Corp. Pressure roasting of coffee. 3,088,825, 5-7-63, Cl. 99-68.
- Topanelian, Edward, Jr. : *See*—  
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- Topas, Benjamin, to Merck & Co., Inc. Process of making semiconductors. 3,105,784, 10-1-63, Cl. 156-17.
- Topazio, William J., and J. D. Weir, to Sperry Rand Corp. Pressure rebalancing and measuring servosystem. 3,100,858, 8-13-63, Cl. 318-28.



- Tope, Paul H., and R. B. Sherer, to Whirlpool Corp. Adjustable post mounted lint filter. 3,111,831, 11-26-63, Cl. 68-18.
- Topi, Sam B., to Jordan Industries, Inc. Combination spacer anchor having a frangible head portion. 3,094,892, 6-25-63, Cl. 85-24.
- Topfer, Richard. Device for sharpening double-edged razor blades by hand. 3,082,579, 3-26-63, Cl. 51-80.
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- Topham, Michael J., and W. S. Miller, to The Calico Printers' Assn. Ltd. Process for removing organic solvent from wet material. 3,106,460, 10-8-63, Cl. 34-23.
- Topham, William H., to The British Petroleum Co. Ltd. Apparatus for use in the control of distillation. 3,094,463, 6-18-63, Cl. 202-160.
- Topol, George J., to Bowser, Inc. Method and apparatus for decontaminating hydraulic fluids. 3,112,190, 11-26-63, Cl. 55-46.
- Toporcer, Louis H., to Dow Corning Corp. Bissilycyclohexadienes, their preparation and use. 3,105,085, 9-24-63, Cl. 260-448.2.
- Topp, Ivor B.: *See*—
- Burroughs, Cyril E., Topp, and Kingsland. 3,089,642.
- Topper, Bernard, to B. Kaufman. Toy fungo bat. 3,111,314, 11-19-63, Cl. 273-26.
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- Toren, Paul E., to Phillips Petroleum Co. Purification of fluid streams. 3,106,592, 10-8-63, Cl. 260-677.
- Torgerson, Arnold T., to The Electric Storage Battery Co. Hand lantern construction. 3,087,052, 4-23-63, Cl. 240-10.61.
- Torgow, Eugene N., to Polytechnic Institute of Brooklyn. Hybrid-junction cut-off waveguide filter. 3,114,119, 12-10-63, Cl. 333-11.
- Torigian, Puzant C. Treatment of vegetable and other leaves. 3,106,209, 10-8-63, Cl. 131-2.
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- Toriumi, Noboru, S. Ogawa, S. Ogata, and T. Yamura; said Toriumi, Ogawa, and Ogata assors. to said Yamura. Apparatus for selecting and typing the letter in the Chinese letter printing telegraph, electrical Chinese letter typewriter or the like machine. 3,100,036, 8-6-63, Cl. 197-1.
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- Torluemke, Keith R. Thermal centrifugal compressor. 3,098,602, 7-23-63, Cl. 230-1.
- Torn, William R., to Dukane Corp. Inertialess transducer. 3,105,124, 9-24-63, Cl. 179-113.
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- Ertsgaard, Byron L., and Worrel. 3,078,603.
- Samways, Alfred J., and Ertsgaard. 3,077,065.
- Weir, Hugh R. 3,096,606.
- Torok, Julius J., to Kimble Glass Co. Plunger for forming glass articles. 3,078,696, 2-26-63, Cl. 65-356.
- Torongo, Albert H., Jr., C. D. Frederickson, and C. R. Hood, to The Procter & Gamble Co. Dispenser for fabric softener. 3,108,722, 10-29-63, Cl. 222-463.
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- Stark, John, Jr., and Torre. 3,114,796.
- Torre, Pier L., to Bundy Marine Sp.A. Outboard motor tilt release. 3,096,058, 7-2-63, Cl. 248-4.
- Torrance, James A., to Motorola, Inc. Tuner with single knob clutcheable to either turret or individual channel verniers. 3,090,932, 5-21-63, Cl. 334-51.
- Torrance, James A., to Motorola, Inc. Remote control apparatus. 3,092,761, 6-4-63, Cl. 317-149.
- Torres, Clemente. Deceleration indicating switch. 3,108,252, 10-22-63, Cl. 340-71.
- Torres, David, by the Vendo Co., assignee. Vending machine for cylindrical objects having jam preventing means. Re. 25,321, 1-15-63, Cl. 221-67.
- Torres, Jorge, to On Mark Couplings, Inc. Fluid conduit coupling. 3,113,588, 12-10-63, Cl. 137-614.06.
- Torres, Joseph, to Hamilton Watch Co. Apparatus for lapping thin articles. 3,105,328, 10-1-63, Cl. 51-3.
- Torresen, Robert, to Brunswick Corp. Pin detecting and indicating system. 3,109,650, 11-5-63, Cl. 273-52.
- Torresen, Robert, and A. J. Gretzky, to Brunswick Corp. Pin detecting and indicating apparatus. 3,094,325, 6-18-63, Cl. 273-42.
- Torresen, Robert, and M. E. Brown, to Brunswick Corp. Pin detecting and indicating apparatus. 3,094,326, 6-18-63, Cl. 273-42.
- Torrey, Anthony J. Supporting stand for snow plows or the like vehicle attachments. 3,104,893, 9-24-63, Cl. 280-475.
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- Lobeck, John H. 3,113,813.
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- Turoff, Allan D. 3,109,539.
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- Tosi, Roberto. Process for forming the folded-back border of pieces worked of a hide or skin and the like. 3,101,602, 8-27-63, Cl. 69-21.
- Toski, John W., and R. F. Spain, to General Motors Corp. Constant current supply apparatus. 3,076,128, 1-29-63, Cl. 320-39.
- Totaro, Thomas C., and K. J. King, to Hercules Gallon Products, Inc. Refuse collection system. 3,071,264, 1-1-63, Cl. 214-82.
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- Sides, Harold I. 3,078,102.
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- Toth, John S. Headrest. 3,101,973, 8-27-63, Cl. 297-391.
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- Toti, Andrew J., to International Rectifier Corp. Fowl picking apparatus. 3,090,073, 5-21-63, Cl. 17-11.1.
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- Totten, Edward F., to The Photo-Marker Corp. Pattern grading machine. 3,083,465, 4-2-63, Cl. 33-12.
- Totten, Gilbert P., to Advance Engineering Co. Beverage brewing apparatus. 3,115,822, 12-31-63, Cl. 99-289.
- Totten, John A., to Rock-Ola Mfg. Corp. Coffee brewing apparatus. 3,086,446, 4-23-63, Cl. 99-283.
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- Touey, George P.: *See*—
- Kiefer, John E., and Touey. 3,082,107.
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- Touey, George P., and J. E. Kiefer, to Eastman Kodak Co. Water soluble cellulose acetate propionate sulfate salts and films thereof. 3,086,007, 4-16-63, Cl. 260-215.
- Touey, George P., and J. E. Kiefer, to Eastman Kodak Co. Glucose isobutylal. 3,096,323, 7-2-63, Cl. 260-209.
- Touhey, Edward A. Apparatus for reducing air pollution. 3,107,484, 10-22-63, Cl. 60-30.
- Toulis, William J. Apparatus for measuring sound speed and attenuation characteristics in liquid media. 3,087,138, 4-23-63, Cl. 340-5.
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- Toulmin, Harry A., Jr., to The Commonwealth Engineering Co. of Ohio. Process of splitting steroids. 3,112,249, 11-26-63, Cl. 195-51.
- Toulmin, Virginia B., to The Commonwealth Engineering Co. of Ohio. Hair drier. 3,108,862, 10-29-63, Cl. 34-39.



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- Tourelle, Daniel C., to Societe Rhodiaca. Process for improving the affinity for dyes of shaped polyolefine articles. 3,101,989, 8-27-63, Cl. 8—55.
- Tourtellot, John A., to Radio Corp. of America. Stereophonic phonograph pickup. 3,108,161, 10-22-63, Cl. 179—100.41.
- Tourtellotte, Dee, and E. M. Marks, to Charles B. Knox Gelatine Co., Inc. Method of modifying type A gelatin and product thereof. 3,108,995, 10-29-63, Cl. 260—117.
- Tourtellotte, Frederick, and E. A. Stiegler, to United States Rubber Co. Tire building apparatus and method. 3,071,179, 1-1-63, Cl. 156—405.
- Tousignant, Roland A., and H. S. Crane, to Diamond National Corp. Continuously-operating molded article-removing means for drying forms. 3,096,873, 7-9-63, Cl. 198—185.
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- Toussaint, Jean E. J. G., to International Standard Electric Corp. Decoding and printing system. 3,081,446, 3-12-63, Cl. 340—172.5.
- Touton, Rush D., to Wurton Machine Co. Cigar. Re. 25,355, 3-19-63, Cl. 131—11.
- Touton, Rush D. Method for curing green tobacco. 3,086,533, 4-23-63, Cl. 131—140.
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- Townsend, Ray T., to Townsend Engineering Co. Machine for encasing sausage and the like. 3,115,668, 12-31-63, Cl. 17—33.
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- Towzey, Hugh E., Jr. Airfoil design for jet engined aircraft. 3,097,817, 7-16-63, Cl. 244—15.
- Toy, Arthur D. F., E. N. Walsh, and J. R. Froli, Jr., to Stauffer Chemical Co. Defoliant methods using thio esters of chloromethyl phosphonous and chloromethyl phosphonic acids. 3,094,405, 6-18-63, Cl. 71—2.3.
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- Tracey, John E., and E. L. Wheeler, to The Bendix Corp. Cutting die assembly. 3,091,986, 6-4-63, Cl. 83—128.
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- Trammell, William H., Jr., C. N. Wallace, Jr., and W. B. Heyward, to J. P. Stevens & Co., Inc. Apparatus for forming automobile floor mats. 3,078,516, 2-26-63, Cl. 18—19.
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- Trapp, Walter B., and J. D. Doedens, to The Dow Chemical Co. Method for making ar-poly(hydroxymethyl)diphenyl ethers. 3,100,796, 8-13-63, Cl. 260—488.
- Trask, Russell F. Hydraulic door closer and hold-open device. 3,093,858, 6-18-63, Cl. 16—54.
- Trask, Russell L., S. Sage, and I. G. Nadel, to United States of America, Army. Nitroguanidine propellant composition and process of preparation. 3,086,896, 4-23-63, Cl. 149—92.
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- Trautman, Walter C., to Liberty Mfg. Corp. Loud-speaker. 3,074,504, 1-22-63, Cl. 181—32.
- Trautman, Walter C., to Link-Belt Co. Pilot operated flow modulating valve and mounting means. 3,106,936, 10-15-63, Cl. 137—269.
- Trautmann, John H., and P. W. R. Johnson, to R. E. Deutsch, d.b.a. Products For Industry. Modular work bench with stringers connecting frame elements. 3,082,712, 3-26-63, Cl. 108—153.
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- Travers, Douglas N., to United States of America, Navy. Three loop direction finder antenna for shipboard use. 3,093,827, 6-11-63, Cl. 343—114.
- Traverso, John J., and C. W. Whitehead, to Eli Lilly and Co. Novel 2,4,6-tris(N-alkoxysulfamyl)aniline. 3,111,531, 11-19-63, Cl. 260—397-7.
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- Treadwell, Richard J., and D. A. Rush, to S. Smith & Sons (England) Ltd. Actuator systems for the control of surfaces of dirigible craft. 3,095,168, 6-25-63, Cl. 244—76.
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- Treboux, Jules, and W. Roth, to J. R. Geigy, A.-G. Aerosols for the care of floors. 3,073,706, 1-15-63, Cl. 106—10.
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- Trefzer, Albert, to Gebr. Schneider, G.m.b.H. Ball-point pen insert. 3,094,103, 6-18-63, Cl. 120—42-4.
- Treganowan, Bernard E.: *See*—  
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- Tregreen Co.: *See*—  
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- Tremblay, Raymond M. Single use clasp. 3,110,070, 11-12-63, Cl. 24—134.
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- Tremlett, Laurence: *See*—  
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- Tremper, J. L.: *See*—  
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- Trempler, Werner R., to Lear Siegler, Inc. Control valve. 3,113,594, 12-10-63, Cl. 138—46.
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- Trenor, Irene. Manually usable corn cutter. 3,077,909, 2-19-63, Cl. 146—4.
- Trepp, Christian, to Sulzer Freres, S.A. Means for insulating elements of a low temperature unit. 3,092,283, 6-4-63, Cl. 220—16.
- Trerice, Howard O.: *See*—  
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- Tresh, Chester V.: *See*—  
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- Treshow, Michael, to United States of America, Atomic Energy Commission. Boiling water reactor with feed water injection nozzles. 3,087,881, 4-30-63, Cl. 204—193.2.
- Treshow, Michael, to United States of America, Atomic Energy Commission. Apparatus for control of a boiling reactor responsive to steam demand. 3,098,812, 7-23-63, Cl. 204—193.2.
- Tresise, Raleigh E., and P. D. Kendall, to Paravox, Inc. Hearing aid device. 3,095,483, 6-25-63, Cl. 179—107.
- Tretheway, Donald G., and R. O. Hansen, to Kimberly-Clark Corp. Papermaking machines. 3,089,409, 5-14-63, Cl. 100—162.
- Tretheway, Thomas E., to Ideal Industries, Inc. Carton for connectors and the like. 3,071,306, 1-1-63, Cl. 229—20.
- Tretner, Werner: *See—*  
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- Tretner, Werner, to Fernseh G.m.b.H. Device for determining the masses of charge carriers. 3,107,295, 10-15-63, Cl. 250—41.9.
- Tretter, James R., to Chas. Pfizer & Co., Inc. Process for preparing 2-oxo-3-(N,N-disubstituted carboxamido)-1,2,3,4,6,7-hexahydro-11b-H-benzopyridocolines. 3,095,419, 6-25-63, Cl. 260—287.
- Tretter, James R., to Chas. Pfizer & Co., Inc. 10-aminobenzopyridocolines. 3,105,079, 9-24-63, Cl. 260—287.
- Treutelaar, Edward J. Therapeutic traction device. 3,085,768, 4-16-63, Cl. 242—107.
- Trevaskis, Henry W., to Dunlop Rubber Co. Ltd. Vehicle seat suspension member. 3,100,101, 8-6-63, Cl. 248—399.
- Trevaskis, Henry W., to Dunlop Rubber Co. Ltd. Tyre building formers or drums. 3,105,788, 10-1-63, Cl. 156—417.
- Trevillian, Frank D.: *See—*  
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- Trevorrow, William D.: *See—*  
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- Treyov, Lloyd W., and D. Tegg, to Canadian Chemical Co. Ltd. Purification of triacetin. 3,108,133, 10-22-63, Cl. 260—499.
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- Trewella, Robert J., to Johnson & Johnson. Perforated non-adherent surgical dressing. 3,077,882, 2-19-63, Cl. 128—156.
- Trewella, Robert J., and L. Jerzewski, Jr. Flexible bag. 3,073,507, 1-15-63, Cl. 229—62.
- Treydte, Kurt: *See—*  
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- Tribe, Thomas F., to British Federal Welder & Machine Co. Ltd. Welding cables. 3,082,288, 3-19-63, Cl. 174—19.
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- Triebwasser, Sol, to International Business Machines Corp. Electro-optical bistable light switch. 3,093,477, 6-11-63, Cl. 88—61.
- Trier, Raymond T., and C. J. Mathey, to The Union Metal Mfg. Co. Wire rope fittings. 3,100,924, 8-20-63, Cl. 24—122.6.
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- Trifaro, Felice J. and H. Method of teaching and correcting a golf club swing. 3,109,244, 11-5-63, Cl. 35—29.
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- Trifonoff, George T., to Boeing Airplane Co. Securing and releasing system. 3,074,320, 1-22-63, Cl. 89—1.5.
- Trifunovic, Alexander L.: *See—*  
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- Triggle, Ann M., and H. A. H. Jenkins, to Hooker Chemical Corp. Method and solution for producing chromate coatings on zinc and zinc alloys. 3,090,710, 5-21-63, Cl. 148—6.21.
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- Trimble, Ceburn B., and J. M. Steinke, to The National Cash Register Co. Electrical decoders. 3,114,132, 12-10-63, Cl. 340—146.3.
- Trimble, Charles H., to Western Electric Co., Inc. Ram-adjustment mechanism for a press. 3,106,113, 10-8-63, Cl. 78—1.
- Trimble, Floyd. Water conservation. 3,099,107, 7-30-63, Cl. 47—58.
- Trimble, John O., to Union Carbide Corp. Mold-supporting means and process for making same. 3,109,209, 11-5-63, Cl. 22—74.
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- Trimble, Rhuel. Helicopter kite. 3,079,116, 2-26-63, Cl. 244—154.
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- Trinen, Wilbur H., to Vaco Products Co. Insulated electrical adapter. 3,081,443, 3-12-63, Cl. 339—205.
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- Tripp, Kenneth F., to Markem Machine Co. Machine for printing capsules and the like. 3,103,165, 9-10-63, Cl. 101—35.
- Tripp, Ralph N., Jr. Combined rotatable eaves trough and leaderhead. 3,077,055, 2-12-63, Cl. 50—5.
- Tripp, Robert W., to Inductosyn Corp. Digital-to-analog converter with zero offset. 3,105,142, 9-24-63, Cl. 235—154.
- Tripp, Robert W., E. B. Brown, and M. Shenker, to Farrand Optical Co., Inc. Variable magnification optical system. 3,088,368, 5-7-63, Cl. 88—57.
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- Trippel, Hanns, to Amphicar Corp. of America. Amphibious vehicle. 3,114,348, 12-17-63, Cl. 115-1.
- Tripplehorn, James C. Interlocking fixed and ambulatory scrapers. 3,083,772, 4-2-63, Cl. 166-176.
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- Trishman, Harry A., to Adamson United Co. Closure. 3,081,901, 3-19-63, Cl. 220-40.
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- Tritle, Paul E., to Mudd-Kat Corp. Traction belt cycle vehicle. 3,101,805, 8-27-63, Cl. 180-9.24.
- Tritsch, Ludwig, to The Kendall Co. Covered adhesive bandages. 3,072,249, 1-8-63, Cl. 206-63.2.
- Tritsch, Ludwig, to The Kendall Co. Pressure-sensitive adhesive tape having a molecularly oriented film backing comprising a blend of high density and low density polyethylenes. 3,088,848, 5-7-63, Cl. 117-122.
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- Troeger, Henry, to The Bendix Corp. Flexural pivot device. 3,073,584, 1-15-63, Cl. 267-1.
- Troeger, Henry, to The Bendix Corp. Emergency disconnect device. 3,080,030, 3-5-63, Cl. 192-101.
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- Troland, Edwin P., to Bird Machine Co. Separator. 3,105,044, 9-24-63, Cl. 210-512.
- Troll, William A., to Emsig Mfg. Co. Button feeder. 3,086,486, 4-23-63, Cl. 112-113.
- Trom, Eugene D., to General Equipment Co. Forced air-driven rotary grain distributor. 3,111,399, 11-19-63, Cl. 34-59.
- Trombetta, Panfilo. Industrial brake. 3,115,956, 12-31-63, Cl. 188-171.
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- Tronzo, Raymond G. Hip nail. 3,076,453, 2-5-63, Cl. 128-92.
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- Tropiano, Anthony. Wheel tire lift. 3,084,819, 4-9-63, Cl. 214-334.
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- Tross, Robert A., to Container Corp. of America. Method of preparing scoring dies. 3,113,898, 12-10-63, Cl. 156-215.
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- Trostel, Norris H. Pressure gauge connector. 3,102,427, 9-3-63, Cl. 73-420.
- Trotin, Charles, to ARCA Premoncontrole. Torque responsive measuring apparatus. 3,079,788, 3-5-63, Cl. 73-59.
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- Trotter, Gerald F., 1/2 to L. Harrawood and 1/2 to A. Renne. Dispensing nozzle with resilient tank cap holder. 3,113,599, 12-10-63, Cl. 141-392.
- Trotter, Herbert, Jr., to The Sharples Corp. Improvement in centrifuges. 3,096,282, 7-2-63, Cl. 233-7.
- Trotter, Ide P., Jr.: See—  
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- Trounson, Edmund P., and S. J. Raff. Semi-active proximity fuze. 3,113,305, 12-3-63, Cl. 343-7.
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- Troutman, Paul H.: See—  
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- Hofmann, Albert, and Troxler. 3,078,214.
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- Troy, James E., to Fieldcrest Mills, Inc. Mottled pile fabric and method of making same. 3,091,263, 5-28-63, Cl. 139-402.
- Troy, Joseph C. Receptacle for beach supplies. 3,079,965, 3-5-63, Cl. 150-1.
- Troy, Leonard. Loading ramp or skid for vehicles. 3,088,568, 5-7-63, Cl. 193-38.
- Troy, Leonard. Brake shoe adjustment mechanism. 3,095,085, 6-25-63, Cl. 188-79.5.
- Troy, Leonard. Automobile transport. 3,113,800, 12-10-63, Cl. 296-1.
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- Trubenised Co. (Registered Trust): See—  
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- Trueblood, Elmer D., to Trueblood, Inc. Plastic injection machine. 3,091,809, 6-4-63, Cl. 18-30.
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- Trueblood, Harold C., to Thompson Ramo Wooldridge, Inc. Half-cycle reset magnetic amplifiers. 3,083,333, 3-26-63, Cl. 323-89.
- Truelove, James E., 1/2 to R. E. Bostick. Frame and mounting means for an agricultural implement. 3,091,299, 5-28-63, Cl. 172-656.
- Truesdale, Cavour L. Drapery heading seam. 3,084,738, 4-9-63, Cl. 160-330.
- Truesdell, Francis W., and H. T. Faus, to General Electric Co. Resetting mechanism for rotatable shafts. 3,112,069, 11-26-63, Cl. 235-144.
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- Truhon, John A. Door closing door checks. 3,090,988, 5-28-63, Cl. 16-66.
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- Truhon, John A. Door closing door checks. 3,105,264, 10-1-63, Cl. 16-66.
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- Trumbull, Harold E.: See—  
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- Trurun, Inc.: See—  
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- Tucker, Clarence K., and J. Watsula. Barber's sanitary hair vacuum apparatus. 3,082,466, 3-26-63, Cl. 15-415.
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- Tucker, Harold, to Goodrich-Gulf Chemicals, Inc. Polymerization process for aliphatic, conjugated dienes. 3,094,514, 6-18-63, Cl. 260-94.3.
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- Tudor, John J.: *See*—  
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Newman, Douglas A., and Tully. 3,111,422.
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- Turner, Dean L. One-way animal gate. 3,079,711, 3-5-63, Cl. 39—87.
- Turner, Delber W., to Petrolite Corp. Electric treater. 3,073,776, 1-15-63, Cl. 204—302.
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- Turner, Mason M., and M. Silverman, to Shell Oil Co. Fungicidal process. 3,081,220, 3-12-63, Cl. 167—22.
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De Forest, Sherwood S. 3,098,624.  
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Ferguson, Howard W. 3,104,069.  
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Franz, William F. 3,109,672.  
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Hanna, Ralph T. 3,081,784.  
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Higgs, Richard F. 3,075,897.  
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Huet, Raymond J. 3,111,218.  
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Kegg, Vernon J. 3,081,958.  
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Kennedy, Truman H. 3,096,173.  
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Roberts, William L. 3,081,651.  
Rountree, Clarence O., Jr. 3,101,836.  
Saylor, Robert F. 3,090,479.  
Schultz, Robert A. 3,075,419.  
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Sieger, Earl W. 3,086,537.  
Sines, Francis J. 3,095,986.  
Siple, James C. 3,089,780.  
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Bloch, Herman S. 3,072,457.  
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Gerhold, Clarence G. 3,113,000.  
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Nixon, William G. 3,094,493.  
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- Urshan, Samuel A., to General Dynamics Corp. Liquid level gauge. 3,094,873, 6-25-63, Cl. 73-290.
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- Uschmann, Curt. Method of treating and laminating green wood veneer. 3,076,738, 2-5-63, Cl. 156-331.
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- Valentine, Harry M., to Bendix-Westinghouse Automotive Air Brake Co. Load control valve for vehicle air springs. 3,071,393 1-1-63, Cl. 280-124.
- Valentine, Harry M., to Bendix-Westinghouse Automotive Air Brake Co. Combined control and tractor protection valve. 3,104,133, 9-17-63, Cl. 303-50.
- Valentine, Harry M., to Bendix-Westinghouse Automotive Air Brake Co. Spring brake emergency release system. 3,107,126, 10-15-63, Cl. 303-13.
- Valentine, Harry M., to Bendix-Westinghouse Automotive Air Brake Co. Emergency release system for fluid pressure brakes. 3,115,371, 12-24-63, Cl. 303-29.
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- Valentine, Leslie M., and B. F. Sagar, to Tootal Broadhurst Lee Co. Ltd. Process of dry creaseproofing cellulosic fabrics with divinyl sulphone. 3,106,439, 10-8-63, Cl. 8-116.
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- Van Antwerpen, Lloyd D., to Vanant Co., Inc. Collapsible packaging strip. 3,101,166, 8-20-63, Cl. 229-14.
- Van Arragon, Bernard, to Hollandse Signaalapparaten, N.V. Limiting circuit for a time modulator. 3,091,742, 5-28-63, Cl. 332-9.
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- Van Dop, Adrianus, to Shell Oil Co. Sampling device. 3,084,555, 4-9-63, Cl. 73-422.
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- Van Duyne, Edward N. Automatic controls for winding and rewinding reels for recording tapes. 3,103,318, 9-10-63, Cl. 242-55.12.
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- Van Dyk, John C.: *See*—  
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- Van Dyk, Victor R. Elevating container for garbage cans. 3,085,655, 4-16-63, Cl. 187-5.
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- Van Dyke, Genevieve D., ½ to R. A. Spencer, Jr. Drafting instrument. 3,094,784, 6-25-63, Cl. 33-26.
- Van Dyke, Orien W., and L. L. Carney, to Magnet Cove Barium Corp. Well fluid and additives therefor. 3,076,759, 2-5-63, Cl. 252-8.5.
- Van Dyke, Ross E., to Shell Oil Co. Alkylation process. 3,116,346, 12-31-63, Cl. 260-683.63.
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- Van Epps, Kenneth S., and W. E. Magnus. Means for stopping the flow of fluid in a conduit. 3,115,163, 12-24-63, Cl. 138-94.
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- Van Evera, Charles. Method for loading a ski-lift. 3,112,710, 12-3-63, Cl. 104-173.
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- Van Gelder, Harold W. Safety chain hook. 3,082,502, 3-26-63, Cl. 24-241.
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- Van Hess, Lloyd, to Plans & Products, Inc. Combination decelerator and windshield wiper blade construction. 3,074,096, 1-22-63, Cl. 15-250.07.
- Van Hoesen, Harold E., to Research-Cottrell, Inc. Feedback control circuit. 3,083,322, 3-26-63, Cl. 318-28.
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- Van Hook, Harry B. Protective guard for actuating devices. 3,109,900, 11-5-63, Cl. 200-42.
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- Van Hove, Austin G. Explosively releasable fastener. 3,071,404, 1-1-63, Cl. 294-83.
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- Van Leer, Oscar J., and C. Ragettli, to Inland Steel Container Co. Shipping drum. 3,088,626, 5-7-63, Cl. 220-71.
- Van Leeuwen, Cornelis J. Device for contacting sheets carrying sensitive layers with at least two liquids. 3,099,948, 8-6-63, Cl. 95-94.
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- Van Pelt, Duane A. Wire rope cutting attachment for chain saws. 3,073,073, 1-15-63, Cl. 51-98.
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- Van Poolen, Hendrik K., to Marathon Oil Co. Method of inhibiting corrosion in oil production. 3,072,192, 1-8-63, Cl. 166-42.
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- Klinger, Karl L. 3,076,667.
- Salerno, Paul G. 3,076,471.
- Vapor Recovery Systems Co., The: *See*—  
Dickinson, Horace. 3,074,274.
- Varadi, Louis E., T. E. Bourque, and W. Pesarek, to General Electric Co. Starter nozzle for gas turbines. 3,098,355, 7-23-63, Cl. 60-39.14.
- Varadi, Louis E., T. E. Bourque, and D. M. Judge, to General Electric Co. Gas turbine nozzle and vane assembly. 3,107,897, 10-22-63, Cl. 253-78.
- Vara-Trol Inc.: *See*—  
Fetterman, Roy A., Jr. 3,097,476.
- Vardan, Ann H. Toy carrier. 3,085,610, 4-16-63, Cl. 150-35.
- Varela, Arthur A., to Melpar, Inc. Frequency modulated pulse radar system. 3,114,909, 12-17-63, Cl. 343-17.2.
- Varga, Andre, to Carding Specialists (Canada) Ltd. Carding engines. 3,087,202, 4-30-63, Cl. 19-99.
- Varga, Andre, to Carding Specialists (Canada) Ltd. Apparatus for guiding textile webs. 3,113,348, 12-10-63, Cl. 19-106.
- Varga, Henry J., A. N. Haig, and W. P. Kirch, to Allis-Chalmers Mfg. Co. Adjustable collimator. 3,088,031, 4-30-63, Cl. 250-105.
- Varga, John J., to Curtiss-Wright Corp. Impact wrench and socket coupler devices. 3,094,344, 6-18-63, Cl. 287-52.08.
- Varga, Joseph J., to General Electric Co. Duct-piercing machine. 3,100,413, 8-13-63, Cl. 83-180.
- Vargady, Leslie O., to Bausch & Lomb Inc. Optical system for projection of scale means. 3,114,284, 12-17-63, Cl. 88-24.
- Vargha, Laszlo: *See*—  
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- Vargo, Louis A., Jr., and A. Bethardy. Incinerator. 3,079,878, 3-5-63, Cl. 110-8.
- Varian Associates: *See*—  
Allen, Theodore L., Jr. 3,090,002.
- Anderson, Weston A. 3,085,195.
- Anderson, Weston A., Arnold, and Bloch. 3,075,156.
- Anderson, Weston A., and Shoolery. 3,091,732.
- Arnold, James T. 3,110,858.
- Bell, William E., and Bloom. 3,109,960.
- Biechler, Charles S., Pearsall, Staprans, and Symons. 3,113,238.
- Dehmelt, Hans G. 3,071,721.
- Fiedor, Adolph J., and Rockwell. 3,104,341.
- Foss, David W. 3,085,199.
- Foss, David W. 3,090,018.
- Fowler, Bruce V. 3,081,428.
- Gordon, Ronald H., and Schoennauer. 3,098,207.
- Hall, Hugh J. 3,082,386.
- Heninger, Grant O., and Oxner. 3,109,144.
- Hubbell, Richard L., and Record. 3,092,791.
- Hyde, James S. 3,100,280.
- Jepsen, Robert L. 3,094,639.
- Jepsen, Robert L., and Francis. 3,101,431.
- Larue, Albert D. 3,093,804.
- Lloyd, William A., and Jepsen. 3,115,297.
- Lloyd, William A., and Ness. 3,072,421.
- Lloyd, William A., and Zaphiropoulos. 3,084,848.
- Nelson, Bruce E. 3,071,725.
- Rempel, Robert C., and Weaver. 3,090,003.
- Rorden, Robert J., and Ginsling. 3,073,164.
- Ruddock, Kenneth A. 3,108,220.
- Rutherford, Sherman L., Francis, and Lloyd. 3,091,717.
- Salisbury, Frederick L. 3,097,323.
- Salisbury, Frederick L. 3,097,324.
- Schiffman, Bernard M. 3,071,729.
- Sturrock, Peter A. 3,102,211.
- Symons, Robert S. 3,104,338.
- Trivelpiece, Alvin W. 3,110,839.
- Varian, Russell H. 3,101,469.
- Varian, Russell H. 3,109,138.
- Whitehorn, Richard M. 3,072,850.
- Zaphiropoulos, Renn. 3,107,045.
- Zaphiropoulos, Renn, and Lloyd. 3,088,657.
- Zitelli, Louis T. 3,098,165.
- Zitelli, Louis T. 3,103,609.
- Varian, Russell H., to Varian Associates. Phase coherent radar system. 3,101,469, 8-20-63, Cl. 343-9.



- Varian, Russell H., to Varian Associates. Gyromagnetic resonance methods and apparatus. 3,109,138, 10-29-63, Cl. 324-5.
- Varian, Sigurd F. Swimming pool cleaning method and apparatus. 3,074,078, 1-22-63, Cl. 4-172.
- Varifab Inc.: *See*—  
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- Vari-Typer Corp.: *See*—  
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- Varlet, Pierre P. W., to Societe Anonyme des Usines Chauson. Partially polymerized unsaturated polyester coating on a fibrous base. 3,116,160, 12-31-63, Cl. 117-62.2.
- Varnell, John F.: *See*—  
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- Varney, Philip L., to Brunswick Corp. Closures for laboratory glassware. 3,085,795, 4-16-63, Cl. 215-41.
- Varnum, Richard O. Cutter attachment for rotary snow plow. 3,081,565, 3-19-63, Cl. 37-43.
- Varo, Inc.: *See*—  
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- Varo Inc. Electrokinetics Div.: *See*—  
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- Varo Mfg. Co., Inc.: *See*—  
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- Varon, Louis A. Embossing device. 3,107,394, 10-22-63, Cl. 18-10.
- Varrecchia, John R.: *See*—  
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- Varta Aktiengesellschaft: *See*—  
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Horn, Lutz, and Philipp. 3,097,975.  
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- Vartanian, Perry H., Jr.: *See*—  
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- Varvel, Harold E., to Master Vibrator Co. Portable heater. 3,101,193, 8-20-63, Cl. 263-19.
- Vary, Alex., to United States of American, National Aeronautics and Space Administration. Radiant heater having formed filaments. 3,107,171, 10-22-63, Cl. 219-19.
- Vasco Industries Corp.: *See*—  
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- Vasiljevic, Tomislav P. Tire traction arrangement. 3,098,516, 7-23-63, Cl. 152-210.
- Vasilos, Thomas, and R. B. Wagner, to Avco Mfg. Corp. Hot pressed material and method of producing the same. 3,116,137, 12-31-63, Cl. 65-18.
- Vasta, Francesco. Ball or roller bearings. 3,093,427, 6-11-63, Cl. 308-184.
- Vasterbottens Tryckeri Aktiebolag: *See*—  
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- Vaterlaus, Bruno P.: *See*—  
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- Vau, Jean-Baptiste P., to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation. Industrial process for preparing planar blanks for the manufacture of hollow turbine blades. 3,092,894, 6-11-63, Cl. 29-531.
- Vaudreuil, Edgar G. C-clamp. 3,102,723, 9-3-63, Cl. 269-101.
- Vaughan, Charles M. Oven. 3,074,360, 1-22-63, Cl. 107-59.
- Vaughan, Chester D., Jr., and R. H. Vetter, to E. J. Lavino and Co. Magnesium oxide pellets and process of producing the same for burning. 3,099,533, 7-30-63, Cl. 23-201.
- Vaughan, Eric W., to The Superior Electric Co. Adjustable voltage rectifier. 3,089,074, 5-7-63, Cl. 321-8.
- Vaughan, James R., Jr.: *See*—  
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Semb, Joseph, and Vaughan. 3,072,650.
- Vaughan, James R. M., and R. H. Bright, to Electrical Musical Industries Ltd. Magnetrans. Re. 25,420, 7-23-63, Cl. 315-39.67.
- Vaughan, James W., and E. H. Phillips, to Hewlett-Packard Co. Waveguide coupling apparatus. 3,076,159, 1-29-63, Cl. 333-98.
- Vaughan, Lee E.: *See*—  
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- Vaughan, Rex W.: *See*—  
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- Vaughan, Robert A., to General Precision, Inc. Power supply protection device. 3,072,842, 1-8-63, Cl. 323-22.
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- Vaughan, Roger E.: *See*—  
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- Vaughan, Woodrow E.: *See*—  
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- Vaughn, Charles O., to Suburban Appliance Co. Control for burners. 3,101,897, 8-27-63, Cl. 236-1.
- Vaughn, Claybron, Jr., and J. F. Walter, to Product Design, Inc. Bell lights. 3,077,138, 2-12-63, Cl. 84-103.
- Vaughn, Damon A. Carrying case for firearm. 3,107,833, 10-22-63, Cl. 224-2.
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- Vaughn, Everett W.: *See*—  
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Thomas, Eugene P., Guentner, and Vaughn. 3,099,747.
- Vaughn, Frank R., to A. H. Bartels, L. T. Schmit, and P. Feeney. Spring loaded heat saving device. 3,090,558, 5-21-63, Cl. 236-1.
- Vaughn, Harold E. Expander tool. 3,077,916, 2-19-63, Cl. 153-80.
- Vaughn, Harold G., to The Ohio Corrugating Co. Container sealing ring. 3,091,489, 5-28-63, Cl. 292-256.69.
- Vaughn, Hubert S. Marine engine muffler. 3,111,190, 11-19-63, Cl. 181-52.
- Vaughn, Hughes W.: *See*—  
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- Vaughn Machinery Co., The: *See*—  
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- Vaughn, Rudolph M. Broaching method and apparatus for forming an undercut slot. 3,103,675, 9-17-63, Cl. 10-6.
- Vaughn, Samuel B., Jr.: *See*—  
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- Vaurio, Frans V. E., to Customark Corp. Paper product with watermark and process therefor. 3,085,898, 4-16-63, Cl. 117-38.
- Vayda, Alexander, to Fonderite Societe a Responsabilite Limitee. Permanent moulds. 3,100,919, 8-20-63, Cl. 22-9.
- Vawter, John E., to Henry Weis, Mfg. Co., Inc. Stile and mounting therefor. 3,108,664, 10-29-63, Cl. 189-42.
- Vazopolos, Steve, to Monsanto Chemical Co. Dichloroisocyanurate process. 3,072,654, 1-8-63, Cl. 260-248.
- Vea, Theodore H.: *See*—  
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- Veatch, Carlos W. Heating pad. 3,108,596, 10-29-63, Cl. 128-399.
- Veal, Jean J., to Phillips Petroleum Co. Manufacture of wet process phosphoric acid. 3,104,946, 9-24-63, Cl. 23-165.
- Veatch, Franklin: *See*—  
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- Foreman, Robert W., and Veatch. 3,105,023.
- Veazey, Thomas M.: *See*—  
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- Veber, Hoyt K., to Titus Mfg. Corp. Pivoted vane damper. 3,095,178, 6-25-63, Cl. 251-212.
- Vecchi, Alberto, and G. Maffi, to Lepetit S.p.A. Antitussive composition. 3,073,741, 1-15-63, Cl. 167-55.
- Vecchi, Alberto, and G. Melone, to Lepetit S.p.A. Antifungal compositions containing 4-cyano-phenyl and 5-cyano-thienyl-nitroethylenes. 3,102,841, 9-3-63, Cl. 167-30.
- Veenie, Ethel A., ½ to W. J. Ruano. Shower stall, bath tub accessory. 3,096,526, 7-9-63, Cl. 4-148.
- Vecchiarelli, Francis, and H. R. Rudow, to National Distillers and Chemical Corp. Bead sizing tool. 3,088,347, 5-7-63, Cl. 81-15.
- Vector Engineering Contractors, Inc.: *See*—  
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Weidknecht, Charles J. 3,074,024.  
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- Vector Mfg. Co., Inc.: *See*—  
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- Vedvik, Andrew H.: *See*—  
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- Vedvik, Andrew H., and A. Borsuk, to Oscar Mayer & Co., Inc. Sausage making machine. 3,091,798, 6-4-63, Cl. 17-32.
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Vegors, Stanley H., and Arnold. 3,111,881.
- Vegors, Stanley H., and F. L. Arnold, to Vego Inc. Contact lens polishing apparatus. 3,111,790, 11-26-63, Cl. 51-105.
- Vegors, Stanley H., and F. L. Arnold, to Vego Inc. Projection apparatus for use in testing. 3,111,881, 11-26-63, Cl. 88-24.
- Vegter, Geert C., to Shell Oil Co. S-halo-O-hydrocarbon phosphorochloridothiolates. 3,081,329, 3-12-63, Cl. 260-461.
- Veis, Arthur, and J. Cohen, to Armour & Co. Reconstitution of native collagen fiber from acid precursor gelatin. 3,075,961, 1-29-63, Cl. 260-123.7.



- Veit, Anton L. Apparatus for the automatic correction of color casts in photographic color prints. 3,083,614, 4-2-63, Cl. 88-24.
- Veit, Robert C.: *See*—  
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- Veith, Werner, and H. Heynisch, to Siemens & Halske Aktiengesellschaft. Color television tube having Venetian blind-type grid. 3,090,890, 5-21-63, Cl. 315-21.
- Veith, Werner, and P. Meyerer, to Siemens and Halske Aktiengesellschaft. Magnetic means for focusing and densifying the electron beam in traveling wave tubes. 3,092,745, 6-4-63, Cl. 313-84.
- Veith, Werner, and P. Meyerer, to Siemens & Halske Aktiengesellschaft. High capacity travelling wave tube for amplifying ultra high frequencies. 3,099,766, 7-30-63, Cl. 315-35.
- Veith, Werner, and H. Heynisch, to Siemens & Halske Aktiengesellschaft. Encoding device employing a cathode ray tube. 3,114,073, 12-10-63, Cl. 315-85.
- Vekovius, Charles W., and W. M. Woodward, to Mid-West Abrasive Co. Billet grinding apparatus. 3,096,889, 7-9-63, Cl. 214-1.
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- Velonis, Stamatis G., H. S. Schnitzer, and H. M. Richardson, to Galen Enterprises, Inc. Disposable sanitary glove and method of making same. 3,072,914, 1-15-63, Cl. 2-167.
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- Velte, John D. M., to Ford Motor Co. Transmission shift controlling mechanism. 3,084,773, 4-9-63, Cl. 192-35.
- Veltman, Preston L., and E. Fisher, to W. R. Grace & Co. Melamine synthesis. 3,112,312, 11-26-63, Cl. 260-249.7.
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- Ventress, Douglas A. Method and installation for pumping liquid to any desired level. 3,093,088, 6-11-63, Cl. 103-232.
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- Venus, Wilibald. Apparatus for providing vacuum in molds. 3,070,857, 1-1-63, Cl. 22-73.
- Venziani, Walter. Lifting apparatus for the loading of material usable with motor-vehicles. 3,074,570, 1-22-63, Cl. 214-75.
- Verba, John W., and R. A. Hawrylak, to United States of America, Atomic Energy Commission. Continuous rotation scattering chamber. 3,100,263, 8-6-63, Cl. 250-83.
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- Verbakel, Martinus, to Koninklijk Vereenigde Tabaksindustrieën Mignot & de Block N.V. Cigar. 3,111,950, 11-26-63, Cl. 131-8.
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- Verdol, Joseph A., to Sinclair Research Inc. Esters of an oxyalkylated phenol-formaldehyde resin as a lubricating oil detergent. 3,096,286, 7-2-63, Cl. 252-57.
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- Veres, Edward W., and H. S. Brown, to Safety-Crafters Corp. Bowl for an airline lubricator. 3,078,007, 2-19-63, Cl. 220-71.
- Veres, Frank, to Owens-Illinois Glass Co. Method of adhering metal to a glass base. 3,075,860, 1-29-63, Cl. 117-211.
- Veres, Frank, to Owens-Illinois Glass Co. Catadioptric electroluminescent glass block. 3,089,051, 5-7-63, Cl. 313-108.
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- Verge, Carl B. Self-propelled amusement device. 3,107,926, 10-22-63, Cl. 280-221.
- Vergobbi, John G., to Pneumatic Scale Corp., Ltd. Method of making a liner bag. 3,083,618, 4-2-63, Cl. 93-35.
- Vergobbi, John G., to Pneumatic Scale Corp., Ltd. Container forming machine. 3,088,380, 5-7-63, Cl. 93-12.
- Verhagen, Edward L., to The Regina Corp. Air check valves. 3,113,853, 12-10-63, Cl. 55-367.
- Veris, George C. Toy gun. 3,073,060, 1-15-63, Cl. 46-177.
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- Verkheim AG. Maschinenfabrik: *See*—  
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- Verlo, Arnold D.: *See*—  
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- Vermeulen, John D., to The New York Air Brake Co. Detent. 3,107,547, 10-22-63, Cl. 74-527.
- Vermeulen, William, to General Electric Co. Pushbutton switch with double throw action. 3,100,822, 8-13-63, Cl. 200-5.
- Vermeulen, William P.: See—  
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- Vermillion, Herbert E., C. C. Towne, and G. Eckert, to Texaco Inc. Method and fuel for operating combustion equipment. 3,089,539, 5-14-63, Cl. 158-117.5.
- Vermont American Corp.: See—  
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- Vernay Laboratories, Inc.: See—  
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- Vernco Corp.: See—  
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- Verner, William C.: See—  
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- Verneuil, Pierre J. Fishing line guide. 3,099,889, 8-6-63, Cl. 43-24.
- Vernik, David. Phonograph record rack. 3,092,256, 6-4-63, Cl. 211-40.
- Vernois, Gouven. Delay or memory device and a multi-curve graph recorder embodying same. 3,076,967, 2-5-63, Cl. 346-49.
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- Vernon Tool Co. of Arizona: See—  
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- Vernon, William O.: See—  
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- Ver Nooy, Burton, to T. D. Williamson, Inc. Saw apparatus. 3,071,991, 1-8-63, Cl. 77-42.
- Ver Nooy, Burton, to T. D. Williamson, Inc. Ball-type pipeline scraping and batching device. 3,090,058, 5-21-63, Cl. 15-104.06.
- Ver Nooy, Burton, to T. D. Williamson, Inc. Plugging plug. 3,107,696, 10-22-63, Cl. 138-89.
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- Ver Nooy, Charles D., III, to E. I. du Pont de Nemours and Co. Fluoroalkyl esters. 3,081,342, 3-12-63, Cl. 260-485.
- Véron, Didier: See—  
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- Veronda, Carol M.: See—  
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- Verrando, Marcell G., Jr., to Pall Corp. Wash filter element. 3,109,809, 11-5-63, Cl. 210-130.
- Verreau, Arthur. Spring element for mattress and bed spring. 3,076,203, 2-5-63, Cl. 5-256.
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- Verri, Gene, to Coro, Inc. of Rhode Island. Necklaces useable separately or in parallel strands. 3,098,364, 7-23-63, Cl. 63-2.
- Verrinder, Ernest A., to FMC Corp. Article handling apparatus. 3,086,640, 4-23-63, Cl. 198-33.
- Verrinder, Ernest A., and E. J. McGrath, to FMC Corp. Method of and apparatus for handling cases. 3,088,574, 5-7-63, Cl. 198-21.
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- Verse, Hansheinrich, to North American Philips Co., Inc. Apparatus for tomographic fluoroscopy with the use of image amplification. 3,091,692, 5-28-63, Cl. 250-61.5.
- Versghy, Stephen. Toy punching ball of plastic material. 3,114,546, 12-17-63, Cl. 272-78.
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- Verstraelen, Marie M. A. A. G., H. Volkers, and R. Rosier, to North American Philips Co., Inc. Circuit-arrangement for push-pull frequency demodulation or phase comparison. 3,084,291, 4-2-63, Cl. 329-138.
- Verstraten, Jan, to North American Philips Co., Inc. High-frequency heating furnaces operating with very high frequencies. 3,102,181, 8-27-63, Cl. 219-10.55.
- Verstrijden, Ulrich: See—  
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- Vertin, Thomas D. Method and means of body development procedures and the making of master models. 3,076,231, 2-5-63, Cl. 18-47.5.
- Vetrees, Paul C., and C. G. Hackenberger, to Tacoma Boat-building Co., Inc. Vessel-carried level-luffing crane. 3,090,496, 5-21-63, Cl. 212-35.
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- Vesak, Joseph, to Crown Zellerbach Canada Ltd. Bottom lock for cartons. 3,107,840, 10-22-63, Cl. 229-45.
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- Vesper, Daniel M., and M. E. Larkin, to Phillips Petroleum Co. Control mechanism. 3,092,765, 6-4-63, Cl. 318-207.
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- Vest, Robert D., to E. I. du Pont de Nemours and Co. Process for preparing tetracyano-1,4-dithiin. 3,101,344, 8-20-63, Cl. 260-327.
- Vest, Robert D., to E. I. du Pont de Nemours and Co. Preparation of tetracyanoethylene by reacting cyanocarbon sulfides with metal cyanides, followed by oxidation. 3,101,365, 8-20-63, Cl. 260-465.8.
- Vest, Robert D., to E. I. du Pont de Nemours and Co. 3,4-dichloro-1,2,5-thiadiazole and its preparation. 3,115,497, 12-24-63, Cl. 260-302.
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- Viall, Edgar W., to Kaiser Aluminum & Chemical Corp. Refractory. 3,109,259, 11-5-63, Cl. 50-128.
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- Vickery, Edgar H., to Fisher Governor Co. Protected ball valve seal. 3,077,902, 2-19-63, Cl. 137-625.12.
- Vickery, Edgar H., to Fisher Governor Co. Ball valve actuator. 3,078,065, 2-19-63, Cl. 251-58.
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- Vickery, John. Combined package and dispenser of plastic wrapping film. 3,082,870, 3-26-63, Cl. 206-58.
- Vickery, Ronald C., to Nuclear Corp. of America. Method for preparing ferromagnetic oxides. 3,080,320, 3-5-63, Cl. 252-62.5.
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- Victor, Irving, to Research Development Co. Method of recovering a volatile organic solvent from an absorbent with steam. 3,089,250, 5-14-63, Cl. 34-37.
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- Viell, Otto A. Apparatus for the production of synthetic resin foam. 3,105,745, 10-1-63, Cl. 23-252.
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- Vierling, Donald E. Improved phenothiazine composition and method of employing same. 3,085,934, 4-16-63, Cl. 167-53.
- Vierling, Oskar, W. Peuser, R. Roseler, and O. Schulz; said Peuser, Roseler and Schulz assors. to said Vierling. Coding device. 3,083,897, 4-2-63, Cl. 234-5.
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- Vollhardt, Fromut, and J. Gevecke, to Schmidt'sche Heissdampf-Gesellschaft. Moving grate assembly, 3,095,839, 7-2-63, Cl. 110-40.
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 Vollmar, Joseph E., Jr., 3,090,344.
- Vollmar, Joseph E., Jr., to Vollmar Brothers Construction Co. Mooring ring mounting, 3,090,344, 5-21-63, Cl. 114-230.
- Vollmer, James, to Minneapolis-Honeywell Regulator Co. Apparatus to accurately and continuously measure changes occurring in the specific gravity and composition of fluid, 3,071,038, 1-1-63, Cl. 88-14.
- Vollmert, Bruno, and W. Hesser, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of polymers by anionic polymerization in solution, 3,110,706, 11-12-63, Cl. 260-93.5.
- Volma, N.V.: *See*—  
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- Volmert, Elmer J., to Reed Roller Bit Co. Bearing structure, 3,112,804, 12-3-63, Cl. 175-371.
- Volpp, Gert: *See*—  
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- Voltz, Bernard C., to Ranschoff Co. Cleaning device, 3,086,538, 4-23-63, Cl. 134-111.
- Voltz, Jacques: *See*—  
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- Voltz, Sterling E., to Sun Oil Co. Preparation of viscous polymers, 3,090,821, 5-21-63, Cl. 260-683.15.
- Voltz, Sterling E., to Sun Oil Co. Preparation of viscous polymers, 3,090,822, 5-21-63, Cl. 260-683.15.
- Voltz, Sterling E., to Sun Oil Co. Activation of platinum type reforming catalysts, 3,113,931, 12-10-63, Cl. 252-442.
- Voltz, Sterling E., W. P. Griffin, Jr., and A. P. Stuart, to Sun Oil Co. Preparation of conjugated cyclic diolefin, 3,080,432, 3-5-63, Cl. 260-666.
- Volvo, Aktiebolaget: *See*—  
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- Volz, Carl: *See*—  
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- Volz, Fritz: *See*—  
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- Vom Felde, Hans W.: *See*—  
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- Von Ahlefeldt, Rolf S. Accelerometer, 3,084,557, 4-9-63, Cl. 73-516.
- Von Arb, Edward J., to Revco, Inc. Leveling apparatus, 3,071,887, 1-8-63, Cl. 45-139.
- Von Arx, Ellen D. G., to Johnson & Johnson. Polyvinyl pyrrolidone pressure sensitive adhesive and tape containing same, 3,096,202, 7-2-63, Cl. 117-68.5.
- Von Berg, Richard E., and H. Laurent, to Rheem Mfg. Co. Hydraulic speed control device, 3,099,328, 7-30-63, Cl. 180-82.1.
- Von Berg, Richard E., H. Laurent, and A. A. Pfeifer, to Rheem Mfg. Co. Reciprocating hydraulic speed control device, 3,099,329, 7-30-63, Cl. 180-82.1.
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- Von Bogdandy, Ludwig: *See*—  
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- Von Bogdandy, Ludwig, and H. D. Pantke, to Huttenwerk Oberhausen AG. Control system and process for refining metals, 3,100,699, 8-13-63, Cl. 75-59.
- Von Bosio, Harald, to H. Marker. Heel plate for a ski binding, 3,079,165, 2-26-63, Cl. 280-11.35.
- Von Brachel, Hanswilli: *See*—  
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- Von Brachel, Hanswilli, H. Esser, H. Holtschmidt, and G. Sinn, to Farbenfabriken Bayer Aktiengesellschaft. Process of preparing emulsions using polyetherthioether emulsifiers, 3,097,173, 7-9-63, Cl. 252-311.5.
- Von Brachel, Hanswilli, G. Nischk, and R. Wegler, 1/2 to Farbenfabriken Bayer Aktiengesellschaft and 1/2 to Mobay Chemical Co. Process for the production of polyethers, 3,114,732, 12-17-63, Cl. 260-52.
- Von Buchholtz, Bernhard, O. Fischer, K. Grottrian, H. Kirchhof, K. Mildner, and E. Mann, to Voigtlander A.G. Carrying case for photographic cameras, 3,072,166, 1-8-63, Cl. 150-52.



- Vonbun, Friedrich O., and S. E. Schodowski, to United States of America, Army. Heat sinks for crystal oscillators. 3,071,736, 1-1-63, Cl. 331-69.
- Von Den Hoff, Johan P. H.: *See—*  
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Garten, Wilhelm, Dehmelt, von Dohren, and Peters. 3,089,913.
- Hoek, Berend J., von den Hoff, and Steeman. 3,093,635.  
Ottenheim, Johannes H., and von den Hoff. 3,093,634.
- Von Der Scher, Floyd U., to Norcold, Inc. Gas-electric refrigerating system. 3,105,363, 10-1-63, Cl. 62-148.
- Vondracek, Charles H.: *See—*  
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- Von Elm, Gunter A. H. Beverage mixing device. 3,074,696, 1-22-63, Cl. 259-72.
- Von Esch, Anne M., and W. R. Sherman, to Abbott Laboratories. 2,4,3-(5-nitro-2-furyl-5-(lower alkyl or phenyl)-1,2,4-oxadiazolines. 3,083,206, 3-26-63, Cl. 260-307.
- Von Esch, Anne M., and W. R. Sherman, to Abbott Laboratories. Certain 5-nitro-2-furylamidoxime derivatives. 3,084,170, 4-2-63, Cl. 260-347.4.
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- Von Esch, Anne M., and W. R. Sherman, to Abbott Laboratories. 5-nitro-2-furylamidoxime. 3,097,214, 7-9-63, Cl. 260-347.7.
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- Von Forell, Kenneth J. Diaphragm type accumulator having means to prevent the diaphragm from folding and crimping on itself due to changes in pressure. 3,075,558, 1-29-63, Cl. 138-30.
- Von Fryhold, Helmut, to Philadelphia Quartz Co. Coating material for corrosion prevention. 3,093,493, 6-11-63, Cl. 106-14.
- Von Freyhold, Helmut, to Philadelphia Quartz Co. Manufacture of water resistant laminates and silicate adhesive therefor. 3,093,529, 6-11-63, Cl. 156-325.
- Von Friedrich, Adolf, to Farbenfabriken Bayer Aktiengesellschaft. Process for the polymerisation of cyanogen chloride. 3,101,334, 8-20-63, Cl. 260-248.
- Von Friedrich, Adolf, and P. Schmitz, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of cyanuric chloride from tetrameric cyanogen chloride. 3,080,367, 3-5-63, Cl. 260-248.
- Von Funk, Irwin. Material transfer unit. 3,104,782, 9-24-63, Cl. 222-189.
- Von Gal, George E., Jr. Unstacking machine. 3,113,683, 12-10-63, Cl. 214-8.5.
- Von Gierke, Henning E.: *See—*  
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- Von Grodek, Herbert W. E., and J. Häsing. Tracer system for determining geometrical surface dimensions. 3,087,329, 4-30-63, Cl. 73-105.
- Von Grotthuss, Elisabeth: *See—*  
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- Von Grotthuss, Ina M.: *See—*  
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- Von Grotthuss, Michael: *See—*  
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- Von Gugelberg, Hans L. Glow discharge counter tube. 3,110,838, 11-12-63, Cl. 313-196.
- Von Hacht, Gerhard, to Licentia Patent-Verwaltungs-G.m.b.H. Light curtain apparatus for photosensitive detector. 3,100,847, 8-13-63, Cl. 250-237.
- Von Holtz, Charles T., to Harvey Hubbell, Inc. Locking three-wire electrical cord connector. 3,112,973, 12-3-63, Cl. 339-14.
- Von Hoorn, Fred G., and L. M. Sheldon, to General Electric Co. Trigger index means for mercury button switch. 3,089,937, 5-14-63, Cl. 200-152.
- Vonk, Bastiaan, to Era Heater Corp. Space heater. 3,087,041, 4-23-63, Cl. 219-34.
- Von König, Anita: *See—*  
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- Von Korff, Charlotte G. S., nee Schlick, and C. Scheidt. Articulator. 3,107,429, 10-22-63, Cl. 32-32.
- Von Kutepow, Nikolaus: *See—*  
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- Von Kutepow, Nikolaus, H. Kindler, K. Eisfeld, K. Dettke, H. Jenne, and H. Detzer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of alcohols. 3,103,538, 9-10-63, Cl. 260-632.
- Von Lorch, Littoria, R. Negri, G. Penso, and P. Savi,  $\frac{1}{2}$  to F. E. Paterno. Process to treat food products by the use in presence of antibiotics and either antibiotic resistant or antibiotic dependant bacteria strains. 3,098,744, 7-23-63, Cl. 99-1.
- Von Manteuffel, Gert Z., to Siemens-Schuckertwerke Aktien-gesellschaft. Device for measuring angular acceleration. 3,085,443, 4-16-63, Cl. 73-505.
- Von Mathes, Peter, to Continental Elektroindustrie A.G., Askanawerke. Means for measuring scale motions. 3,093,152, 7-16-63, Cl. 235-92.
- Von Mickwitz, Alexander W. Magnesia composition and method of making same. 3,093,495, 6-11-63, Cl. 106-58.
- Von Mikusch-Buchberg, Johannes D., to Unilever Ltd. Pyrane derivatives. 3,074,965, 1-22-63, Cl. 260-345.9.
- Vonnegut Hardware Co.: *See—*  
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- Von Ohlsen, Louis H., to The H. G. Thompson & Son Co. Limit switch for band saw or the like. 3,084,233, 4-2-63, Cl. 200-61.52.
- Von Olmhausen, Friedrich: *See—*  
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- Von Opel, Fritz. Cleats. 3,113,545, 12-10-63, Cl. 114-218.
- Von Petery, Achim, to Carl Schenck Maschinenfabrik G.m.b.H. Wheel load scale for rail vehicles. 3,092,195, 6-4-63, Cl. 177-163.
- Von Reppert, Ruediger L., to Chemische Werke Albert. Process and apparatus for granulating and drying particles. 3,110,572, 11-12-63, Cl. 34-20.
- Von Riegen, Johannes, and H. Bauer, to Sued-West-Chemie G.m.b.H. Method of making interlocked welded connections between shaped thermoplastic articles. 3,094,452, 6-18-63, Cl. 156-275.
- Von Roll, L., A.G.: *See—*  
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- Von Rosenberg, Edgar L., to American Iron & Machine Works Co., Inc. Wear-resisting drill pipe coupling. 3,074,767, 1-22-63, Cl. 308-4.
- Von Rucker, Nikolaus, to Dr. Ing. h.c. F. Porsche, KG, Firma. Disk brake construction for vehicles. 3,090,468, 5-21-63, Cl. 188-73.
- Von Sass, Sylvester: *See—*  
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- Von Saurma, Friedrich G. Steerable rotary chute. 3,104,854, 9-24-63, Cl. 244-138.
- Von Saurma, Friedrich G. Vacuum-tube accelerometer. 3,109,311, 11-5-63, Cl. 73-517.
- Von Schertel, Hanns. Automatic hydrofoil control system for watercraft. 3,103,197, 9-10-63, Cl. 114-66.5.
- Von Schertel, Hanns, J. Cassens, R. Koitzsch, and G. Plewa, to Supramar Ltd. Retractable hydrofoil system for water craft. 3,099,239, 7-30-63, Cl. 114-66.5.
- Von Schickh, Otto, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of lactams. 3,103,509, 9-10-63, Cl. 260-239.3.
- Von Schickh, Otto, and H. Metzger, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process for the production of alpha-chloroximes and their hydrochlorides. 3,078,306, 2-19-63, Cl. 260-566.
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Riddell, John A., and von Schmeling. 3,098,002.
- Von Smolinski, Alfred, N. W. Berst, and L. L. Alt, to The Diversey Corp. Method and composition for chemically polishing metals. 3,072,515, 1-8-63, Cl. 156-20.
- Von Soden, Adolf F. G. Golf tower apparatus and the like. 3,081,633, 3-19-63, Cl. 73-379.
- Von Solbrig, Charles R. Bone band and process of applying the same. 3,111,945, 11-26-63, Cl. 128-92.
- Von Spulak, Franz: *See—*  
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- Von Stwollinski, Helmuth, to Studio Gesellschaft für Industrie- und Modephotographie. Photographic apparatus. 3,080,806, 3-12-63, Cl. 95-64.
- Von Tell Trading Co. AB: *See—*  
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- Von Wranau, Guido, and C. J. Phillips,  $\frac{10}{100}$ ths to said von Wranau,  $\frac{30}{100}$ ths to said Phillips,  $\frac{9}{100}$ ths to T. T. Chappell,  $\frac{3}{100}$ ths to R. J. Lamb,  $\frac{9}{100}$ ths to C. Meanor, and  $\frac{9}{100}$ ths to W. A. Sproule. Glass compositions. 3,095,311, 6-25-63, Cl. 106-50.
- Von Zelewsky, Ottomar, to Georg Fischer Aktiengesellschaft. Guiding means for straight guiding of parts, especially slides. 3,095,247, 6-25-63, Cl. 308-3.



- Von Zelewsky, Ottomar, and H. Renker, to Georg Fischer, Aktiengesellschaft. Signalling device for tool breakage on metal-cutting machine tools, in particular on lathes. 3,079,821, 3-5-63, Cl. 82-1.
- Voo, Shu K. L. Calculating machine. 3,100,602, 8-13-63, Cl. 235-62.
- Voorhees, Edward M.,  $\frac{1}{4}$  to E. M. Voorhees,  $\frac{1}{4}$  to I. C. Capdeville,  $\frac{1}{4}$  to C. M. Funk, and  $\frac{1}{4}$  to L. L. Mullins. Doughnut cutter and depositor. 3,088,354, 5-7-63, Cl. 83-98.
- Voorhees, Russell L., to Minneapolis-Honeywell Regulator Co. Supervisory system. 3,094,690, 6-18-63, Cl. 340-213.
- Voorhees, Vanderveer, to Bray Oil Co. Colloidal dispersions of salts. 3,105,049, 9-24-63, Cl. 252-33.
- Vorachek, Jerome J.: *See*—  
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- Voreaux, Claude, J.-P. Joyeux, and F. Copie, to International Harvester Co. Automatic hydrostatic transmission system for a motor vehicle. 3,114,424, 12-17-63, Cl. 180-6.3.
- Vorel, George R., Sr., to Amsted Industries Inc. Clamping arrangement for pressure casting apparatus. 3,092,881, 6-11-63, Cl. 22-69.
- Voris, Donald R. Airtight cooler door. 3,101,776, 8-27-63, Cl. 160-40.
- Vorkauf, Heinrich. Hot water boiler for central heating systems. 3,101,699, 8-27-63, Cl. 122-407.
- Vornberger, Walter A., to J. S. Kamborian. Upper wiping and trimming means. 3,082,447, 3-26-63, Cl. 12-7.1.
- Vornberger, Walter A., to J. S. Kamborian. Method of lasting pointed toe shoes. 3,087,177, 4-30-63, Cl. 12-145.
- Vornberger, Walter A., to J. S. Kamborian. Apparatus for lasting the toes of shoes. 3,091,783, 6-4-63, Cl. 12-7.1.
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- Vornkahl, Henry L.: *See*—  
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- Vorpahl, Carl. Torsion bar gauge. 3,108,382, 10-29-63, Cl. 33-181.
- Vorsteher, Paul, to Paul u. Werner, Vorsteher Miederindustrie u. Gummiwebwaren. Adjustable fastener. 3,076,463, 2-5-63, Cl. 123-501.
- Vorsteher, Paul u. Werner, Miederindustrie u. Gummiwebwaren: *See*—  
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- Vos, Henry J., to The Thew Shovel Co. Bucket grader attachment. 3,109,248, 11-5-63, Cl. 37-117.5.
- Vos, William R., S. B. Holtz, and N. Abarbanel, to Coopers, Inc. Merchandise display and dispensing device. 3,083,067, 3-26-63, Cl. 312-71.
- Vosbikian, Peter S. and T. S. Mops with extractor mechanism. 3,074,091, 1-22-63, Cl. 15-119.
- Vosbikian, Peter S. and T. S. Brushes for cleaning, polishing painting. 3,081,475, 3-19-63, Cl. 15-244.
- Vosbikian, Peter S. and T. S. Mops and extractor means therefor. 3,084,365, 4-9-63, Cl. 15-119.
- Vosbikian, Peter S. and T. S. Extractor mechanism for strand type mops. 3,084,366, 4-9-63, Cl. 15-119.
- Vosbikian, Peter S. and T. S. Paint applicators. 3,085,270, 4-16-63, Cl. 15-114.
- Vosbikian, Peter S. and T. S. Mop with extracting mechanism. 3,089,171, 5-14-63, Cl. 15-119.
- Vosbikian, Peter S. and T. S. Shears. 3,089,240, 5-14-63, Cl. 30-213.
- Vosbikian, Peter S. and T. S. Garden rake with material retaining means. 3,105,348, 10-1-63, Cl. 56-400.12.
- Vosbikian, Thomas S.: *See*—  
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- Vosburg, John F. Method of cutting rubber and the like. 3,078,560, 2-26-63, Cl. 29-423.
- Vosburgh, Malcolm C., and J. Murgio, to International Telephone and Telegraph Corp. Doppler radar. 3,101,470, 8-20-63, Cl. 343-9.
- Vosefski, John R., to General Motors Corp. Cigar lighter. 3,076,084, 1-29-63, Cl. 219-32.
- Voser, Otto. Arrangement for adjusting the pivotal point of a part. 3,086,406, 4-23-63, Cl. 74-518.
- Voser, Walter: *See*—  
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- Voss, William J. Clamp and method of manufacture. 3,110,948, 11-19-63, Cl. 24-279.
- Vossberg, Carl A. Thickness control systems for rolling mills. 3,096,671, 7-9-63, Cl. 80-56.
- Vossen, Edward, to Stop-Motion Devices Corp. Yarn feeding and defect detecting device. 3,094,855, 6-25-63, Cl. 66-163.
- Vossen, Edward, to Stop-Motion Devices Corp. Electromatic retractable defect finder. 3,108,463, 10-29-63, Cl. 66-166.
- Vossen, Edward, and E. M. Tellerman, to Textile Devices Corp. Yarn furnishing device. 3,083,924, 4-2-63, Cl. 242-47.12.
- Vossen, Jean, G. C. Agostini, M. Manca, and L. Meini, to Societa Chimica Dell'Aniene S.p.A. Process for producing chlorobromomethanes. 3,083,240, 3-26-63, Cl. 260-664.
- Vossieck, Paul, to Goetzwerke Friedrich Goetze Aktiengesellschaft. Hydraulic-shock absorber comprising an elastic piston. 3,109,520, 11-5-63, Cl. 188-88.
- Vosteen, Robert E., to Monroe Electronics, Inc. Transistor operational amplifier. 3,077,566, 2-12-63, Cl. 330-14.
- Vosti, Albert P.: *See*—  
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- Votolato, Michael A. Educational apparatus. 3,075,304, 1-29-63, Cl. 35-69.
- Voudy, Arthur A. Sink outlet connection. 3,089,654, 5-14-63, Cl. 241-100.5.
- Voulton-Baudin, Claire C., to B. M. M. G. De Vautibault. Apparatus for sequentially vapor metallizing a number of articles in a bell unit. 3,104,180, 9-17-63, Cl. 118-49.
- Voynick, Irene M.: *See*—  
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- Vredenburg, Edric W., to St. Regis Paper Co. Feed machine for bags. 3,095,019, 6-25-63, Cl. 141-68.
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- Vroom, Alan H., and J. D. Bowdway, to Consolidated Paper Corp. Ltd. Separation of bark components. 3,086,717, 4-23-63, Cl. 241-24.
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- Vukasin, John P., and L. R. Bowen; said Bowen assor, to said Vukasin. Automatic beverage brewing machine. 3,106,149, 10-8-63, Cl. 99-283.
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- Vulliet-Durand, Jacques. Telecontrol toy vehicle. 3,095,937, 7-2-63, Cl. 180-2.
- Vulliet-Durand, Jacques. Apparatus for preparing coffee. 3,113,503, 12-10-63, Cl. 99-282.
- Vulliez, Paul. Fluidtight transmission device for rotary shafts. 3,082,632, 3-26-63, Cl. 74-18.1.
- Vullo, William J., and D. H. Campbell, to Hooker Chemical Corp. Process and composition for phosphatizing metals. 3,100,728, 8-13-63, Cl. 148-6.15.
- Vultaggio, Frank P.: *See*—  
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- Vun-Russ Co., Inc.: *See*—  
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- Vuncannon, Sam H., to Vun-Russ Co., Inc. Awning window and parts thereof. 3,071,219, 1-1-63, Cl. 189-67.
- Vuskovich, Vincent M.,  $\frac{1}{4}$  to Favors, Vuskovich and Battistell, Inc., and  $\frac{3}{4}$  to W. T. Carpenter. Dredging apparatus. 3,113,389, 12-10-63, Cl. 37-119.
- Vuynovich, Mile. Interpolator. 3,084,444, 4-9-63, Cl. 33-102.
- Vynes, Rudolph, to United States of America, Air Force. Gear tooth gauging apparatus. 3,100,940, 8-20-63, Cl. 33-179.5.
- Vyzkumny a zkusebni letecky ustav: *See*—  
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- Vyzkumny Ustav Bavlnarsky: *See*—  
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- Vyzkumny ustav energeticky: *See*—  
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- Vyzkumny ustav matematickych stroju: *See*—  
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- Waack, Ervin V.: *See*—  
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- Waas, Samuel M., to Monley, Inc. Nut roasting machine. 3,075,295, 1-29-63, Cl. 34-45.
- Wach, Andrew P., to The Goodyear Tire & Rubber Co. Belt curing apparatus. 3,085,287, 4-16-63, Cl. 18-6.
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- Wachowiak, David A., to The National Cash Register Co. Electrical control circuit. 3,109,125, 10-29-63, Cl. 317-148.5.
- Wachsmuth, Erich A., to Joy Mfg. Co. Engine control. 3,072,315, 1-8-63, Cl. 230-56.
- Wachtel, Jack S. Combination convertible toaster and warming oven. 3,074,342, 1-22-63, Cl. 99-339.
- Wachtell, Richard L., and C. A. De Guisto, to Chromalloy Corp. Diffusion coating of metals. 3,073,015, 1-15-63, Cl. 29-183.5.
- Wächter, Karl-August, to O. H. Drager. Detector tube. 3,100,692, 8-13-63, Cl. 23-254.
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- Waddell, Dan C.: *See—*  
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- Waddell, Russell B., Jr., to Dayco Corp. Flexible conduit. 3,091,261, 5-28-63, Cl. 138-122.
- Waddill, Alfred W., Jr., to Electronics Research Corp. of America. Methods for determining the movability of conduits. 3,085,428, 4-16-63, Cl. 73-151.
- Waddington, David. Convertible pack board and stretcher construction. 3,088,128, 5-7-63, Cl. 5-82.
- Wade, Albert L.: *See—*  
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- Wade, Albert L., to Texas Instruments Inc. Method and apparatus for creating a seismic source. 3,106,982, 10-15-63, Cl. 181-5.
- Wade, Daniel M., to Borg-Warner Corp. One way roller clutch. 3,104,744, 9-24-63, Cl. 192-45.
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- Wade, Edsel F. Shampoo apparatus. 3,100,898, 8-20-63, Cl. 4-159.
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- Wade, Ricardo H., to United States of America, Agriculture. Cellulose ester anhydrides in fiber form. 3,097,051, 7-9-63, Cl. 8-120.
- Wade, Richard, to United Soil Builders. Method for producing soil-conditioning compositions. 3,108,868, 10-29-63, Cl. 71-21.
- Wade, Robert E. and W. C. Plow clamping means. 3,098,529, 7-23-63, Cl. 172-265.
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- Wadey, Walter G., to Sperry Rand Corp. Web feeding device. 3,075,679, 1-29-63, Cl. 226-108.
- Wadey, Walter G., to Sperry Rand Corp. Program control devices for fluid apparatus. 3,076,473, 2-5-63, Cl. 137-270.
- Wadey, Walter G., to Sperry Rand Corp. Bistable storage disc. 3,090,620, 5-21-63, Cl. 274-42.
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- Wadsworth, Daniel V., to Corn Products Co. Citrus peel product and process for making same. 3,112,202, 11-26-63, Cl. 99-102.
- Wadsworth, Daniel V., S. P. Marino, and C. F. Ho, to Corn Products Co. Novel cocoa products. 3,085,879, 4-16-63, Cl. 99-26.
- Wadsworth, Daniel V., N. Rosenberg, and S. P. Marino, to Corn Products Co. Novel crystalline sugar products. 3,085,914, 4-16-63, Cl. 127-30.
- Wadsworth Electric Mfg. Co., Inc.: *See—*  
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- Wadsworth, William B., to David Clark Co. Inc. Automatic sound control. 3,098,121, 7-16-63, Cl. 179-1.
- Waechter, Charles J.: *See—*  
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- Waer, Richard R., to International Telephone and Telegraph Corp. Continuous wave radar with PPI type display. 3,081,456, 3-12-63, Cl. 343-10.
- Wagaman, Ernest D. Apparatus for making printing border strips. 3,109,364, 11-5-63, Cl. 101-6.
- Wagemann, Heinrich, to Monroe Calculating Machine Co. Decimal point mechanism. 3,101,895, 8-27-63, Cl. 235-63.
- Wagener, Siegfried, H. Kreuter, and S. Sommer, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process of purifying polyolefins. 3,075,959, 1-29-63, Cl. 260-93.7.
- Wagenfeld, Gilbert B., Chef's hat construction. 3,082,430, 3-26-63, Cl. 2-197.
- Wagenheim, Charles. Balloon game. 3,092,388, 6-4-63, Cl. 273-102.1.
- Wagenius, Hans B., to Svenska Rotor Maskiner Aktiebolag. Angularly adjustable slides for screw rotor machines. 3,088,658, 5-7-63, Cl. 230-138.
- Wagenseil, Ludwig, to Junkers Maschinen und Metallbau G.m.b.H. Fuel supply control for engine compressors. 3,099,157, 7-30-63, Cl. 73-213.
- Wagenseil, William. Audio-visual device. 3,083,485, 4-2-63, Cl. 40-28.1.
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- Wagner, Arthur F., and K. A. Folkers, to Merck & Co., Inc. 2-(alpha-lower alkenyl, alpha-hydroxy-benzyl)-benzimidazole. 3,113,136, 12-3-63, Cl. 260-309.2.
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- Wagner, Carman J. Worm habitat and composite form thereof. 3,115,863, 12-31-63, Cl. 119-1.
- Wagner, Charles E., and R. A. Mendelsohn, to Chrysler Corp. Method and means for braking and reversing a gas turbine rotor. 3,099,433, 7-30-63, Cl. 253-59.
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- Wagner, Elmer K., to The Ingersoll Milling Machine Co. Method of and apparatus for positioning machine parts. 3,071,028, 1-1-63, Cl. 77-3.
- Wagner, Elmer K., to Giddings & Lewis Machine Tool Co. Apparatus to provide constant facing speed. 3,090,266, 5-21-63, Cl. 82-2.
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- Wagner, Ernst, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Burner for production of finely divided oxides. 3,086,851, 4-23-63, Cl. 23-277.
- Wagner, Ernst, and H. Brünner, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Novel inorganic thickening agents and process for producing same. 3,103,495, 9-10-63, Cl. 252-317.
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- Wagner, George L. Tying mechanism. 3,102,747, 9-3-63, Cl. 289-12.
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- Wagner, George M., and P. E. Hoch, to Hooker Chemical Corp. Flame proofing of cellulosic materials. 3,101,279, 8-20-63, Cl. 117-137.
- Wagner, Georges, to La Technique Appliquee. Registering of plates, transfers and the like. 3,090,288, 5-21-63, Cl. 95-73.
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- Wagner, Herbert E., H. R. Karlen, and D. C. Eisendrath, to Cory Corp. Coffee brewer. 3,075,453, 1-29-63, Cl. 99-285.
- Wagner, Herbert F., Jr., and J. C. Wright, to Columbiana Products Inc. Hot top compositions and method of preparing same. 3,109,211, 11-5-63, Cl. 22-193.
- Wagner, Herman B., to Tile Council of America, Inc. Method of treating masonry materials. 3,111,427, 11-19-63, Cl. 117-102.
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- Wagner, Irvin D. Closure attachment for boxes. 3,110,436, 11-12-63, Cl. 229-43.
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- Wagner, John H., to Joy Mfg. Co. Hoe type loading machine. 3,095,080, 6-25-63, Cl. 198-10.
- Wagner, John T., to Westinghouse Electric Corp. Blade mounting structure for a fluid flow machine. 3,073,569, 1-15-63, Cl. 253-77.
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- Wagner, John W., to Whitaker Brothers & Co. Check certifying apparatus. 3,092,024, 6-4-63, Cl. 101-297.
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- Puster, Louis M., and Wagner. 3,107,693.
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- Wagner, Kuno, R. Schwaebel, W. Käss, W. Gräulich, and H. Kleiner, to Farbenfabriken Bayer Aktiengesellschaft. Aminoplast-pigment composition and its application to textiles. 3,099,635, 7-30-63, Cl. 260-29.4.
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- Wagner, Milan F. Dispenser with a cartridge having a paste composition therein. 3,104,031, 9-17-63, Cl. 222-80.
- Wagner, Nicholas A., to Reynolds Metals Co. Aluminum alloy system. 3,104,189, 9-17-63, Cl. 148-32.5.
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- Wagner, Ross I., to American Potash & Chemical Corp. Phosphines. 3,086,053, 4-16-63, Cl. 260-606.5.
- Wagner, Ross I., to American Potash & Chemical Corp. Phosphines. 3,086,056, 4-16-63, Cl. 260-606.5.
- Wagner, Ross I., to American Potash & Chemical Corp. Phosphine borines and their preparation. 3,092,665, 6-4-63, Cl. 260-606.5.
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- Wagner, Vincent S., to De Laval Steam Turbine Co. Servomechanism. 3,094,041, 6-18-63, Cl. 91-375.
- Wagner, William. Welding apparatus and method. 3,098,928, 7-23-63, Cl. 219-78.
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- Wahl, Edward C., and W. J. Kopplius, to Glits Bros. Mfg. Co. Seal assembly. 3,109,660, 11-5-63, Cl. 277-38.
- Wahl, Eugene A. Vibrated hopper or storage bin. 3,078,015, 2-19-63, Cl. 222-161.



- Wahl, Eugene A. Dispenser for storage hoppers. 3,079,050, 2-26-63, Cl. 222-334.
- Wahl, Frederick W., to AMP Inc. Clamping means for sealing plastic tubing. 3,082,794, 3-26-63, Cl. 138-89.
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- Wahl, John F., to Wahl Clipper Corp. Blade for a dry shaver. 3,098,295, 7-23-63, Cl. 30-43.
- Wahl, Nicholas A., to Wahl Brothers. Technique for assembling slide fasteners. 3,103,728, 9-17-63, Cl. 24-205.16.
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- Wall, Donald E.: See—
- Tiedemann, James B., and Wall. 3,091,307.
- Wall, James F. Plastic printing plates. 3,091,176, 5-28-63, Cl. 101—395.
- Wall, James R., W. E. Gordon, and M. T. Dempsey, to General Motors Corp. Method of molding a polyurethane foam object having a relatively flat top surface. 3,080,613, 3-12-63, Cl. 18—48.
- Wall, Karl B., to Jonkopings Mekaniska Werkstads AB. Pump unit. 3,115,096, 12-24-63, Cl. 103—87.
- Wall, Leo A.: See—
- Pummer, Walter J., and Wall. 3,075,018.
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- Wall, Monroe E., S. Serota, and H. E. Kenney, to United States of America, Agriculture. 16,24-cyclo-21-norcholetriene derivatives. 3,076,002, 1-29-63, Cl. 260—397.45.
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- Wall, S. P., Jr.: See—
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- Wallace, Burgess P., and R. E. Melcher, to Whitehead Brothers Co. Green molding sand additive. 3,086,874, 4-23-63, Cl. 106—38.5.
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- Wallace, Charles T. Method and apparatus for measuring fluid densities. 3,071,971, 1-8-63, Cl. 73—451.
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- Wallace, David H., W. E. Valliant, F. P. Williamson, and O. J. Munz; said Wallace, Valliant and Williamson assors. to said Munz. Combination food package, shipping, display and heat exchange container and serving tray. 3,099,567, 7-30-63, Cl. 99—171.
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- Wallace, George A., and A. T. Browne, to Globe Hoist Co. Safety latch arrangement. 3,098,542, 7-23-63, Cl. 187—8.49.
- Wallace, H. W., & Co. Ltd.: See—
- More, Arthur R. 3,097,500.
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- Davis, Charles L., Alexander, and Wallace. 3,112,288.
- Wallace, James B., to Westinghouse Electric Corp. Electrical power distribution bus duct system. 3,072,736, 1-8-63, Cl. 174—99.
- Wallace, John W., to Westinghouse Electric Corp. Motor control apparatus. 3,081,654, 3-19-63, Cl. 80—56.
- Wallace, John W., to Westinghouse Electric Corp. Foil thickness control apparatus. 3,103,138, 9-10-63, Cl. 80—32.
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- Wallace, Marshall M., and E. B. Dykes, to the County of Sonoma, the state of California. Method of sealing sewer lines against leakage. 3,084,719, 4-9-63, Cl. 138—97.
- Wallace, Ray H., Jr., to Binks Mfg. Co. Control device. 3,082,644, 3-26-63, Cl. 74—568.
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- Walsh, Robert R., to All American Engineering Co. Omnidirectional signal receiving system. 3,111,669, 11-19-63, Cl. 343-100.
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- Walters, Emmett L., C. W. Davis, Jr., and O. V. Young, to Libbey-Owens-Ford Glass Co. Apparatus for surfacing glass. 3,107,456, 10-22-63, Cl. 51-58.
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- Walther, George, Sr., to The Dayton Steel Foundry Co. Rim and wheel assemblies. 3,090,649, 5-21-63, Cl. 301-13.
- Walther, Hans, to VEB Kamera- und Kinowerke Dresden. Cinematographic apparatus. 3,081,013, 3-12-63, Cl. 226-49.
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- Walther, Otto. Air moistening apparatus. 3,092,708, 6-4-63, Cl. 219-38.
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- Walton, George M., to Rockwell-Standard Corp. Self-cleaning filter. 3,070,936, 1-1-63, Cl. 55-225.
- Walton, James P.: *See*—  
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- Walton, Joe W.: *See*—  
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- Walton, John F.: *See*—  
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- Walton, Landon B., Coffee making apparatus. 3,074,340, 1-22-63, Cl. 99-283.
- Walton, Lyman E., and T. Jones, to Carroll-Walton Engineering Co., Inc. Fishing lure. 3,094,804, 6-25-63, Cl. 43-42.23.
- Walton, Richard J.: *See*—  
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- Walton, Richard R. Agitator for washing machines. 3,112,632, 12-3-63, Cl. 68-54.
- Walton, William L., to Young Radiator Co. Deaerating heat-engine cooling system. 3,108,633, 10-29-63, Cl. 165-51.
- Waltz, Edward, to E. O. Bulman Mfg. Co., Inc. Tape dispenser. 3,085,727, 4-16-63, Cl. 225-66.
- Waltz, Edward, to E. O. Bulman Mfg. Co., Inc. Tape dispenser with mounting base. 3,097,775, 7-16-63, Cl. 225-66.
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- Waltz, Edward, to E. O. Bulman, Mfg. Co., Inc. Tape dispenser. 3,108,923, 10-29-63, Cl. 156-510.
- Waltz, Kenneth R.: *See*—  
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- Walwood Products: *See*—  
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- Walz, Karl B., and W. Huger. Measuring instrument, particularly barometer or the like. 3,079,799, 3-5-63, Cl. 73-386.
- Wamser, Christian A., to Air Reduction Co., Inc. Oxidizer comprising tetranitromethane and nitrogen pentoxide and method of producing thrust therewith. 3,095,693, 7-2-63, Cl. 60-35.4.
- Wance, Frank, to S. E. & M. Vernon, Inc. Loose leaf ring binder. 3,098,490, 7-23-63, Cl. 129-24.
- Wandel, John B.: *See*—  
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- Wandel, Oscar A., to Fastener Corp. Pneumatically operated tacker. 3,099,011, 7-30-63, Cl. 1-44.4.
- Wandel, Oscar A., to Fastener Corp. Pneumatically operated tacker. 3,099,012, 7-30-63, Cl. 1-49.
- Wandel, Oscar A., to Fastener Corp. Fastener driving apparatus. 3,101,476, 8-27-63, Cl. 1-44.4.
- Wandel, Oscar A., to Fastener Corp. Fastener driving apparatus. 3,115,941, 12-31-63, Cl. 173-2.
- Wandel, Oscar A., and R. H. Doyle, to Fastener Corp. Fastener driving apparatus. 3,094,900, 6-25-63, Cl. 91-423.
- Wandel, Oscar A., and R. H. Doyle, to Fastener Corp. Pneumatically operated tacker. 3,094,901, 6-25-63, Cl. 91-454.
- Wandell, Francis A., and E. J. Poitras, to Baxter Laboratories, Inc. Blood handling method and apparatus. 3,078,847, 2-26-63, Cl. 128-214.
- Wandell, James W. Screw cap. 3,107,022, 10-15-63, Cl. 215-43.
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- Wander, Dr. A., S.A.: *See*—  
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- Wanderer, Herbert J., to Illinois Tool Works Inc. Molded nestable container having indicia protection means. 3,094,240, 6-18-63, Cl. 220-97.
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- Wanski, Leo S., and Wang. 3,074,898.
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- Wanielista, Walter, to Robertson Photo-Mechanix, Inc. Locking mechanism for a tiltable copyboard. 3,089,385, 5-14-63, Cl. 88-24.
- Wanielista, Walter, and C. P. Sippel, Jr., to Robertson Photo-Mechanix, Inc. Valve control means for a vacuum back. 3,077,141, 2-12-63, Cl. 88-24.
- Wanielista, Walter, and C. P. Sippel, Jr., to Robertson Photo-Mechanix, Inc. Magazine for plate-type photographic apparatus. 3,110,491, 11-12-63, Cl. 271-61.
- Waninger, Gilbert, to Kabeschlepp G.m.b.H. Linkage with means including auxiliary links limiting flexibility in two directions. 3,093,349, 7-23-63, Cl. 59-78.1.
- Wankel, Felix: *See*—  
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- Wanlass, Bert R.: *See*—  
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- Wanlass, Cravens L., to Ford Motor Co. Impedance gate. 3,088,039, 4-30-63, Cl. 307-88.
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- Wanlass, Cravens L., to Thompson Ramo Wooldridge Inc. Multivibrator circuits employing voltage breakdown devices. 3,098,158, 7-16-63, Cl. 307-88.5.
- Wanless, Earl S., and G. C. Animal trap. 3,100,361, 8-13-63, Cl. 43-81.
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- Waranch, Myer. Wiring fixture and forming board. 3,087,984, 4-30-63, Cl. 174-135.
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- Ward, Frederick W. A., to The Steel Co. of Canada, Ltd. Apparatus for open coiling of strip material. 3,094,295, 6-18-63, Cl. 242-67.2.
- Ward, Gerald G., to International Harvester Co. Lift for agricultural implement. 3,090,449, 5-21-63, Cl. 172-316.
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- Ward, Howard C., Jr., to General Electric Co. Fluid cooled chill ring for canned motors. 3,075,103, 1-22-63, Cl. 310-54.
- Ward, Howard E., to The Task Corp. Transducer. 3,088,083, 4-30-63, Cl. 338-5.
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- Ward, Irl E., to Schnadig Corp. Upholstered seat article. 3,083,056, 3-26-63, Cl. 297-452.
- Ward, Jack F. and W. W. Self-locking moulding and buffer strips. 3,110,068, 11-12-63, Cl. 120-74.
- Ward, Jack H. Detachable mount for fishing line weights. 3,077,049, 2-12-63, Cl. 43-44.9.
- Ward, James C., to Webb Metal Products Co. Axle suspension unit. 3,074,738, 1-22-63, Cl. 280-104.5.
- Ward, John R., Jr. Machine for making patterned glass. 3,106,858, 10-15-63, Cl. 83-5.
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- Ward, Wallace W., to L. F. Muccino. Apparatus for covering golf balls. 3,112,521, 12-3-63, Cl. 18—5.
- Ward, Walter. Internal combustion engine. 3,073,108, 1-15-63, Cl. 60—14.
- Ward, William F., to Flynn & Emrich Co. Two position ink roll bearing socket. 3,107,608, 10-22-63, Cl. 101—352.
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- Warnken, Elmer P., to Studebaker-Packard Corp. Machine for making stator blades and the like. 3,070,844, 1-1-63, Cl. 18-36.
- Warnken, Elmer P., to Studebaker-Packard Corp. Injection molding device. 3,077,002, 2-12-63, Cl. 18-30.
- Warnken, Elmer P., to Studebaker Corp. Articles having laminated walls. 3,081,705, 3-19-63, Cl. 102-92.5.
- Warnken, Elmer P., to Studebaker Corp. Rotating shroud. 3,095,138, 6-25-63, Cl. 230-134.
- Warnken, Elmer P., to Studebaker-Packard Corp. Machine for laying up hollow laminated articles. 3,095,156, 6-25-63, Cl. 242-7.
- Warnken, Elmer P., to Studebaker Corp. Laminated wall structure for a nose cone and method of making same. 3,115,988, 12-31-63, Cl. 220-83.
- Warnock, Ernest J., to Symington Wayne Corp. Snubbed truck. 3,072,076, 1-8-63, Cl. 105-197.
- Warnock, William R., to Ansul Chemical Co. Fire extinguisher compositions for metal fires. 3,090,749, 5-21-63, Cl. 252-2.
- Warp, Harold, to Flex-O-Glass, Inc. Rolled-sheet tearing means. 3,082,922, 3-26-63, Cl. 225-19.
- Warr, Farnum F., and J. E. Neumann. Transporting apparatus. 3,112,122, 11-26-63, Cl. 280-43.2.
- Warren, Benjamin H., Jr.: *See*—  
 O'Coine, Marshall J., Johnson, and Warren. 3,072,330.
- Warren, Estel M. Pea sheller. 3,082,772, 3-26-63, Cl. 130-30.
- Warren, Estel M. Safety switch for internal combustion engines. 3,104,301, 9-17-63, Cl. 200-161.
- Warren, Everett M., to Ethicon, Inc. Surgical clip applicator. 3,110,899, 11-19-63, Cl. 1-349.
- Warren, Henry R., to Radio Corp. of America. Apparatus for handling and storing strip media. 3,106,355, 10-8-63, Cl. 242-55.01.
- Warren, James W., Jr.: *See*—  
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- Warren, John B., to Imperial Chemical Industries Ltd. Process for the manufacture of hydrocyanic acid. 3,102,269, 8-27-63, Cl. 23-151.
- Warren, Kenneth S.: *See*—  
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- Warren, Leonard C.: *See*—  
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- Warren, Loyal D., to United States Steel Corp. Apparatus for dechocking and chocking mill rolls. 3,080,647, 3-12-63, Cl. 29-252.
- Warren, Loyal D., to United States Steel Corp. Reversible conveyor. 3,110,391, 11-12-63, Cl. 198-110.
- Warren Mfg. Co. Inc., The: *See*—  
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 Rhine, Earl C., Jr. 3,084,322.
- Warren, Paul V., M. B. Mathews, and E. Hirschhorn, to R. E. Street & Co., Inc. Dry cleaning. 3,101,239, 8-20-63, Cl. 8-142.
- Warren, Paul W., to Northrop Corp. Method of brazing honeycomb sandwich with edge members and inserts. 3,094,775, 6-25-63, Cl. 29-471.1.
- Warren, Paul W., to Northrop Corp. Method and equipment for bonding metal. 3,106,016, 10-8-63, Cl. 29-498.
- Warren, Raymond C., to Contadina Foods, Inc. Tomato peeler. 3,093,174, 6-11-63, Cl. 146-47.
- Warren, Raymond W., to United States of America, Army. Fluid-operated timer. 3,093,306, 6-11-63, Cl. 235-61.
- Warren, Raymond W., and B. M. Horton. Fluid logic components. 3,107,850, 10-22-63, Cl. 235-61.
- Warren, Richard E.: *See*—  
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- Walters, Emmett L., Warren, Young, and Miklosek. 3,107,457.
- Warren, Robert A.: *See*—  
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- Warren, Robert A., to Servel, Inc. Valve for venting fluid. 3,096,216, 7-2-63, Cl. 136-6.
- Warren, Robert A., to Servel, Inc. Voltaic cell with venting valve. 3,114,659, 12-17-63, Cl. 136-178.
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- Warren, S. D., Co.: *See*—  
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- Warrick, Leon H., and A. L. Loy, Sr. Water sprinkler. 3,085,751, 4-16-63, Cl. 239-183.
- Warriner, Joe F. End instrument for dental evacuator. 3,092,910, 6-11-63, Cl. 32-69.
- Warriner, Joe F. Dental mirror and aspirator. 3,102,338, 9-3-63, Cl. 32-69.
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- Warsaw, Howard D., and K. E. Wakefield, to United States of America, Navy. Electromagnetic position indicating device. 3,114,139, 12-10-63, Cl. 340-196.
- Warsulik, Charles, to The Budd Co. Clenching machine for door overlap flanges. 3,092,057, 6-4-63, Cl. 113-54.
- Wartel, William S. R. J. Wasilewski, and W. I. Pollock, to E. I. du Pont de Nemours and Co. Metal production. 3,094,042, 4-2-63, Cl. 75-221.
- Wartella, Andrew, to Sylvania Electric Products Inc. "Exclusive-or" transistor logic circuit. 3,094,632, 6-18-63, Cl. 307-88.5.
- Wartenberg, Erwin W. Method of coating glass. 3,093,503, 6-11-63, Cl. 117-211.
- Warthen, William P.: *See*—  
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- Wartian, George. Door latch and lock. 3,100,388, 8-13-63, Cl. 70-150.
- Wartian, George. Door closer. 3,110,924, 11-19-63, Cl. 16-52.
- Wartik, Thomas, and R. L. Barnes, to Koppers Co., Inc. Preparation of methyl boron compounds. 3,080,427, 3-5-63, Cl. 260-606.5.
- Wartman, Lloyd H.: *See*—  
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- Wartman, Thomas G., to Minnesota Mining and Mfg. Co. Heat sensitive copy sheet and method of making. 3,107,174, 10-15-63, Cl. 117-36.2.
- Wartman, Thomas G., and E. A. O'Mara, to Minnesota Mining and Mfg. Co. Method and means for thermographic reproduction. 3,089,952, 5-14-63, Cl. 250-65.
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- Washburn Co., The: *See*—  
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- Washburn, Frederick L., Jr., to Westinghouse Electric Corp. Electron discharge device. 3,089,975, 5-14-63, Cl. 315-3.6.
- Washburn, George F., Jr., to Lockheed Aircraft Corp. Split seal. 3,076,655, 2-5-63, Cl. 277-4.
- Washburn, John M., to The Merrow Machine Co. Throat plate for overedge sewing machine. 3,079,882, 3-5-63, Cl. 112-260.
- Washburn, John M., to The Merrow Machine Co. Stitch formation. 3,082,724, 3-26-63, Cl. 112-269.
- Washburn, John M., to The Merrow Machine Co. Throat plate for overedge sewing machine. 3,100,469, 8-13-63, Cl. 112-260.
- Washburn, Robert L., to E. I. du Pont de Nemours and Co. Extrusion and bead cutting machine. 3,076,999, 2-12-63, Cl. 18-1.
- Washburn, Robert M.: *See*—  
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- Washburn, Robert M., and F. A. Billig, to American Potash & Chemical Corp. Aryl polyboronic acids and esters and process for their preparation. 3,090,801, 5-21-63, Cl. 260-462.
- Washburn, Robert M., and C. F. Albright, to American Potash & Chemical Corp. Stable mixed cyclic borate esters of glycols and hindered phenols. 3,102,902, 9-3-63, Cl. 260-462.
- Washburn, Robert M., and R. A. Baldwin, to American Potash & Chemical Corp. Silyl, germanyl and stannyl imido phosphoranes, arsanates and stibanes. 3,112,331, 11-26-63, Cl. 260-429.
- Washburn, Robert S., to Beloit Iron Works. Anti-deflection doctor. 3,087,185, 4-30-63, Cl. 15-256.51.
- Washburn, Robert S., to Beloit Iron Works. Winder drum arrangement. 3,098,619, 7-23-63, Cl. 242-66.
- Washburn, Robert S., to Beloit Iron Works. Fluid flow surge dampening system. 3,103,234, 9-10-63, Cl. 138-30.
- Washburn, T. F., Co.: See—
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- White, Donald L., Ketcham, and Horn. 3,085,892.
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- Waskönig, Karlheinz, and F. Keun, to P. Beiersdorf & Co. A.G. Suspendable tube. 3,078,017, 2-19-63, Cl. 222-181.
- Wasley, Arthur J., to Wasley Products, Inc. Bearing seal. 3,097,896, 7-16-63, Cl. 308-187.2.
- Wasley Products, Inc.: See—
- Wasley, Arthur J. 3,097,896.
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- Whitfield, Robert E., Miller, and Wasley. 3,084,019.
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- Wassell, George W., to Wassell Organization, Inc. Rotary file. 3,071,426, 1-1-63, Cl. 312-305.
- Wassell Organization, Inc.: See—
- Wassell, George W. 3,071,426.
- Wassem, Howard M. Device for humidifying hardboard. 3,079,704, 3-5-63, Cl. 34-150.
- Wasserberg, Charles. Liquid pouring device and insert member for a bottle. 3,098,586, 7-23-63, Cl. 222-147.
- Wasserman, Arnold S.: See—
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- Wasserman, David, to Minnesota Mining and Mfg. Co. Composition comprising a conjugated diene elastomer and phenol ether compounds and vulcanizate produced by heating same. 3,074,900, 1-22-63, Cl. 260-314.
- Wasserman, Isio F. Surgical instrument. 3,071,129, 1-1-63, Cl. 128-6.
- Wasserman, Marien, to Compagnie Generale de Telegraphie Sans Fil. Ion source. 3,076,112, 1-29-63, Cl. 313-63.
- Wasserman, Max, to American Cyanamid Co. Skylight and ceiling light construction. 3,111,786, 11-26-63, Cl. 50-16.
- Wasserman, Norman, to Bell Telephone Laboratories, Inc. Jack fastener employing a bolt having two-threaded sections. 3,093,025, 6-11-63, Cl. 85-1.
- Wasserman, Rene D., and J. F. Quaas, to Eutectic Welding Alloys Corp. Coated welding rod. 3,084,074, 4-2-63, Cl. 117-204.
- Wasserman, Theodore, and R. E. Ferrel, to United States of America, Agriculture. Process for increasing milling yields of rice. 3,089,527, 5-14-63, Cl. 146-221.7.
- Wassermann, A., Societa Italiana Specialita Farmaco-Terapeutiche, S.p.A.: See—
- D'Alò, Giorgio. 3,115,525.
- Wassermeyer, Jakob: See—
- Rossiny, Ge. d. and Wassermeyer. 3,109,012.
- Rossiny, Gerd, and Wassermeyer. 3,115,512.
- Wasserrab, Theodor, and K. Roth, to Brown, Boveri & Cie, Aktiengesellschaft. Apparatus for operation of converters with suction chokes. 3,083,329, 3-26-63, Cl. 321-26.
- Wasserstrom, Emil, to N. Wasserstrom & Sons, Inc. Holder for supporting leg. 3,092,406, 6-4-63, Cl. 287-20.
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- Wasserstrom, Emil. 3,092,406.
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- Feddick, Earl W., and Wassmann. 3,115,341.
- Wasson, Burton K., and J. M. Parker. Tetrahydrofurfuryl carbamates. 3,073,848, 1-15-63, Cl. 260-347.4.
- Wasson, Burton K., and J. M. Parker, to Charles E. Frosst & Co. 1,3-diphenylpropyl carbamate derivatives. 3,098,012, 7-16-63, Cl. 167-84.5.
- Wasson, Burton K., and J. M. Parker, to Charles E. Frosst & Co. Dioxaspiro derivatives. 3,099,662, 7-30-63, Cl. 260-845.9.
- Wasson, Harold M., and O. Ramanis, to Radio Corp. of America. Apparatus for controlling negative conductance diodes. 3,108,233, 10-22-63, Cl. 332-52.
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- Watanabe, Hideo, to Beckman Instruments, Inc. Molded metal-metal salt reference electrode. 3,111,478, 11-19-63, Cl. 204-195.
- Watanabe, Hideo, and J. E. Leonard, to Beckman Instruments, Inc. Double bridge electrode for electrochemical analysis. 3,103,480, 9-10-63, Cl. 204-195.
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- Watanabe, Koichi, K. Asano, and S. Hara, to Nippon Light Metal Co., Ltd. Machine for and method of casting ingot. 3,100,322, 8-13-63, Cl. 22-62.
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- Watanabe, Tamotsu. Electrostatic coating apparatus of spray-gun type. 3,093,309, 6-11-63, Cl. 239-15.
- Watanabe, Tamotsu. Methods and apparatus for coating articles by static electricity. 3,113,037, 12-3-63, Cl. 117-93.4.
- Watanabe, Toshio. Method of manufacturing a negative temperature coefficient resistance element. 3,105,800, 10-1-63, Cl. 204-61.
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- Waterman, Carl R. Fluid delivery system. 3,111,903, 11-26-63, Cl. 103-13.
- Waterman, Clifford W., Jr., to G. E. Dunkle, as administratrix of the estate of W. E. Dunkle. Apparatus for drying combustible solid. 3,090,131, 5-21-63, Cl. 34-171.
- Waterman, Hein L.: See—
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- Waterman, Logan C., to Petrolite Corp. Electric treater. 3,073,775, 1-15-63, Cl. 204-302.
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- Waters, Charles E., and C. H. Hibbitts, to Allied Chemical Corp. Process for preparing an ammoniating solution containing urea and formaldehyde. 3,092,486, 6-4-63, Cl. 71-30.
- Waters, Charles E., and R. L. Wells, to Allied Chemical Corp. Suspensions of ureaform in liquid mixed fertilizers. 3,096,168, 7-2-63, Cl. 71-28.
- Waters, Daniel V., to Western Electric Co., Inc. Counterbalances for distributors of cabling machines. 3,082,592, 3-26-63, Cl. 57-66.5.
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- Waters, Ian M., and P. Barratt, to Pye Ltd. Television cameras. 3,114,799, 12-17-63, Cl. 178-7.2.
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- Waters, Robert S., to Westinghouse Electric Corp. Portable heater. 3,085,350, 4-16-63, Cl. 34-91.
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- Wannlund, Arthur L., Jr., and Waters. 3,088,856.
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- Watkins, Edwin P., to Ringwald Products, Inc. Semaphore arm vehicle signal. 3,094,683, 6-18-63, Cl. 340-136.
- Watkins, Ellwood, R. S. and J. H. Oscillating wire cutter. 3,100,414, 8-13-63, Cl. 83-437.
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- Sheldahl, David B., Collings, Shapiro, and Watkins. 3,078,993.
- Watkins, Franklin M., and D. B. Sheldahl, to Sinclair Research, Inc. Method of interface contact. 3,078,991, 2-26-63, Cl. 206-84.
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- Watkins, Robert E., to Midwestern Instruments, Inc. Pressure roller assembly for recording media. 3,077,293, 2-12-63, Cl. 226-186.
- Watkins, Sidney C., to Joseph Lucas (Industries) Ltd. Oil burners. 3,091,926, 6-4-63, Cl. 60-39.28.
- Watkins, Wallace D. Convertible structure. 3,093,834, 6-18-63, Cl. 4-172.
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- Watlington, Francis, to United States of America. Automatically keyed signal source. 3,093,809, 6-11-63, Cl. 340-15.
- Watlington, Lee S. Tissue wetting device. 3,083,874, 4-2-63, Cl. 4-1.
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- Watson, Carl E., to California Research Corp. Process for sealing soils. 3,108,441, 10-29-63, Cl. 61-36.
- Watson, David R., A. Lippman, Jr., and D. V. Boyce, Jr., to Reynolds Metals Co. Method for reducing the soda content of alumina. 3,106,452, 10-8-63, Cl. 23-142.
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- Sterling, George B., Watson, and Pawloski. 3,116,299.
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- Watson, James P. Continuously rotating axial flux electromagnetic machinery. 3,076,905, 2-5-63, Cl. 310-46.
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- Watson, James P. Multiple-relay actuating mechanism. 3,094,596, 6-18-63, Cl. 200-104.
- Watson, James P. Multiple O-ring. 3,108,814, 10-29-63, Cl. 277-32.
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- Watson, John V., to Watson Foundation Co., Inc. Excavating or drilling device. 3,089,550, 5-14-63, Cl. 175-165.
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- Watson, John W., to American Brake Shoe Co. Resistance heating. 3,082,319, 3-19-63, Cl. 219-156.
- Watson, John W., to Ingersoll-Rand Co. Pneumatic system for multiple nut runner. 3,084,674, 4-9-63, Cl. 121-33.
- Watson, Kenneth, to Westland Aircraft Ltd. Freewheel devices. 3,103,998, 9-17-63, Cl. 192-45.
- Watson, Kenneth M.: *See*—  
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- Johnson, Lemoine L., O'Brien, and Watson. 3,109,715.
- Watson, Larry, Jr. Man's breast pocket plastic handkerchief. 3,072,917, 1-15-63, Cl. 2-279.
- Watson, Lee M., to Easy-Heat, Inc. Clip for installing heating element. 3,074,676, 1-22-63, Cl. 248-71.
- Watson Mfg. Co., Inc.: *See*—  
Snethen, Thomas H. 3,088,786.
- Watson, Norman E., and J. W. Minimum tillage planter. 3,108,552, 10-29-63, Cl. 111-52.
- Watson, Richard. Contact lens container. 3,101,087, 8-20-63, Cl. 134-143.
- Watson, Robert A.: *See*—  
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- Martin, Robert L. 3,078,523.
- Watson, Roger W.: *See*—  
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- Klass, Donald L., and Watson. 3,108,959.
- Klass, Donald L., Sieker, and Watson. 3,113,106.
- Klass, Donald L., Watson, and Karll. 3,089,851.
- Watson, Samuel H., to Radio Corp. of America. Modular diagramming method and apparatus. 3,074,181, 1-22-63, Cl. 35-7.
- Watson, Thomas A., to E. W. Kneip, Inc. Meat packaging machine. 3,089,554, 5-14-63, Cl. 177-52.
- Watson, Wilfred H., and G. Blood, to Associated Electrical Industries Ltd. Method for producing hollow glass articles. 3,071,946, 1-8-63, Cl. 65-78.
- Watson, William. Method of raising sunken vessels. 3,091,205, 5-28-63, Cl. 114-50.
- Watson, William F., D. A. W. Izod, and B. G. Hughes, to Rubber and Plastics Research Association of Great Britain. Heat treatment of rubber. 3,072,968, 1-15-63, Cl. 18-53.
- Watson, William R.: *See*—  
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- Watson, William S., to The Pelvic Anchor Corp. Surgical components for operating tables. 3,090,381, 5-21-63, Cl. 128-84.
- Watsula, Joseph: *See*—  
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- Watt, Desmond B., to Swift & Co. Method of producing a bone-free meat product. 3,112,203, 11-26-63, Cl. 99-107.
- Watt, George J.: *See*—  
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- Watt, Peter R.: *See*—  
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- Watt, Peter R., to Vitamins Ltd. Capsule manufacture. 3,111,708, 11-26-63, Cl. 18-2.6.
- Watt, Robert L.: *See*—  
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- Watt, Thomas. Flexible and resilient mounting of troughing idler rollers for conveyor belts. 3,075,632, 1-29-63, Cl. 198-192.
- Watt, William: *See*—  
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- Watt, William R., to FMC Corp. Polymerization of acrylates, methacrylates and acrylonitriles and catalysts for same. 3,111,507, 11-19-63, Cl. 260-88.7.
- Watt, William R., and B. G. Ranby, to FMC Corp. Polymerization of esters of acrylic and methacrylic acid. 3,116,271, 12-31-63, Cl. 260-89.5.
- Waterlohn, Roy H. Bowling ball. 3,087,727, 4-30-63, Cl. 273-63.
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- Baruch, Jordan J., and Watters. 3,087,575.
- Watters, Bill G., to Bolt Beranek and Newman Inc. Sound-proofing panel structure. 3,087,566, 4-30-63, Cl. 181-33.
- Watters, Bill G., to Bolt Beranek and Newman Inc. High acoustic transmission loss panel and the like. 3,087,574, 4-30-63, Cl. 181-33.
- Watters, Bill G., to Bolt Beranek and Newman, Inc. Method of and apparatus for controlling fluid flow. 3,103,941, 9-17-63, Cl. 137-1.
- Watters, Bill G., to Bolt Beranek and Newman Inc. Sound absorbing panel for lining a duct. 3,113,634, 12-10-63, Cl. 181-33.
- Watters, Bill G., and G. Kurtze, to Bolt Beranek and Newman Inc. Panel and the like of high acoustic transmission loss. 3,087,570, 4-30-63, Cl. 181-33.
- Watters, Norman T., to Zenith Radio Corp. Secrecy communication. 3,081,377, 3-12-63, Cl. 178-5.1.
- Watters, Robert L., to General Electric Co. Frequency transforming circuits utilizing negative resistance. 3,076,944, 2-5-63, Cl. 331-107.
- Watters, Robert L., to General Electric Co. Negative resistance diode oscillator. 3,081,436, 3-12-63, Cl. 331-107.
- Watters, Robert L., to General Electric Co. Squelch circuit. 3,092,784, 6-4-63, Cl. 330-145.
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- Watterson, Charles H., and G. E. Brinkworth. Color compositor. 3,088,226, 5-7-63, Cl. 35-28.3.
- Wattles, Benjamin. Fluid applicator package. 3,082,468, 3-26-63, Cl. 15-506.



- Watts, Clarence R., and G. A. Carson. Filing cabinet drawer latch selector. 3,109,686, 11-5-63, Cl. 312-215.
- Watts, Edgar, to D. D. Basaraba. Carpenter's framing scale. 3,115,707, 12-31-63, Cl. 33-93.
- Watts Electric & Mfg. Co.: See—  
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- Watts, Gilliam S., to AMP Inc. Plug contactor. 3,085,222, 4-9-63, Cl. 339-217.
- Watts, Hoyt W. Automatic variable pitch propeller. 3,099,321, 7-30-63, Cl. 170-160.16.
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Kinzie, Ora A., and Watts. 3,116,067.
- Watts, John C., Jr., and J. H. Nelson, to Dairyland Food Laboratories, Inc. Cheese flavoring process. 3,072,488, 1-8-63, Cl. 99-115.
- Watts, John D., J. C. Ireland, and R. L. Crain, to Gray Tool Co. Multiple tubing hanger and seal assembly. 3,080,181, 3-5-63, Cl. 285-137.
- Watts, John R. Weighing machines. 3,074,495, 1-22-63, Cl. 177-87.
- Watts, Leon W., and K. Wiggins. Frame for eyeglasses. 3,084,595, 4-9-63, Cl. 88-41.
- Watts, Ray L. Combination desk and chair. 3,107,119, 10-15-63, Cl. 297-128.
- Watts Regulator Co.: See—  
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Tine, Sebastian D. 3,112,013.
- Watts, Richard M., and E. T. Bryant, to Reynolds Metals Co. Package construction. 3,082,930, 3-26-63, Cl. 229-33.
- Watts, Sherman S., and F. L. Kastelic, to Harris-Intertype Corp. File feeder. 3,104,100, 9-17-63, Cl. 271-62.
- Watts, Vera M. Head covering securing device. 3,082,431, 3-26-63, Cl. 2-198.
- Waugh, Charles C., to The Foxboro Co. Construction for preventing bearing contamination. 3,084,545, 4-9-63, Cl. 73-231.
- Waugh, Charles C., K. R. Jackson, and S. D. Howe, to The Foxboro Co. Mass flow meter. 3,089,336, 5-14-63, Cl. 73-194.
- Waugh, Robert E., to The Englander Co., Inc. Plastic pipe. 3,098,664, 7-23-63, Cl. 285-55.
- Waukesha Foundry Co.: See—  
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- Waxman, David, to Continental Furniture Mfg. Co. Foam base for furniture. 3,088,133, 5-7-63, Cl. 5-361.
- Way, David G.,  $\frac{1}{2}$  to G. J. Roderick. Caliper for use with a micrometer caliper. 3,107,433, 10-22-63, Cl. 33-143.
- Way, David G. Rotary pumps and engines. 3,112,062, 11-26-63, Cl. 230-139.
- Way, Robert B., and C. D. Hersey. Mask washer. 3,089,499, 5-14-63, Cl. 134-141.
- Way, Robert B., and C. D. Hersey. Automatic painting machine. 3,102,053, 8-27-63, Cl. 118-301.
- Way, Robert B., and C. D. Hersey. Automatic painting machine having a plurality of separately controlled guns. 3,107,183, 10-15-63, Cl. 118-301.
- Way, Robert B., and C. D. Hersey. Coating machine. 3,108,537, 10-29-63, Cl. 101-316.
- Way, William E., and R. M. Anderson, to Ashland Oil & Refining Co. Article diversion system. 3,110,401, 11-12-63, Cl. 209-121.
- Wayfield, David J. Swimming instruction devices. 3,085,356, 4-16-63, Cl. 35-29.
- Wayland, Hubert E., to Trysman Machine Co., Inc. Grinding wheels. Re. 25,410, 7-2-63, Cl. 125-3.
- Wayman, Cecil J., to The General Electric Co. Ltd. Electrical apparatus for providing an indication of the relative positions of relatively movable means. 3,099,830, 7-30-63, Cl. 340-347.
- Wayne Chemical Co.: See—  
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- Wayne, Edward T., to E. H. Titchener & Co. Unloading devices for chicken shackles. 3,097,391, 7-16-63, Cl. 17-11.
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- Wayne, George H., and D. E. Whitney, to Wayne-George Corp. Photosensitive modulator shaft position encoder. 3,097,302, 7-9-63, Cl. 250-208.
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- Wayne, Kurt. Jewelry clasp. 3,094,754, 6-25-63, Cl. 24-116.
- Wayne, Kurt. Jewelry clasp. 3,114,187, 12-17-63, Cl. 24-116.
- Wayne Mfg. Co.: See—  
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- Wayne, Peter H.: See—  
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- Wayne, Truman B. Process of preparing a rice product. 3,085,011, 4-9-63, Cl. 99-80.
- Wayne, Truman B. Process of preparing a rice product. 3,085,012, 4-9-63, Cl. 99-81.
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- Wayne, William C., Jr., to The Baldwin Piano Co. Simulated multiple rate gyrating modulator. 3,084,585, 4-9-63, Cl. 84-124.
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- Wayt, Newell E. Brake actuator. 3,077,248, 2-12-63, Cl. 188-112.
- Weagle, James A., to Raton Mfg. Corp. Folding pew. 3,074,757, 1-22-63, Cl. 297-30.
- Weakland, Walter L. Wire winding apparatus. 3,107,877, 10-22-63, Cl. 242-86.5.
- Weakley, Martin L., S. M. Moffett, and L. E. Craig, to Deere & Co. Production of nitro urea. 3,098,872, 7-23-63, Cl. 260-553.
- Wean Engineering Co., Inc. The: See—  
Erskine, Robert J. 3,084,425.  
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- Wear, Robert L., to Minnesota Mining and Mfg. Co. Hydrazine substituted diazine and triazine curing compounds for epoxy resins. 3,087,910, 4-30-63, Cl. 260-47.
- Wear, Robert L., to Minnesota Mining and Mfg. Co. Copolymeric composition. 3,110,701, 11-12-63, Cl. 260-79.3.
- Weasler, Anthony V. Lubrication of the relatively extensible parts of a telescopic shaft. 3,105,370, 10-1-63, Cl. 64-23.
- Weasler, Anthony V. Universally jointed shaft with integral shock absorbing coupling. 3,108,457, 10-29-63, Cl. 64-23.
- Weasler, Anthony V. Guard tube for jointed drive shafts. 3,113,441, 12-10-63, Cl. 64-3.
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- Weatherley, Eric G., and C. Garnett, to Metal Diffusions Ltd. Surface treatment of ferrous metals. 3,083,122, 3-26-63, Cl. 117-107.
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- Weaver, Clair R., and M. A. Weaver,  $\frac{1}{10}$  to Gadget-of-The-Month Club, Inc. Combination equal-share pie cutting guide and carrying case. 3,075,565, 1-29-63, Cl. 146-150.
- Weaver, Elmer A. Release of microbial components. 3,088,879, 5-7-63, Cl. 193-2.
- Weaver, Elmer C.,  $\frac{1}{2}$  to P. L. Lee and G. W., and  $\frac{1}{2}$  to E. C. Weaver and E.D. Registration apparatus for silk screen printing machine. 3,098,431, 7-23-63, Cl. 101-126.
- Weaver, Emma D.: See—  
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- Weaver, Everett J.: See—  
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- Weaver, Jack W., 50% to B. L. Weaver, Jr. Interior pipe coating device. 3,111,431, 11-19-63, Cl. 118-105.
- Weaver, Jack W., and B. L. Weaver, Jr. Pneumatic motor for sand blaster. 3,109,262, 11-5-63, Cl. 51-8.



- Weaver, Jeremiah W.: *See*—  
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- Weaver, John A.: *See*—  
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- Weaver, John R., Jr., and M. A. Pierrat, to Craig Systems, Inc. Shock-absorbing skid. 3,105,697, 10-1-63, Cl. 280—25.
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- Weaver, Marvin P., to Union Carbide Corp. 4-alkyl-2,6 bis (2-hydroxy-5-alkyl-benzyl) phenols as polypropylene stabilizers. 3,076,783, 2-5-63, Cl. 260—45.95.
- Weaver, Mary A.: *See*—  
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- Weaver, May B. C. Disposable garment shield. 3,077,603, 2-19-63, Cl. 2—55.
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- Weaver, Norwood, and R. T. Starr, to John Wagner & Sons, Inc. Dispensing closure. 3,090,531, 5-21-63, Cl. 222—545.
- Weaver, Paul J., to True-Trace Corp. Machine control. 3,087,636, 4-30-63, Cl. 214—141.
- Weaver, Paul J., to S. G. Harwood. Fluid motor. 3,113,490, 12-10-63, Cl. 92—128.
- Weaver, Scott. Bucket seat adapter. 3,083,054, 3-26-63, Cl. 297—219.
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- Webb, Edmond F., to The Delman Co. Time delay device. 3,091,932, 6-4-63, Cl. 60—54.5.
- Webb, Edmund F., to The Delman Co. Windshield cleaning system pump assembly. 3,112,507, 12-3-63, Cl. 15—250.02.
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- Webb, Henry P.: *See*—  
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- Webb, Herbert J., to General Electric Co. Deflection yoke and method of making. 3,111,609, 11-19-63, Cl. 317—200.
- Webb, Irving D.: *See*—  
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- Webb, Irving D., to Collier Carbon and Chemical Corp. Sulfurization of aliphatic sulfides. 3,075,019, 1-22-63, Cl. 260—608.
- Webb, Irving D., to Collier Carbon and Chemical Corp. Sulfurization of thioformals and mercaptals. 3,075,020, 1-22-63, Cl. 260—608.
- Webb, James E., administrator of the National Aeronautics and Space Administration, with respect to an invention of O. F. Keller, and W. F. MacGlashan, Jr. Pressure regulating system. 3,105,515, 10-1-63, Cl. 137—495.
- Webb, James E., administrator of the National Aeronautics and Space Administration, with respect to an invention of W. F. Krieve. High-voltage cable. 3,106,603, 10-8-63, Cl. 174—115.
- Webb, James E., administrator of the National Aeronautics and Space Administration, with respect to an invention of A. K. Forsythe. Umbilical separator for rockets. 3,112,672, 12-3-63, Cl. 89—1.7.
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- Webb, Orlando, Jr.: *See*—  
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- Webb, Orlando, Jr., to Stratford Engineering Corp. Alkylation process with normal paraffin removal. 3,105,102, 9-24-63, Cl. 260—683.58.
- Webb, Richard C.: *See*—  
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- Webb, Wells A. Mobile vacuum cooling plant. 3,110,163, 11-12-63, Cl. 62—237.
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- Webb, William A., J. R. Huston, W. P. Haass, and W. E. Johnson, to Westinghouse Electric Corp. Shielded reactor plant arrangement and personnel access means therefor. 3,113,915, 12-10-63, Cl. 204—193.2.
- Webber, Carl R. Spray nozzle. 3,101,906, 8-27-63, Cl. 239—592.
- Webber, Charles A., and J. J. Smith. Method for improving assembly of heat exchanger for semiconductors. 3,086,283, 4-23-63, Cl. 29—157.3.
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- Webber, Herman J. Ice auger. 3,093,198, 6-11-63, Cl. 175—18.
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- Weber Aircraft Corp.: *See*—  
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- Weber, Albert. Shelf support. 3,114,531, 12-17-63, Cl. 248—242.
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- Weber, Arthur F., to The Firestone Tire & Rubber Co. Pneumatic tire. 3,077,915, 2-19-63, Cl. 152—355.
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- Weber, Arthur F., to The Firestone Tire & Rubber Co. Pneumatic tire. 3,095,027, 6-25-63, Cl. 152—355.
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- Weber, Carl, to Automatic Canteen Co. of America. Ice chipper for dispensing units. 3,104,835, 9-24-63, Cl. 241—94.
- Weber, Carl, to Automatic Canteen Co. of America. Vending devices. 3,114,473, 12-17-63, Cl. 221—82.
- Weber, Clinton L.: *See*—  
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- Fuehring, Heinrich. 3,104,936.
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- Weber, Hanspeter, to Samuel M. Langston Co. Adjustable register stop. 3,081,080, 3-12-63, Cl. 271—60.
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- Weber, John W. Insulating blanket. 3,113,001, 12-3-63, Cl. 29—191.6.
- Weber, Joseph A. Carbon sheet and assembly. 3,094,342, 6-18-63, Cl. 282—22.
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- Weber, Victor, to Robertshaw-Fulton Controls Co. Gas burner assemblies. 3,096,813, 7-9-63, Cl. 158—116.
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- Webster, Robert C., to Air Reduction Co., Inc. Preparation of fruit juices. 3,113,871, 12-10-63, Cl. 99—155.
- Webster, Robert G., to Wagoner Webster, Inc. Power sweeper. 3,087,180, 4-30-63, Cl. 15—79.
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- Webster, William G., and H. C. Simmons, to Parker-Hannifin Corp. Variable area valve. 3,080,885, 3-12-63, Cl. 137—471.
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- Wedzinga, Johannes H., to Van Doorne's Automobielabriek N.V. Air suspension systems for vehicles. 3,073,621, 1-15-63, Cl. 280—124.
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- Weedfield, Arthur. Contract bridge bidding guide. 3,070,903, 1-1-63, Cl. 35—8.
- Weedman, John A., to Phillips Petroleum Co. Polymer recovery. 3,086,965, 4-23-63, Cl. 260—94.9.
- Weekman, Vern W., Jr., to Socony Mobil Oil Co., Inc. Catalytic conversion of liquid hydrocarbons in the presence of suspended catalyst. 3,074,879, 1-22-63, Cl. 208—176.
- Weeks, Arnold N., to Bemis Bro. Bag Co. Method of making bags. 3,094,083, 6-18-63, Cl. 112—10.
- Weeks, Arnold N., to Bemis Bro. Bag Co. Bag opener. 3,104,047, 9-17-63, Cl. 229—66.
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- Weeks, Howard C. Drawing apparatus. 3,107,430, 10-22-63, Cl. 23—77.
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- Weems, Albert W. Nutcracker. 3,105,532, 10-1-63, Cl. 146—16.
- Weems, Sterling J., to United States of America, Atomic Energy Commission. Construction of nuclear fuel elements. 3,105,035, 9-24-63, Cl. 204—193.2.
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- Weening, Samuel. Structural panel. 3,082,850, 3-26-63, Cl. 189—34.



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- Wehlin, Egon, to Allmänna Svenska Elektriska Aktiebolaget. Machine with oscillating cutting tool for removing welding bulges. 3,070,952, 1-1-63, Cl. 69—29.
- Wehmann, George, to United States of America, Atomic Energy Commission. Remote recording annular vane assembly. 3,094,869, 6-25-63, Cl. 73—189.
- Wehmeyer, Werner, to Schleemann Aktiengesellschaft. Gripping heads for sheet-stretching machines. 3,107,716, 10-22-63, Cl. 153—35.
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- Wehner, William C., to Dura Corp. Engine starter. 3,097,634, 7-16-63, Cl. 123—179.
- Wehr, Henry W., and N. J. Guziak, to The Dow Chemical Co. Synthetic ski slope. 3,091,998, 6-4-63, Cl. 94—3.
- Wehr, Rudolf, to The Procter & Gamble Co. Hair waving compositions. 3,071,515, 1-1-63, Cl. 167—87.1.
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- Weibel, Erich S., to Space Technology Laboratories, Inc. Gas confining apparatus. 3,105,803, 10-1-63, Cl. 204—193.2.
- Weiberg, Otto, to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler. Production of 2,4-bis-amino-6-trichloromethyl-s-triazines. 3,103,512, 9-10-63, Cl. 260—249.9.
- Weiby, Maxwell O., and H. A. Petsch, to The Pyroil Co., Inc. Scraper cap. 3,090,067, 5-21-63, Cl. 15—236.
- Weichart, Gunter, to Kali-Forschungs-Anstalt G.m.b.H. Electrostatic separator. 3,109,806, 1-5-63, Cl. 209—129.
- Weichbrod, Joseph, to National Instrument Laboratories, Inc. Fluid restrictor for linear flow meters. 3,071,160, 1-1-63, Cl. 138—40.
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- Weidknecht, Charles J., and C. Rosen, to Vector Mfg. Co. Phase modulator. 3,105,205, 9-24-63, Cl. 332—30.
- Weidknecht, Charles J., and C. Rosen, to Vector Mfg. Co. Phase modulation transmitter. 3,110,863, 11-12-63, Cl. 325—105.
- Weidman, William H., to Harris-Intertype Corp. Key-type mounting. 3,086,799, 4-23-63, Cl. 287—52.05.
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- Weier, Jacob J. Tubular wheel. 3,074,763, 1-22-63, Cl. 301—43.
- Weiford, George W., Jr. Multiplex switch system. 3,105,130, 9-24-63, Cl. 200—104.
- Weigand, Charles G., to Fidelitone, Inc. Apparatus for and methods of assembling record engaging styli. 3,089,193, 5-14-63, Cl. 18—36.
- Weigel, Alois. Automatic straw and chaff saver. 3,092,272, 6-4-63, Cl. 214—501.
- Weigel, Alois. Straw chopper and blower. 3,103,241, 9-10-63, Cl. 146—107.
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- Weigert, Wilhelm, to Robert Bosch, G.m.b.H. Hydraulic machines. 3,073,251, 1-15-63, Cl. 103—126.
- Weigl, Valerie. Auxiliary piano keyboard. 3,111,056, 11-19-63, Cl. 84—425.
- Weigle, Barbara. Automobile seat litter receiving device. 3,088,771, 5-7-63, Cl. 296—37.
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- Weil, Edward D., to Hooker Chemical Corp. 3,5-diisopropylphenyl N-methylcarbamate, a low toxicity insecticide. 3,083,137, 3-26-63, Cl. 167—30.
- Weil, Edward D., to Hooker Chemical Corp. 2,3,6-trichloro-5-nitrobenzoic acid and salts thereof. 3,109,023, 10-29-63, Cl. 260—515.
- Weil, Edward D., and J. Linder, to Hooker Chemical Corp. 2,3,6-trichloro- $\beta$ -nitrostyrene. 3,112,346, 11-26-63, Cl. 260—645.
- Weil, Lester L., to United Aircraft Corp. Spherical particle oxidizer of lithium perchlorate and ammonium perchlorate and propellant. 3,106,497, 10-8-63, Cl. 149—17.
- Weil, Lester L., and W. J. Hewes, to Atlantic Research Corp. Surface combustion inhibited propellant grains and processes for making same. 3,074,831, 1-22-63, Cl. 149—19.
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- Weil, Thomas A., to Twincos, Inc. High and low level radiation meter. 3,113,212, 12-3-63, Cl. 250—83.6.
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- Weilbach, August O., and C. H. Beebe, to Beckman Instruments, Inc. Monobeam infrared gas analyzer with means to control the phase difference between the two cells. 3,105,147, 9-24-63, Cl. 250—43.5.
- Weiler, Peter R., to Zenith Radio Corp. Multi-band oscillation generator. 3,105,204, 9-24-63, Cl. 331—117.
- Weill, Jacky, to Commissariat a l'Energie Atomique. Arrangement of control bars in an atomic pile. 3,079,320, 2-26-63, Cl. 204—193.2.
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- Weiman, Albert W. Valve lift attachments. 3,111,118, 11-19-63, Cl. 123—90.
- Weimer, Gerald A. Heating systems. 3,085,564, 4-16-63, Cl. 126—121.
- Weimer, Paul K.: *See*—  
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- Weinberg, Herman, to The Manhattan Pickle Co., Inc. Method of packaging processed pickles and tomatoes. 3,102,034, 8-27-63, Cl. 99-171.
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- Zimmerman, John R., Jr., and Weinberg. 3,100,866.
- Weinberg, Richard A. Apparatus for producing corrected programming devices for automatic control. 3,076,594, 2-5-63, Cl. 234-26.
- Weinberg, Seymour B., to Bell Telephone Laboratories, Inc. Private branch telephone system with camp on facilities. 3,112,373, 11-26-63, Cl. 179-18.
- Weinberger, Jan V.: *See—*
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- Weinecke, Laurence A., and O. L. Brekke, to United States of America, Agriculture. Uniform residence hopper assembly. 3,103,287, 9-10-63, Cl. 214-17.
- Weiner, Albert P.: *See—*
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- Weiner, Albert P., to General Electric Co. Vibrating reed remote control transmitter. 3,094,098, 6-18-63, Cl. 116-137.
- Weiner, Gilbert H. Baseboard radiator. 3,103,970, 9-17-63, Cl. 165-67.
- Weiner, Hilman, to M. I. Glass. Foldable water pistol. 3,091,370, 5-28-63, Cl. 222-79.
- Weiner, Hilman, to M. I. Glass. Optical toy. 3,099,933, 8-6-63, Cl. 88-15.
- Weiner, Lazarus C., to Esso Research and Engineering Co. Use of spheroidized steels. 3,083,155, 3-26-63, Cl. 208-209.
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- Weiner, Myron J., and R. N. Sindric, to Voi-Shan Industries, Inc. Turnbuckle. 3,081,116, 3-12-63, Cl. 287-60.
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- Weiner, Pavel. Process for improving the brewing characteristic of hops. 3,104,974, 9-24-63, Cl. 99-50.5.
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- Weinert, Carl R., to Federal Laboratories, Inc. Stabilization of diphenylaminechlorarsine gas generating charges by coating the particles with a drying oil. 3,085,047, 4-9-63, Cl. 167-47.
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- Weinfurt, Edward J., to McGraw-Edison Co. Voltage regulating apparatus. 3,074,010, 1-15-63, Cl. 323-66.
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- Weingart, Richard I. N., to Universal Controls, Inc. Data processing assembly and method. 3,107,928, 10-22-63, Cl. 282-3.
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- Weinhart, Martin. Device for hinging covers on containers. 3,091,357, 5-28-63, Cl. 220-31.
- Weinman, Eric W., and A. M. Ryniak, to General Motors Corp. Friction material. 3,101,527, 8-27-63, Cl. 29-182.5.
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- Weinstein, Richard, to Slant Fin Radiator Corp. Baseboard radiators and elements thereof. 3,091,289, 5-28-63, Cl. 165-55.
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- Pachter, Irwin J., and Weinstock. 3,105,076.
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- Weir, Charles E., A. Van Valkenburg, and E. R. Lippincott, to United States of America, Commerce. High-pressure optical cell. 3,079,505, 2-26-63, Cl. 250-83.
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- Weise, Erwin K., to K. H. Huppert Co. Electric control circuits using thermistors. 3,114,082, 12-10-63, Cl. 317-132.
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- Weisenbach, Charles O., to The New York Air Brake Co. Hydrostatic transmission. 3,093,297, 6-11-63, Cl. 230-4.
- Weisenberger, William P., to E. I. du Pont de Nemours and Co. Process for the preparation of polytetrafluorethylene molding powder. 3,115,486, 12-24-63, Cl. 260-92.1.
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- Weiss, Arthur J., to Continental Can Co., Inc. Merchandising package forming member. 3,075,799, 1-29-63, Cl. 294-87.2.
- Weiss, Bernhardt B., and C. D. Running, to Paris Precision Products. Power-actuated banding tool. 3,090,599, 5-21-63, Cl. 254-51.
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- Weiss, Felix S., to Cornell-Dubilier Electric Corp. Capacitor manufacture. 3,091,835, 6-4-63, Cl. 29-25.42.
- Weiss, Gerhart, to American Thermocatalytic Corp. Inc. Vane pumps. 3,072,068, 1-8-63, Cl. 103-144.
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- Weiss, Richard, to Franke & Heidecke Fabrik Photographischer Frazisions-Apparate. Protective housing for photographic cameras. 3,073,227, 1-15-63, Cl. 95-11.
- Weiss, Richard, and C. Prochnow, to Franke & Heidecke, Fabrik Photographischer Frazisions-Apparate. Exposure regulating means for cameras. 3,099,194, 7-30-63, Cl. 95-10.
- Weiss, Robert L., to The Wooster Brush Co. Paint brushes. 3,112,509, 12-3-63, Cl. 15-193.
- Weiss, Robert L., E. R. Hunt, and H. C. Davis, to The Wooster Brush Co. Paint brushes. 3,090,063, 5-21-63, Cl. 15-193.
- Weiss, Walter, H. Kowalski, and A. Koebele, to J. C. Eckardt A.G. Pneumatic governor with star-shaped arrangement of bellows. 3,090,335, 5-21-63, Cl. 137-86.
- Weiss, Walter I., to Transistor Devices, Inc. Electrical terminal and method of making same. 3,106,436, 10-8-63, Cl. 339-220.
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- Weisser, Lee. Tree crop harvester. 3,114,998, 12-24-63, Cl. 56-329.
- Weissert, Harold J. Constant leveling device. 3,112,033, 11-26-63, Cl. 211-49.
- Weissinger, Harry. Brush holder assembly for electric machines. 3,076,907, 2-5-63, Cl. 310-246.
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- Weissman, Samuel M., to Bankers & Merchants, Inc. Stamp-ing device. 3,101,047, 8-20-63, Cl. 101-103.
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- Weisz, Paul B., to Socony Mobil Oil Co., Inc. Catalytic conversion of hydrocarbons. 3,108,945, 10-29-63, Cl. 208-60.
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- Weitzel, George, to The McNeil Machine & Engineering Co. Dispensing apparatus with air operated follower. 3,113,705, 12-10-63, Cl. 222-389.
- Weitzel, John P. Rotary exerciser apparatus. 3,100,640, 8-13-63, Cl. 272-73.
- Weitzman, Jerry, to Water Games, Inc. Submersible target for underwater exercises. 3,095,197, 6-25-63, Cl. 273-102.
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- Welch, Jack D., and H. G. De Vries, to Collins Radio Co. High efficiency instrument servo amplifier for microminiaturization. 3,109,971, 11-5-63, Cl. 318-30.
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- Welch, Stanley B., to General Electric Co. Oven temperature control system. 3,094,605, 6-18-63, Cl. 219-20.
- Welch, Stanley B., to General Electric Co. Thermostatic control system with thermal relay means. 3,116,398, 12-31-63, Cl. 219-20.
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- Welcher, Richard P., to American Cyanamid Co. Organophosphorus heterocyclic compounds and methods for preparing same. 3,105,096, 9-24-63, Cl. 260-606.5.
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- Welcker, Clyde J. and R. L., to Welcker Corp. Food processing. 3,080,605, 3-12-63, Cl. 17-2.
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- Welkowitz, Walter, and H. E. Dahike, to Gulton Industries, Inc. Ultrasonic liquid level gauge. 3,100,885, 8-13-63, Cl. 340-3.
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- Weller, Edward F., Jr., to General Motors Corp. Quantizer. 3,108,194, 10-22-63, Cl. 307-88.
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- Weller, Leo G., to Fuller Co. Gas-material separator. 3,097,938, 7-16-63, Cl. 55-302.
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- Wentorf, Robert H., Jr., to General Electric Co. High pressure, high temperature apparatus. 3,088,169, 5-7-63, Cl. 18-16.
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- Werner, Gunther, to Hanseatische Motoren-Gesellschaft m.b.H. Revolving tube drive for winding a fibrous strand on cross wound bobbins on drawing frames. 3,112,083, 11-26-63, Cl. 242-54.4.
- Werner, Heinz-Ulrich: *See*—  
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- Werner, Jesse, and F. A. Hessel, to General Aniline & Film Corp. Herbicidal mixture comprising a crabgrass killer and a heterocyclic polymer. 3,097,087, 7-9-63, Cl. 71-2.4.
- Werner, Johannes: *See*—  
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- Werner, Johannes, to H. T. Golde, G.m.b.H., & Co. K.G. Apparatus for displacing slidable structures. 3,075,407, 1-29-63, Cl. 74-625.
- Werner, Johannes, to H. T. Golde, G.m.b.H., & Co. K.G. Sliding panel construction for passenger cars. 3,075,807, 1-29-63, Cl. 296-137.



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- Werner Kammann, Maschinen-Fabrik: *See*—Kerstan, Heinz-Ulrich. 3,078,792.
- Werner, Kurt: *See*—Priendnieks, Voldemars, and Werner. 3,100,351.
- Werner, Lincoln H.: *See*—De Stevens, George, and Werner. 3,081,301.
- Werner, Lincoln H., and G. de Stevens, to Ciba Corp. 2-cycloaliphatic-6-sulfamyl-7-halo (or trihalomethyl)-1,2,3,4-tetrahydro-4-quinazolones. 3,072,656, 1-8-63, Cl. 260-256.5.
- Werner, Louis A.: *See*—Cartwright, Theodore R., and Werner. 3,083,720.
- Werner Machinery Co.: *See*—Brunson, Bruce W. 3,088,483.
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- Werner, R. D., Co. (Canada) Ltd.: *See*—Muir, Alan M. 3,080,021.
- Werner, Raymond E., to Sterling Drug Inc. Process for preparing m-(di-lower-alkylamino) phenols. 3,102,913, 9-3-63, Cl. 260-574.
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- Werner, Robert V., and Eddy Hose, to Cubic Corp. Electronic surveying system. 3,078,460, 2-19-63, Cl. 343-12.
- Werner, Robert V., and E. S. Levy, to Cubic Corp. Audio readout unit for a digital voltmeter. 3,081,431, 3-12-63, Cl. 324-99.
- Werner, Robert V., W. J. Zable, and W. J. Thompson, to Cubic Corp. Electronic tracking system. 3,085,242, 4-9-63, Cl. 343-6.5.
- Werner, Robert V., W. J. Zable, and W. J. Thompson, to Cubic Corp. Sequenced spatial coordinate determining system. 3,111,665, 11-19-63, Cl. 343-12.
- Werner, Tage, to Inland Steel Co. Adjustable mounting for adjustable powdered fuel burner. 3,100,461, 8-13-63, Cl. 110-28.
- Werner, William, O. Siebler, E. Alt, and B. Buchner, to Auto Union G.m.b.H. Method of operating two-stroke internal combustion engines. 3,114,356, 12-17-63, Cl. 123-73.
- Wernicoff, Nathan, and G. G. Pincus, to Vineland Poultry Laboratories. Improving fertilized avian eggs with 21-thiocyano-17 $\alpha$ -OH progesterone. 3,088,865, 5-7-63, Cl. 167-53.1.
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- Wernig, James H., and S. D. Cockburn, to General Motors Corp. Toggle bolt door latch. 3,112,946, 12-3-63, Cl. 292-223.
- Wernlund, Roger F., to Robertshaw-Fulton Controls Co. Contact annunciator with acknowledgment and master alarm relay. 3,081,449, 3-12-63, Cl. 340-213.
- Werntz, James H.: *See*—Sandy, Charles A., and Werntz. 3,088,813.
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- Werra, Bruno H., and T. A. Geary, to Ladish Co. Ball check valves. 3,105,516, 10-1-63, Cl. 137-533.11.
- Werres, Horst: *See*—Pieron, Ernst-Albrecht, and Werres. 3,113,908.
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- Werts, Everett W., to General Electric Co. Adjustable time delay undervoltage protective circuit. 3,105,919, 10-1-63, Cl. 317-31.
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- Wesel, Lloyd E. Root feeding tool and method. 3,113,534, 12-10-63, Cl. 111-89.
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- Weslake, Henry. Internal combustion engines having side by side inlet and exhaust ports. 3,113,560, 12-10-63, Cl. 123-32.
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- Wesley, Walter F. Bleeding apparatus for hydraulic brake systems. 3,095,124, 6-25-63, Cl. 222-189.
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- Wesolowski, Adolph J., to General Electric Co. Salient pole for synchronous machines. 3,106,654, 10-8-63, Cl. 310-61.
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- Wesseler, William O., and J. K. Siewertsen. Electrical cable connection box. 3,073,888, 1-15-63, Cl. 175-65.
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 Newell, George K. 3,101,814.  
 Shirey, Frank W. 3,089,008.  
 Stapelfeldt, Roelif. 3,076,090.  
 Stark, Donald E. 3,096,138.  
 Utt, Orval L. 3,113,274.  
 Williams, Richard H., Jr. 3,102,974.
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 Marsh, Leslie E. 3,072,104.  
 Walker, Alec H. B. 3,113,259.
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 Adamson, Floyd E. 3,093,728.  
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 Albert, Paul A. 3,102,832.  
 Albert, Willard S. 3,110,856.  
 Allen, Harvey G. 3,077,161.  
 Altoz, Frank E., Eargle, and Almony. 3,093,086.  
 Amsterdam, Michael F. 3,114,041.  
 Anderson, Melvin R., and Goetz. 3,107,062.  
 Anderson, Richard W., Smart, and Miale. 3,106,943.  
 Ardito, William A. 3,099,028.  
 Asars, Juris A. 3,107,314.  
 Aspey, Wayne S., and Baker. 3,110,791.  
 Ayling, Robert W. 3,080,106.  
 Ayling, Robert W. 3,112,064.  
 Bacheler, Albert T., Helmuth, and Cochran. 3,073,996.  
 Baech, Alfred J. 3,089,083.  
 Baker, Benjamin P. 3,082,308.  
 Ballentine, Richard E., and Saur. 3,081,524.  
 Barabutes, Theodore, and Kulick. 3,097,351.  
 Barditch, Irving F., and Freeman. 3,107,331.  
 Barditch, Irving F., and Hartenstein. 3,086,175.  
 Baudry, Rene A. 3,110,827.  
 Baugh, Charles W., Jr. 3,076,057.  
 Beach, Earl F., and Upton. 3,079,474.  
 Benedict, Frank R. 3,074,461.  
 Bennett, Allan I., Jr. 3,099,755.  
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 Bentley, John M. 3,090,000.  
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- Westinghouse Electric Corp.: *See*—Continued  
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 Bogert, William M., and Johnson. 3,086,164.  
 Book, Herbert W. 3,077,777.  
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 Booker, Clyde A., Jr. 3,072,888.  
 Bottone, Arthur A. 3,082,345.  
 Boyer, John L., and Style. 3,110,080.  
 Breedon, David B., Carleton, and Ferguson. 3,086,162.  
 Bricker, Samuel R., and Smith. 3,103,079.  
 Bright, Richard L. 3,073,970.  
 Brown, Myron J. 3,103,581.  
 Buchanan, Leslie B. M. 3,086,067.  
 Buchanan, Royal S., and Cobb. 3,081,608.  
 Buck, Ivan E., Jr., and Pakutka. 3,073,982.  
 Burton, George, Jr., Rosner, Landkrohn, and Machett. 3,093,726.  
 Bush, Nyle E. 3,093,740.  
 Carlson, Charles L., and Rosecrans. 3,096,577.  
 Carlson, Raymond L. 3,101,890.  
 Chang, Hung-Chi. 3,078,219.  
 Chang, Hung-Chi. 3,082,126.  
 Charland, Telephore L., and Moss. 3,086,068.  
 Chen, Harold H. 3,072,737.  
 Chester, Peter F. 3,080,527.  
 Choyke, Wolfgang J., and Patrick. 3,105,166.  
 Christensen, Bent. 3,093,752.  
 Chrzanoski, Edward J., and Layton. 3,073,966.  
 Clark, James O. 3,093,732.  
 Cochart, Alexander W. 3,113,927.  
 Coleman, Clarence B. 3,107,302.  
 Connor, John C. 3,075,116.  
 Conrad, Joseph D., Sr., and Reynolds. 3,107,084.  
 Cope, Richard P., Jr., and Drobne. 3,093,557.  
 Cornell, Archie R. 3,089,982.  
 Cornish, Albert J. 3,110,629.  
 Corry, Thomas M. 3,078,389.  
 Corry, Thomas M., and Learn. 3,082,276.  
 Cromer, Charles F., Sandin, and Baker. 3,095,490.  
 Csanady, Michael, Jr. 3,073,964.  
 Davidson, John D. 3,073,965.  
 Davis, Marvin A. 3,099,777.  
 Denton, Gene W., and Harris. 3,103,598.  
 Derr, Willard A., and Silliman. 3,075,177.  
 Dixon, Austin. 3,103,067.  
 Dobbie, James. 3,097,340.  
 Dobbie, James. 3,107,306.  
 Droegkamp, Robert E., Slaughter, and Thomas. 3,104,972.  
 Durham, Daniel R. 3,107,283.  
 Durnal, Robert G. 3,097,357.  
 Dyer, Lloyd. 3,077,525.  
 Easley, Gilbert J., Hess, and Telford. 3,114,815.  
 Easterbrook, John N. 3,089,996.  
 Ehrmann, Kurt, and Soffel. 3,077,900.  
 Ellis, Belvin B. 3,107,415.  
 Ellsworth, James P., and Flick. 3,073,926.  
 Ellsworth, James P., and Yorgin. 3,071,666.  
 Erickson, John W. 3,075,105.  
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 Faught, Harold F. 3,073,113.  
 Feduska, William. 3,070,875.  
 Fein, Samuel, and Ondulich. 3,080,839.  
 Feldman, Milton H., and Hosticka. 3,089,189.  
 Ferguson, James L., Vogl, and Garbuny. 3,114,836.  
 Filipowsky, Richard F. J. 3,082,377.  
 Ford, James G. 3,074,039.  
 Ford, James G. 3,102,159.  
 Forsha, Herbert E., and Kapell. 3,099,784.  
 Foster, Newton C. 3,099,638.  
 Fox, Donald K., and Reicheneker. 3,097,093.  
 Frankhouser, William L., and Eyler. 3,097,293.  
 Frantti, Edsel W. 3,085,405.  
 Fraser, Hugh D. 3,073,137.  
 Fraser, Hugh D. 3,073,985.  
 Frederick, James E. 3,110,817.  
 Frederick, William A. 3,077,445.  
 Freeman, George A. 3,110,094.  
 Fricke, Roger F. 3,114,093.  
 Friedrich, Kevin F., and Kaiser. 3,099,786.  
 Frink, Russel E. 3,072,764.  
 Frisch, Erling. 3,107,209.  
 Gamberg, Edward R., Yacko, and Cotter. 3,093,725.  
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 Gibson, Gordon P., and Schwarckopf. 3,079,524.  
 Glenn, James P. 3,075,244.  
 Goethe, Paul K., and Horstman. 3,106,769.  
 Gordon, Robert B., and Hurford. 3,072,982.  
 Griffiths, Edward H., Jr. 3,083,911.  
 Grimes, Willard M., Jr. 3,074,007.  
 Guentner, Robert L., and Moran. 3,073,960.  
 Haass, Walter P. 3,075,909.  
 Hall, Richard C., and Wien. 3,099,176.  
 Ham, Edward J. 3,103,608.  
 Hanna, Clinton R. 3,085,818.  
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 Hedges, Charles D., Jr., and Scheneman. 3,078,375.  
 Hellstrom, Melbourne J. 3,087,995.  
 Hellstrom, Melbourne J., and Wood. 3,111,602.  
 Henkels, Herbert W. 3,103,599.  
 Herchenroeder, Louis W. 3,099,781.  
 Heyser, Lewis S., Skillman, and Mooney. 3,103,010.  
 Hickam, William M. 3,077,638.  
 Hierholzer, Frank J., Jr. 3,074,030.  
 Hill, Robert H., and Hetzler. 3,073,927.  
 Hofmann, Charles F., Vondracek, and Westervelt. 3,082,133.  
 Hooke, Robert, and Wendt. 3,082,373.  
 Hoover, Dillon B. 3,073,980.  
 Hu, Hsun. 3,089,795.  
 Husby, Donald E., and Keck. 3,099,405.  
 Hushley, Walter J. 3,089,956.  
 Huston, John R., Webb, McGrath, and Johnson. 3,090,740.  
 Iredell, Charles V. 3,103,435.  
 Ivey, Henry F. 3,103,551.  
 Jaffe, Donald, and Losco. 3,106,773.  
 John, Harold F., and Faust. 3,075,892.  
 John, Harold F., and Faust. 3,093,520.  
 John, Harold F., and Faust. 3,103,455.  
 Jones, Clarence I. 3,110,853.  
 Jones, Martin L., and Horner. 3,099,754.  
 Jung, Robert C. 3,075,366.  
 Jung, Robert C., and Tupper. 3,077,749.  
 Kaisler, Francis J., and Higby. 3,110,816.  
 Kendziorek, Wolfgang M., and Clements. 3,092,916.  
 Kendziorek, Wolfgang M., and Garrett. 3,103,594.  
 Kennedy, Wilson R., and Spencer. 3,099,778.  
 Kiesel, Kenneth A. 3,075,082.  
 Kiesel, Kenneth A., Webb, Smith, and Collins. 3,076,093.  
 Kimbell, Marion J., and Fields. 3,113,458.  
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 King, George E. 3,107,322.  
 Kivenson, Gilbert. 3,110,481.  
 Koerner, Harry E., and Thomas. 3,096,976.  
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 Kyle, William K., and Stewart. 3,103,794.  
 Laidig, Alfred H. 3,103,397.  
 Lane, Donald H., and Feduska. 3,082,277.  
 Larson, Daniel A. 3,110,833.  
 Larson, Daniel A., and Walsh. 3,089,972.  
 Latawiec, Alfons A., and Lockwood. 3,074,859.  
 Lederer, Ernest A. 3,093,757.  
 Leeds, Winthrop M. 3,071,671.  
 Leeds, Winthrop M. 3,073,931.  
 Leeds, Winthrop M. 3,091,678.  
 Leeds, Winthrop M., and Lingal. 3,071,669.  
 Lehmann, Willi. 3,075,117.  
 Lehmann, Willi. 3,075,122.  
 Lenehan, Bernard E. 3,090,006.  
 Lensner, Herbert W., and Farley. 3,114,140.  
 Lenz, Carl. 3,096,795.  
 Lenz, Carl, and Hasell. 3,074,442.  
 Lenz, Carl, and Hasell. 3,093,164.  
 Leonard, Merrill G., and Astleford. 3,073,993.  
 Leonard, Merrill G., and Siefert. 3,071,845.  
 Le Row, Charles E., Jr., and McDonald. 3,097,321.  
 Lingal, Harry J. 3,078,383.  
 Long, Olan L. 3,103,227.  
 Longini, Richard L., Bennett, and John. 3,106,764.  
 Ludwig, Howard C. 3,089,949.  
 Lynn, Lawrence B. 3,085,444.  
 MacGregor, Dean J. 3,086,155.  
 Mason, Stuart A. 3,078,437.  
 Mason, Stuart A., and Krenke. 3,078,361.  
 Mathias, Gerald E., and Egglestone. 3,086,153.  
 Mathias, Gerald E., Helmick, and Egglestone. 3,078,402.  
 Mathiak, Andrew J., Mullen, and Cametti. 3,099,771.  
 Mattern, John. 3,099,802.  
 McAuliffe, Gerard K. 3,078,416.  
 McAuliffe, Gerard K. 3,097,339.  
 McGrath, Robert G., Haass, and Frederick. 3,079,319.  
 McHugh, James P., Lubell, Johnson, and Brown. 3,073,883.  
 McMillen, Jack W., Jr., and Rhodes. 3,097,259.  
 McNeill, Jon J. 3,107,348.  
 McShane, William J. 3,095,012.  
 Meyer, Charles A., and Rosard. 3,073,563.  
 Miller, Carl F., Smart, and McCurdy. 3,081,520.  
 Miller, Coleman J. 3,080,523.  
 New, Thorndike C. T. 3,073,006.  
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 Newhouse, Paul D. 3,077,601.  
 Nieder-Westermann, Winfried. 3,086,105.  
 Noreen, Donald H., and Guenther. 3,099,826.  
 Ogland, Jon W., and Jensen. 3,088,048.  
 Okress, Ernest C. 3,082,351.  
 Olsen, Willy, and Ellis. 3,081,962.  
 Owens, James B. 3,077,526.  
 Palmer, Karl. 3,090,007.  
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 Pettit, Lewis F., Jr., and Miller. 3,078,354.  
 Pinkston, Herbert C., Gilbert, and Lloyd. 3,102,454.  
 Purifoy, George R. 3,099,751.  
 Rambo, Sheldon I. 3,071,731.  
 Ramey, Robert A., Jr., and Corry. 3,110,628.  
 Rasmussen, Arne P., Bertl, and Geyser. 3,085,354.  
 Reuther, John F. 3,089,998.  
 Rexroad, James O. 3,089,928.  
 Rhicard, Gerald S., and Wilson. 3,101,638.  
 Rhodes, Glenn E., and Koenig. 3,076,328.  
 Ricks, Herbert E. 3,075,894.  
 Ridings, James L. 3,099,733.  
 Riley, Robert F. 3,103,613.  
 Rinald, Donald F. 3,080,307.  
 Risacher, Gerard H. 3,106,801.  
 Rively, Clair M., and Brenneck. 3,088,572.  
 Rively, Clair M., and Brenneck. 3,088,602.  
 Rively, Clair M., and Gorski. 3,099,296.  
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 Roberts, Dewey B. 3,111,815.  
 Roberts, Roland W., Rosa, Algazi, and Abrams. 3,080,486.  
 Roesel, John F., Jr. 3,089,981.  
 Rood, Robert E. 3,077,776.  
 Rowe, William D. 3,082,368.  
 Rowe, William D. 3,104,327.  
 Rowe, William D. 3,114,052.  
 Rowe, William D., and Jeeves. 3,078,040.  
 Rubenstein, Lester S., and Shubert. 3,097,094.  
 Ruby, Stanley L., Sun, and Fahrner. 3,101,410.  
 Sack, Edgar A., Jr. 3,110,813.  
 Sackinger, James P., and Feaster. 3,105,290.  
 Sattler, Frank A., and Tierney. 3,089,787.  
 Savage, Conwell. 3,103,645.  
 Schneeberger, Robert J. 3,082,340.  
 Schnitzel, Randolph H. 3,075,120.  
 Schramm, Jacob H. 3,081,164.  
 Schultz, Mortimer A., and Nagel. 3,103,653.  
 Settles, James L., and Conner. 3,082,389.  
 Silliman, Sheldon D., and Derr. 3,076,899.  
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 Smart, Ernest F., and Nolles. 3,081,521.  
 Smith, Alan D. 3,111,780.  
 Smith, Harry D., and Ewanus. 3,086,201.  
 Sonnemann, William K. 3,109,962.  
 Soos, Steven W. 3,103,564.  
 Sorrow, Billy B., and Kunkle. 3,099,770.  
 Spindle, Harvey E. 3,114,077.  
 Stadium, Clarence B., Van Ness, and Hartwig. 3,089,948.  
 Stamm, John J. 3,089,991.  
 Standing, Arthur F. 3,110,822.  
 Starks, Cecil K., and Carroll. 3,079,502.  
 Stein, Gerhard M. 3,074,037.  
 Stein, Gerhard M. 3,090,022.  
 Steinert, Emil F. 3,078,362.  
 Stelmak, John P. 3,100,927.  
 Sternglass, Ernest J. 3,114,044.  
 Stewart, Robert S. 3,112,620.  
 Stringer, Loren F. 3,096,670.  
 Stringer, Loren F. 3,110,203.  
 Strom, Albert P. 3,075,060.  
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 Strull, Gene. 3,089,967.  
 Swartout, Willson C. 3,078,399.  
 Sweeney, Harold E. 3,103,555.  
 Sziklai, George C., and Strull. 3,097,336.  
 Taylor, Frank W. 3,107,030.  
 Thomander, Veron S. 3,074,016.  
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 Thomas, Eugene P., Guentner, and Vaughn. 3,099,747.  
 Thomas, Eugene P., Jennings, and Griffith. 3,114,043.  
 Thomas, Glenn R., and Flick. 3,073,925.  
 Thompson, Francis T. 3,090,929.  
 Thompson, James E., and Van Meter. 3,071,698.  
 Thornton, William A., Jr. 3,075,118.  
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 Tierney, Paul A. 3,078,186.  
 Tombaugh, Roy W. 3,096,881.  
 Upton, Chester W., Jr., and Beach. 3,071,668.  
 Ure, Roland W., Jr., and Somers. 3,103,587.  
 Van Sickle, Roswell C., Florschutz, and Sucha. 3,082,355.  
 Vitt, Leonard P., and McNeill. 3,099,824.  
 Wagner, John T. 3,073,569.  
 Walker, Eugene J., Yorgin, and Pendy. 3,103,565.  
 Wallace, James B. 3,072,736.  
 Wallace, John W. 3,081,654.  
 Wallace, John W. 3,103,138.  
 Wallace, John W., Hull, and Moore. 3,089,363.  
 Wallace, John W., and Jacobs. 3,089,365.  
 Walls, Allen B. 3,090,039.  
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 Waters, Robert S. 3,085,350.  
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- Weisman, Joel, and Griffel. 3,093,564.
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- Wickerham, William R., and Egglestone. 3,089,993.
- Wiener, George W. 3,078,198.
- Wiley, Roy O. 3,082,303.
- Willard, Frank G. 3,103,577.
- Wilson, William E. 3,081,801.
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- Winter, William R. 3,080,912.
- Witte, Frederick W., and Loughran. 3,076,934.
- Wolfe, Peter N. 3,073,992.
- Wolfe, Peter N. 3,086,143.
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- Wollentin, Robert W. 3,110,837.
- Woodbury, Roderick V. 3,081,096.
- Worthington, James C., Jr., Frantz, and De Paul. 3,110,832.
- Wright, Ralph H., and Stringer. 3,081,652.
- Wright, William L., and Stuart. 3,107,324.
- Yeckley, Russell N., and Reese. 3,071,670.
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- Zeise, Clarence L., Jr. 3,073,004.
- Zeise, Clarence L., Jr. 3,085,921.
- Ziffer, Walter. 3,110,870.
- Westlake, Bertrand B. Violin resonance chamber with tapered wall thickness. 3,084,580, 4-9-63, Cl. 84—275.
- Westlake, Edward B., Jr. Container for liquids. 3,089,622, 5-14-63, Cl. 222—183.
- Westlake, Norman L., to Northeastern Engineering, Inc. Voltage regulating rectifier circuit. 3,105,184, 9-24-63, Cl. 321—18.
- Westland Aircraft Ltd.: *See*—
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- Westland S.A.: *See*—
- Bayard, Gaston. 3,113,440.
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- Westlin, Karl L., to American Air Filter Co., Inc. Wet dust separators or concentrators of the cyclone type. 3,104,961, 9-24-63, Cl. 55—237.
- Westlund, Edwin L. Retracting door hardware. 3,113,338, 12-10-63, Cl. 16—1.
- Westman, Albert E. R., and W. W. B. Schumacher, to Ontario Research Foundation. Method and apparatus for temperature integrating. 3,102,425, 9-3-63, Cl. 73—362.
- Westman, Sydney E., to The Garrett Corp. Transducer with linearized readout. 3,084,551, 4-9-63, Cl. 73—410.
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- Dalton, Thomas B. 3,073,572.
- Dalton, Thomas B. 3,081,065.
- Dalton, Thomas B. 3,104,891.
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- Westminster Laboratories Ltd.: *See*—
- Ryan, Herbert A. 3,077,434.
- Westmont, George A.: *See*—
- Westmont, John C. 3,096,842.
- Westmont, George A. Forward and reverse belt drive. 3,108,481, 10-29-63, Cl. 74—220.
- Westmont, John C., to G. A. Westmont. Driving and weight distribution arrangement for self-propelled golf carts. 3,096,842, 7-9-63, Cl. 180—54.
- Westmoreland, Perry E.: *See*—
- Armand, Harold A., Gilchrist, Millis, and Westmoreland. 3,101,555.
- Westmoreland Plastics Co., Inc.: *See*—
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- Weston Chemical Corp.: *See*—
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- Friedman, Lester. 3,092,651.
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- Schauer, Paul J., and Weston. 3,096,291.
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- Wittman, Steven J. 3,090,963.
- Westphal, James A., to Sinclair Research, Inc. Continuous seismic velocity logging. 3,073,406, 1-15-63, Cl. 181—5.
- Westphal, James A., to Sinclair Research, Inc. Apparatus for determining the coordinates of a point. 3,101,547, 8-27-63, Cl. 33—1.
- Westphal, Kurt, and G. Domagk, to Farbenfabriken Bayer Aktiengesellschaft. 2-o-chlorobenzylmercapto-4-dimethylamino 5-methyl pyrimidine. 3,112,316, 11-26-63, Cl. 260—256.5.
- Westphal, Walter A., and E. T. Bardwell, to Rexford Paper Co. Art of sealed package production. 3,106,050, 10-8-63, Cl. 53—184.
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- Steinacker, Peter. 3,108,954.
- Westphalia Union Aktiengesellschaft für Eisenunde Drahtindustrie: *See*—
- Elster, Curt C., and Hummertsch. 3,114,033.
- Westra, Dan P., to The Challenge Machinery Co. Belt drive for paper punch. 3,089,356, 5-14-63, Cl. 77—24.
- Westra, Dan P., to The Challenge Machinery Co. Clamp mechanism for a paper cutting machine. 3,105,679, 10-1-63, Cl. 269—32.
- Westre, Clarence. Ice hole cutter. 3,096,832, 7-9-63, Cl. 175—18.
- Westrex Co., Ltd.: *See*—
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- West Virginia Pulp and Paper Co.: *See*—
- Ball, Frank J., and Doughty. 3,090,700.
- Blonsky, Joseph E. 3,107,801.
- Blonsky, Joseph E. 3,107,802.
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- Green, Frank W. 3,113,713.
- Kessler, Richard P. 3,079,085.
- Kreimendahl, William J. 3,115,073.
- Leech, John G., and Fleischer. 3,099,570.
- MacIntosh, David, and Serico. 3,112,856.
- Marton, Joseph, and Adler. 3,071,570.
- Murray, Jackson L. 3,111,894.
- Obenshain, David N. 3,083,602.
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- Welshenbach, Charles D. 3,112,853.
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- Wethly, Frans, to Allied Chemical Corp. Coke quenching cars. 3,099,229, 7-30-63, Cl. 105—254.
- Wetjen, Russell W., to Buffalo Meter Co., Inc. Water meter. 3,100,993, 8-20-63, Cl. 73—258.
- Wetmore, Arthur W., and E. G. Frederick, to Crown Zellerbach Corp. Packing and packaging method. 3,100,046, 8-6-63, Cl. 206—60.
- Wetmore, Earnest M. Apparatus for grinding and pulverizing ear corn and the like. 3,090,568, 5-21-63, Cl. 241—73.
- Wetroff, Georges: *See*—
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- Wetter, Allan E. Boat trailer jack. 3,086,752, 4-23-63, Cl. 254—86.
- Wetterau, Paul C., to Congoleum-Nairn Inc. Resilient fabrics. 3,091,017, 5-28-63, Cl. 28—75.
- Wetterau, Paul C., to Congoleum-Nairn Inc. Resilient fabrics of expanded core yarns. 3,091,019, 5-28-63, Cl. 28—80.
- Wettstein, Albert: *See*—
- Jeger, Oskar, Arigoni, Wettstein, Anner, Heusler, Meystre, Wieland, and Kalvoda. 3,092,625.
- Meystre, Charles, Wettstein, Anner, Heusler, and Wieland. 3,098,070.
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- Wettstein, Albert, K. Heusler, J. Kebrie, C. Meystre, and P. Wieland, to Ciba Corp. 16a-alkyl-pregnane compounds and process for their manufacture. 3,072,686, 1-8-63, Cl. 260—397.4.
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- Wettstein, Fritz A., to Aktiebolaget Volvo. Hydropneumatic suspension and damping device for vehicles. 3,085,796, 4-16-63, Cl. 267—64.
- Wettstein, Fritz A., to Volvo, Aktiebolaget. Automatic braking pressure proportioner for vehicles. 3,101,220, 8-20-63, Cl. 303—22.
- Wettstein, Walter, to Ciba Ltd. Catalytic masses for the oxidation of naphthalene to 1:4-naphthoquinone. 3,095,430, 6-25-63, Cl. 260—396.
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- Wetzel, Lewis K.: See—  
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- Wetzer, Hermann. Counting device and printing attachment for current impulses succeeding each other at high speed. 3,103,878, 9-17-63, Cl. 101—93.
- Wetzler, Justin J., to The Englander Co., Inc. Foam mattress. 3,099,021, 7-30-63, Cl. 5—353.
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- Wexler, Herman, to Air Reduction Co., Inc. Polymer process for polyvinylacetate with aluminum trialkyls as the sole catalyst. 3,099,645, 7-30-63, Cl. 260—89.1.
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- Wharton, John, deceased; (by A. M. Wharton, executrix), to Wharton & Wilcocks Ltd. Design and construction of jigs and fixtures. 3,086,293, 4-23-63, Cl. 33—174.
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- White, Chester M.: *See*—  
Milnes, Frank J., and White. 3,088,913.
- White, Claude C. Resilient shell with enlarged end for engagement in a mine roof. 3,104,582, 9-24-63, Cl. 85-2.4.
- White, Clyde C., Jr., and R. L. Amsler, to Monsanto Chemical Co. Flammability testing apparatus. 3,088,309, 5-7-63, Cl. 73-15.
- White, Dale, to Westinghouse Electric Corp. Drive system. 3,106,997, 10-15-63, Cl. 192-4.



- White, David E.: *See*—  
Jensen, James L., and White. 3,085,211.
- White, David H.: *See*—  
Pananen, Roy A., and White. 3,071,709.
- White, David H., to Raytheon Co. Electron discharge devices. 3,084,278, 4-2-63, Cl. 315-39.3.
- White, David O. Electrically controlled training and toy aeroplane. 3,087,257, 4-30-63, Cl. 35-12.
- White, Donald L., H. L. Ketcham, Jr., and H. F. Horn, to Washington Gas Light Co. Joint sealant for gas mains. 3,085,892, 4-16-63, Cl. 106-278.
- White, Elijah W., to Bell Telephone Laboratories, Inc. Pulse generator circuit employing diode and inductor to reduce cycle time. 3,080,489, 3-5-63, Cl. 307-88.5.
- White, Elmer E.: *See*—  
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- White, Ernest I. Dental appliance. 3,078,578, 2-26-63, Cl. 32-33.
- White, Ernest I. Pressure applicator. 3,080,654, 3-12-63, Cl. 32-40.
- White, Ernest J.: *See*—  
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- White, Ernest W.: *See*—  
Kincaid, Donald E., and White. 3,077,849.
- White, Felix. Hanger for towel rack. 3,076,556, 2-5-63, Cl. 211-105.1.
- White, Fred, to Foldac Industries Ltd. Appliance for closing foil capsules on bottles. 3,073,088, 1-15-63, Cl. 53-76.
- White, Frederick, to Reynolds Metal Co. Foil capsule dispenser. 3,077,287, 2-12-63, Cl. 221-210.
- White, Gale, and E. D. Jackson, to Texas Instruments Inc. Method and apparatus of controlling gain of an amplifier. 3,083,341, 3-26-63, Cl. 330-132.
- White, George R.: *See*—  
Galli, Enrico J., and White. 3,079,086.
- White, George W.: *See*—  
Bliss, Harvey N., and White. 3,087,651.  
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- White, Gerald: *See*—  
Carson, Frank J., and White. 3,089,319.
- White, Gerald L., to Johns-Manville Fiber Glass Inc. Method of forming multiple strands from a single bushing. 3,072,518, 1-8-63, Cl. 156-175.
- White, Halbert C., to Dow Chemical Co. Resolution of acetyl-DL-tryptophan. 3,094,537, 6-18-63, Cl. 260-319.
- White, Harry G.: *See*—  
Lee, Charles A., and White. 3,082,127.
- White, Harold: *See*—  
Fregeolle, Oscar, and White. 3,115,021.  
Fregeolle, Oscar, and White. 3,115,022.
- White, Howard P.: *See*—  
Gottschalk, Juan M., White, and Chow. 3,104,381.
- White, Howard T., to Fostoria Corp. Motor driven pumps. 3,111,090, 11-19-63, Cl. 103-87.
- White, Jack M.: *See*—  
Korte, Alfred C., and White. 3,106,527.
- White, Jack M., and E. A. Johnson, to ACF Industries, Inc. Fuel pump. 3,096,721, 7-9-63, Cl. 103-150.
- White, James, to Bemis Bro. Bag Co. Bag package. 3,100,569, 8-13-63, Cl. 206-57.
- White, James A., to Materials, Inc. Pallet. 3,113,532, 12-10-63, Cl. 108-56.
- White, James E., and P. L. Lawrence, to Socony-Vacuum Oil Co., Inc. Seismic recording to emphasize selected character. 3,099,814, 7-30-63, Cl. 340-15.5.
- White, James N., and B. N. Torell, to United Aircraft Corp. Coordinated control of afterburner fuel and exhaust nozzle area. 3,082,599, 3-26-63, Cl. 60-35.6.
- White, James R.: *See*—  
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- White, James W. Vehicle body convertible from a flat bed to a boat carrier. 3,098,674, 7-23-63, Cl. 296-23.
- White, Jerome V.: *See*—  
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- White, Jesse O., to E. I. du Pont de Nemours and Co. Process for the simultaneous production of hydroxylamine and adipic acid. 3,076,026, 1-29-63, Cl. 200-531.
- White, John A., Jr., and R. W. Vaughan, to Be-Ge Mfg. Co. Pressure limiting valve. 3,101,093, 8-20-63, Cl. 137-316.
- White, John H., Jr.: *See*—  
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- White, John J., to United States of America, Navy. Servo assist bungee. 3,078,594, 2-26-63, Cl. 35-12.
- White, John J., to ACF Industries Inc. Spar riveting machine. 3,093,017, 6-11-63, Cl. 78-49.
- White, John L., to Jacwil Mfrs. Casket interior structure. 3,077,016, 2-12-63, Cl. 27-19.
- White, John W.: *See*—  
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- White, Joseph C. Apparatus for gauging container openings. 3,100,570, 8-13-63, Cl. 209-82.
- White, Joseph G. Hydraulic packing gland. 3,072,412, 1-8-63, Cl. 277-2.
- White, Jud E.: *See*—  
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- White Laboratories, Inc.: *See*—  
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- White, Leonard L. Sign structure. 3,102,352, 9-3-63, Cl. 40-125.
- White, Louis B., to Phil Rich Fan Mfg. Co., Inc. Refrigeration charging apparatus. 3,076,319, 2-5-63, Cl. 62-149.
- White, Marion M., to Allen Industries, Inc. Fibrous materials and method for making the same. 3,102,835, 9-3-63, Cl. 156-29.
- White, Marshall P.: *See*—  
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- White, Merwin G., and J. H. White, Jr. Treatment of lateritic ores. 3,093,559, 6-11-63, Cl. 204-123.
- White Motor Co., The: *See*—  
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Stephens, Wayne P. 3,077,554.
- White, Oliver G.: *See*—  
Wolf, Irving W., and White. 3,081,210.
- White, Oscar F., to J. D. Langdon. Lock-tight broom handle connector and scraper. 3,094,728, 6-25-63, Cl. 15-111.
- White, Patricia P. Dispensing receptacles. 3,094,244, 6-18-63, Cl. 222-23.
- White, Paul W., to Parva Products Co. Tabbled buckle. 3,085,308, 4-16-63, Cl. 24-200.
- White, Peter T.: *See*—  
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Porter, Frederick W. B., and White. 3,071,539.  
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- White, Peter T., to The British Petroleum Co. Ltd. Refining of petroleum hydrocarbons. 3,113,096, 12-3-63, Cl. 208-255.
- White, Peter T., and F. W. Porter, to The British Petroleum Co. Ltd. Production of alkyl aryl compounds. 3,071,629, 1-1-63, Cl. 260-668.
- White, Peter T., and R. W. Aitken, to The British Petroleum Co. Ltd. Supported nickel catalysts. 3,098,829, 7-23-63, Cl. 252-466.
- White, Peter T., and M. F. Olive, to The British Petroleum Co. Ltd. Reactivation of catalysts. 3,113,097, 12-3-63, Cl. 208-255.
- White, Philip R.: *See*—  
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- White, Robert B., and C. T. Murray. Amplifying, impedance changing or level changing apparatus. 3,105,201, 9-24-63, Cl. 330-71.
- White, Robert F.: *See*—  
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- White, Robert H., to The Torrington Co. Flanged retainer for roller bearings. 3,086,827, 4-23-63, Cl. 308-174.
- White, Robert H., and P. A. Carullo, to The Torrington Co. Apparatus for assembling needle thrust bearings. 3,090,109, 5-21-63, Cl. 29-201.
- White, Robert W.: *See*—  
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- White, Roby B. Coin wrapper. 3,095,084, 6-25-63, Cl. 206-83.
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- White, Ralph B., Jr.: *See*—  
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- White Sewing Machine Corp.: *See*—  
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- White, Theodore A.: *See*—  
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- White, Theodore Z., and C. S. Ashbrook, Jr., to Ford Motor Co. Cooling system. 3,077,927, 2-19-63, Cl. 165-72.
- White, Ward J., to National Sales System, Inc. Advertising mat kit. 3,075,261, 1-29-63, Cl. 22-5.5.
- White, Wayne E.: *See*—  
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- White, Wayne E., to Ozark-Mahoning Co. Fish control process. 3,076,743, 2-5-63, Cl. 167-46.
- White, Wilfrid F., and G. F. Weber, to United States of America, Atomic Energy Commission. Erythropletic factor preparation. 3,109,774, 11-5-63, Cl. 167-74.
- White, Wilfrid F., E. Goldwasser, G. F. Weber, R. Egan, and R. J. Schlueter, to United States of America, Atomic Energy Commission. Erythropletic factor purification and product. 3,111,458, 11-19-63, Cl. 167-74.
- White, William E., to Bethlehem Steel Co. Road joint assembly. 3,104,600, 9-24-63, Cl. 94-8.
- White, William L.: *See*—  
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- White, William S., Jr., J. L. Babb, and J. H. McGuire, to Champion Chemicals, Inc. Method and composition for preventing corrosion. 3,096,819, 7-9-63, Cl. 166-1.
- White, William V., M. Hamell, and E. Danielczik, to General Foods Corp. Process for obtaining a flavor-bearing fraction of coffee. 3,092,498, 6-4-63, Cl. 99-71.
- Whitecar, Alten E., to Smith Kline & French Laboratories. Folding machine. 3,110,488, 11-12-63, Cl. 270-68.
- White Castle System, Inc.: *See*—  
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- Whiteford, Clifford C.: *See*—  
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- Whiteford, Joseph S. Method of and apparatus for signal reproduction. 3,095,482, 6-25-63, Cl. 179-100.2.
- Whitehead Brothers Co.: *See*—  
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- Whitehead, Calvert W.: *See*—  
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- Whitehead, Edwin C., and M. H. Pelavin, to Technicon Instruments Corp. Analysis apparatus and system. 3,116,118, 12-31-63, Cl. 23-253.
- Whitehead, Merl G. Barbecuing apparatus. 3,103,161, 9-10-63, Cl. 99-427.
- Whitehead, William, to Celanese Corp. of America. Resistant fabric. 3,105,372, 10-1-63, Cl. 66-193.
- Whitehill, Lynwood N., and A. C. Abbott, Jr., to The Sherwin Williams Co. Blocked aromatic diisocyanate curing agents. 3,108,084, 10-22-63, Cl. 260-22.
- Whitehorn, Richard M., to Varian Associates. Waveguide hybrid junctions. 3,072,850, 1-8-63, Cl. 325-446.
- Whitehouse, David R.: *See*—  
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- Whitehouse Products, Inc.: *See*—  
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- Whitehouse, Samuel, and L. R. Shaw, to Alexander Squire Ltd. Hinge. 3,085,286, 4-16-63, Cl. 16-180.
- Whitehurst, George. Fuel injection control systems for internal combustion engines. 3,078,833, 2-26-63, Cl. 123-119.
- Whitehurst, Harry B., to Owens-Corning Fiberglas Corp. Bearings with journal supporting elements of glass. 3,073,658, 1-15-63, Cl. 308-237.
- Whitehurst, Harry B., W. H. Otto, and W. P. Warthen, to Owens-Corning Fiberglas Corp. Method and apparatus for metal coating glass filaments. 3,074,256, 1-22-63, Cl. 65-11.
- Whitehurst, Harry B., and W. P. Warthen, to Owens-Corning Fiberglas Corp. Fiber production. 3,077,091, 2-12-63, Cl. 65-2.
- Whitehurst, Harry B., W. P. Warthen, P. A. Lockwood, and H. B. Ailes, to Owens-Corning Fiberglas Corp. Production of glass reinforced metal articles. 3,103,722, 9-17-63, Cl. 22-202.
- Whitels, Ulysses E. Apparatus for removing obstructions from conduits. 3,108,302, 10-29-63, Cl. 15-104.16.
- Whitelaw, Robert L., to The Babcock & Wilcox Co. Method and apparatus for generating and superheating steam from nuclear energy. 3,085,056, 4-9-63, Cl. 204-154.2.
- Whiteman, Benton A. Gauges. 3,115,705, 12-31-63, Cl. 33-75.
- Whiteman, Daniel S., Jr. Bottle closure. 3,101,856, 8-27-63, Cl. 215-9.
- Whitemore, Bruce C.: *See*—  
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- Whitesell, Harry. Physio-therapy apparatus. 3,085,568, 4-16-63, Cl. 128-33.
- Whitesell, Lee S. Combined sign and shelter. 3,102,365, 9-3-63, Cl. 50-48.
- Whitfield, George B.: *See*—  
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- Whitfield, Gordon H., and E. Kemp, to Imperial Chemical Industries Ltd. Oxidation of aldehydes to carboxylic acids using phosphate ions to precipitate interfering metal ions. 3,103,535, 9-10-63, Cl. 260-530.
- Whitfield, Marshall G., and W. C. Cheney, to W. C. Cheney, assor, to Gould-National Batteries, Inc. Composite aluminum alloy engine cylinder. 3,084,005, 4-2-63, Cl. 309-2.
- Whitfield, Robert E.: *See*—  
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- Whitfield, Robert E., L. A. Miller, and W. L. Wasley, to United States of America, Agriculture. Shrinkproofing wool with polyesters. 3,079,216, 2-26-63, Cl. 8-128.
- Whitfield, Robert E., L. A. Miller, and W. L. Wasley, to United States of America, Agriculture. Shrinkproofing wool with polycarbonates. 3,079,217, 2-26-63, Cl. 8-128.
- Whitfield, Robert E., L. A. Miller, and W. L. Wasley, to United States of America, Agriculture. Shrinkproofing wool with polyurethanes. 3,084,018, 4-2-63, Cl. 8-128.
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- Whitfield, Robert E., L. A. Miller, and W. L. Wasley, to United States of America, Agriculture. Shrinkproofing wool with interpolymers. 3,093,441, 6-11-63, Cl. 8-128.
- Whitham, George K., and R. R. Smith, to United States of America, Atomic Energy Commission. Reactor fuel elements testing container. 3,073,767, 1-15-63, Cl. 204-154.2.
- Whitin Machine Works: *See*—  
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- Whiting Corp.: *See*—  
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- Whiting, E. B., & A. C.: *See*—  
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Munt, Plummer C. 3,112,508.
- Whiting, James C., to The Bendix Corp. Visible filter clogging indicator. 3,094,969, 6-25-63, Cl. 116-70.
- Whiting, James C., to The Bendix Corp. Visible filter clogging indicator. 3,103,952, 9-17-63, Cl. 137-557.
- Whiting, Kenneth B.: *See*—  
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- Whitinsville Spinning Ring Co.: *See*—  
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- Whitley, Ernest M., to Beckman Instruments, Inc. Micro pipette fluid distributor. 3,105,618, 10-1-63, Cl. 222-207.
- Whitley, James B.: *See*—  
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- Whitley, James M., and W. N. Tobacco package with built in ashtray. 3,096,878, 7-9-63, Cl. 206-41.
- Whitley, Robert J.: *See*—  
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- Whitley, Stanley, and D. S. Allen, to United Kingdom Atomic Energy Authority. Journal and journal bearing assemblies. 3,079,203, 2-26-63, Cl. 308-9.
- Whitley, Stanley, and D. S. Allen, to United Kingdom Atomic Energy Authority. Devices for the sealing of a rotatable shaft in passage through a casing. 3,082,009, 3-19-63, Cl. 277-1.
- Whitley, William N.: *See*—  
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- Whitlock Mfg. Co., The: *See*—  
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- Whitlock, Robert A., to Aqua Matic Inc. Liquid level control valve. 3,071,150, 1-1-63, Cl. 137-391.
- Whitlock, Robert A., and T. W. Johnson, to Aqua Matic Inc. Flow control apparatus. 3,109,454, 11-5-63, Cl. 137-599.1.
- Whitlock, Russell I., to Windy City Knitting Mills, Inc. Gap closer device for circular knitting machines. 3,078,698, 2-26-63, Cl. 66-112.
- Whitlow, Stacey L. Knockdown bumper assembly for tractors. 3,116,083, 12-31-63, Cl. 293-70.
- Whitman, George L. Detachable traction device for pneumatic vehicle wheels. 3,109,475, 11-5-63, Cl. 152-225.
- Whitman, Graydon D.: *See*—  
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- Whitman, Henry B., to The Fuller Brush Co. Squeegee having a handle particularly adapted for detachable connection to a brush. 3,110,052, 11-12-63, Cl. 15-117.
- Whitman, Henry B., W. A. Parry, E. J. Gating, and C. Marquis, to The Fuller Brush Co. Brush making machine. 3,107,945, 10-22-63, Cl. 300-2.
- Whitman, John H., to Applied Arts Corp. Coat hanger dispenser. 3,095,958, 7-2-63, Cl. 194-10.
- Whitman, John H., to Applied Arts Corp. Manual dispenser. 3,101,140, 8-20-63, Cl. 194-71.
- Whitman, Louis F. Horizontally adjustable rotating disk type mower. 3,093,947, 6-18-63, Cl. 56-25.4.
- Whitman, Nathan D., Jr.: *See*—  
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- Whitman, Robert L.: *See*—  
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- Whitman, Robert L., to Handley Industries, Inc. Exterior meter housing. 3,111,030, 11-19-63, Cl. 73-201.
- Whitman, Robert L., to Handley Industries, Inc. Curb box cap. 3,115,267, 12-24-63, Cl. 220-24.5.
- Whitman, Robert M., to Riegel Paper Corp. Carbon impregnated paper and method of making same. 3,096,229, 7-2-63, Cl. 162-135.
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- Whitmore, Donald L.: *See*—  
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- Whitmore, Milton P., and L. Maddalena, to Clark Equipment Co. Material handling device. 3,101,152, 8-20-63, Cl. 214-307.
- Whitmore, Thomas C.: *See*—  
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- Whitnab, Gordon R., to General Mills, Inc. Boundary layer control for gas filled balloons and airships. 3,079,106.
- Whitney Blake Co., The: *See*—  
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- Whitney, Charles A., and E. A. Hollis, to Pratt & Whitney Co., Inc. Precision gaging systems and apparatus. 3,102,342, 9-3-63, Cl. 33-169.
- Whitney, Charles T., Sr.: *See*—  
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- Whitney, Donald B., to American Optical Co. Method of making plastic lenses. 3,109,696, 11-5-63, Cl. 18-47.5.
- Whitney, Donald E.: *See*—  
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- Whitney, Glenn R. Flush valve control apparatus. 3,082,790, 3-26-63, Cl. 137-624.14.
- Whitney, Glenn R. Electrical flush valve actuating means. 3,115,643, 12-31-63, Cl. 4-100.



- Whitney, Jean L.: *See*—  
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- Whitney, Maurice P., and N. H. Mageoch, to The Bendix Corp. Engine starter drive. 3,087,591, 4-30-63, Cl. 192-45.
- Whitney, Robert C., to L. A. Whitney Associates, Inc. Combination carrying case and display easel. 3,107,448, 10-22-63, Cl. 40-102.
- Whitney, Robert E., and J. L. Drying bag for pets. 3,108,568, 10-29-63, Cl. 119-1.
- Whitney, Robert U., Jr., to The Thomas & Betts Co. Apparatus for orienting, feeding and crimping insulated terminal connectors. 3,084,780, 4-9-63, Cl. 198-33.
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Brown, James R., Adam, and Whitney. 3,107,204.
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- Whitney, William G., to McGraw-Edison Co. Mechanical telephone dialing instrument. 3,104,286, 9-17-63, Cl. 179-90.
- Whitney, William R., Jr., to Phillips Petroleum Co. Hot gas thermoplastic welding apparatus. 3,080,910, 3-12-63, Cl. 156-497.
- Whiton Machine Co., The: *See*—  
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- Whitso, Inc.: *See*—  
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- Whittaker, Stanley J., to Atomic Energy of Canada Ltd. Reactor absorber rod and retracting mechanism therefrom. 3,085,962, 4-16-63, Cl. 204-193.2.
- Whittall, Peter G. C.: *See*—  
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- Whittemore, Osgood J., Jr., to Norton Co. Process of making a nuclear fuel element. 3,081,249, 3-12-63, Cl. 204-193.2.
- Whittemore, Osgood J., Jr., A. G. King, and J. C. Logan, to Norton Co. Molded alumina articles and process of making them. 3,093,498, 6-11-63, Cl. 106-62.
- Whitten, Frank R., to Schlumberger Well Surveying Corp. Formation fluid testing and sampling apparatus. 3,104,712, 9-24-63, Cl. 166-100.
- Whittenberg, George R. Work supporting means for centerless grinders. 3,091,900, 6-4-63, Cl. 51-236.
- Whittington, Lloyd R.: *See*—  
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- Whittington, William H., to Phillips Petroleum Co. Method and apparatus for pyrolyzing polymers. 3,087,922, 4-30-63, Cl. 260-94.9.
- Whittle, Robert L., J. Luongo, and R. H. Rymer, to International Telephone and Telegraph Corp. Data recording system. 3,104,147, 9-17-63, Cl. 346-33.
- Whittlesey Powers, Inc.: *See*—  
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- Whitton, Aldean W., Jr.: *See*—  
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- Whitton, Aldean W., Jr., to American Hospital Supply Corp. Razor blade and one-piece holder combination. 3,106,774, 10-15-63, Cl. 30-32.
- Whitton, Aldean W., Jr., to American Hospital Supply Corp. Plastic container and closure means therefor. 3,111,240, 11-19-63, Cl. 220-67.
- Whitworth Glaster Aircraft Ltd.: *See*—  
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- Whyte, George B.: *See*—  
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- Wiands, Clarence L., R. C. Cline, and R. G. Rose, to F. L. Russell Corp. Easel binder for pages reading on lines parallel with the binding. 3,096,102, 7-2-63, Cl. 281-33.
- Wiant, Herman R., to Avco Corp. Selective plating process. 3,073,759, 1-15-63, Cl. 204-15.
- Wiant, Herman R., to Avco Corp. Brazing fixture. 3,112,388, 11-26-63, Cl. 219-85.
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- Wiasmitinow, Alexis, to Sandoz Ltd. Process for the dyeing and printing of cellulose ester fibers. 3,072,455, 1-8-63, Cl. 8-57.
- Wiatt, James G., E. C. Bruns, and J. W. Travis, to The Cincinnati Milling Machine Co. In-process workpiece gaging device. 3,109,265, 11-5-63, Cl. 51-165.
- Wibau Wesdeutsche Industrie- u. Strassenbau-Maschinen-Gesellschaft m.b.H.: *See*—  
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- Wich, Emil A.: *See*—  
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- Wichman, Wesley T.: *See*—  
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- Wichmann, Christian H.: *See*—  
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- Wichmann, Hans J., A. Ahles, E. Schorr, and M. K. Carr, to Argus Inc. Lightmeter with follower element. 3,088,387, 5-7-63, Cl. 95-10.
- Wichmann, Tracy F.: *See*—  
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- Wick, Edward J., and H. W. Day, to F. C. Rosen, trading as Ardmore Hosiery Mills. Automatic looper operator and method. 3,100,464, 8-13-63, Cl. 112-27.
- Wick, Georg, H. Niedenbruck, and K. Kopetz, to Chemische Werke Huls Aktiengesellschaft. Flame retardant compositions containing polyolefins, antimony oxide and ethers having at least three bromine atoms. 3,075,944, 1-29-63, Cl. 260-41.
- Wick, Karl: *See*—  
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- Wicken, Oscar M., to Harbison-Walker Refractories Co. Composite refractory member. 3,112,921, 12-3-63, Cl. 263-46.
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- Wickenberg, Chester H., to Sunbeam Corp. Handle and cover means for cooking vessels. 3,081,395, 3-12-63, Cl. 219-44.
- Wicker, Ralph C., and W. R. Shaughnessy: said Shaughnessy assor. to said Wicker. Screen angle indicator. 3,109,239, 11-5-63, Cl. 33-1.
- Wickerham, Warren E., and R. D. Wyckoff, to Gulf Research & Development Co. Apparatus for stabilizing magnetic fields. 3,080,507, 3-5-63, Cl. 317-123.
- Wickerham, William R., and R. W. Egglestone, to Westinghouse Electric Corp. Drive apparatus. 3,089,993, 5-14-63, Cl. 318-443.
- Wickersham, Arthur F., Jr., to Sylvania Electric Products Inc. Artificial dielectric polarizer. 3,089,142, 5-7-63, Cl. 343-911.
- Wickersham, Arthur F., Jr., and R. L. Bell, to Sylvania Electric Products Inc. Antenna incorporating active elements. 3,098,973, 7-23-63, Cl. 325-375.
- Wickersham, Arthur F., Jr., and R. L. Bell, to Sylvania Electric Products Inc. Log periodic type antenna mounted on ground plane and fed by tapered feed. 3,101,474, 8-20-63, Cl. 343-792.5.
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- Wicki, Werner, F. Rothen, and T. Krebs: said Wicki and said Rothen, assors. to said Krebs. Profiling hand cutter. 3,110,104, 11-12-63, Cl. 30-293.
- Wicklaid, Joseph R., to Miehle-Goss-Dexter Inc. Sheet feeding apparatus. 3,071,371, 1-1-63, Cl. 271-26.
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- Wicklund, Leslie G., to Minnesota Mining and Mfg. Co. Core for pressure-sensitive adhesive tape. 3,115,246, 12-24-63, Cl. 206-59.
- Wickman, Axel C. Epicyclic power transmission mechanisms. 3,071,985, 1-8-63, Cl. 74-761.
- Wickman, Charles E., to Anfunen Plastic Moulding, Inc. Pouring dispenser. 3,113,706, 12-10-63, Cl. 222-543.
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- Widener, Maurice W., to Ampex Corp. Tape tensioning device. 3,091,410, 5-28-63, Cl. 242-55.12.



- Wideroe, Rolf, and H. Egger, to Brown, Boveri & Cie, Aktien-gesellschaft. Device for a radiation plant comprising ray generator and treatment bed. 3,090,868, 5-21-63, Cl. 250-91.
- Widiger, Alexander H., Jr., to The Dow Chemical Co. Method for purifying aromatic compounds. 3,087,969, 4-30-63, Cl. 260-620.
- Widmer, Alfred. Passenger conveyors. 3,096,725, 7-9-63, Cl. 104-25.
- Widmer, Erich, to Lonza Electric and Chemical Works Ltd. Stacking apparatus. 3,114,465, 12-17-63, Cl. 214-6.
- Widmer, Manfred, and H. Hucks, to Maschinenfabrik Froriep G.m.b.H. Drilling machine, especially for drilling turbine housings. 3,103,135, 9-10-63, Cl. 77-3.
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- Wiébé, Henry J., to General Aeromation, Inc. Twin-drive ground mover and retriever vehicle for airplanes. 3,078,942, 2-26-63, Cl. 180-14.
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- Weinstock, Joseph, and Wieselhaus. 3,081,230.
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- Wiebush, Joseph R., to The Mead Corp. Method of producing coated casting surfaces and casting surfaces for producing coated paper. 3,086,883, 4-23-63, Cl. 117-64.
- Wiebush, Joseph R., to The Mead Corp. Method for cast coating paper. 3,113,887, 12-10-63, Cl. 117-64.
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- Wichert, Rudolf, to Schering A.G. Method of producing  $\alpha,\beta$ -unsaturated ketosteroids carrying a methyl group on the  $\beta$ -position carbon atom. 3,073,850, 1-15-63, Cl. 260-397.4.
- Wichmann, Herbert. Device for cleaning baking tins. 3,101,503, 8-27-63, Cl. 15-236.
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- Wiedemann, Eugen, to Brown, Boveri & Cie, Aktiengesellschaft. Cooling arrangement for turbogenerators. 3,089,969, 5-14-63, Cl. 310-53.
- Wiedemann Machine Co.: *See*—
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- Boyd, Robert L., and Volker. 3,102,185.
- Calhoun, Ernest N. 3,116,399.
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- Drugmand, Lester D. 3,111,572.
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- McOrilly, Joseph. 3,087,134.
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- Temple, Sidney J. 3,102,248.
- Wiegand, Gene M., to The Wooster Brush Co. Paint roller frame. 3,102,327, 9-3-63, Cl. 29-116.
- Wiegardt, John L., Jr. Oyster dredging bag. 3,084,309, 4-2-63, Cl. 37-119.
- Wiegardt, John L., Jr. Treatment of tide lands to reclaim shrimp-infested oyster grounds. 3,105,461, 10-1-63, Cl. 119-4.
- Wiegel, Richard, to W. and G. Eirich. Mixers. 3,109,632, 11-5-63, Cl. 259-84.
- Wieger, Ernst. Telescopically variable overhang beam for dredges, cranes, and the like. 3,082,881, 3-26-63, Cl. 212-55.
- Wieger, Ernst. Removing and loading device. 3,103,754, 9-17-63, Cl. 37-192.
- Wiegert, Philip E., R. D. Rands, Jr., and D. W. Chapman, to Mallinckrodt Chemical Works. Triodobenzoic acid derivatives. 3,073,814, 1-15-63, Cl. 260-211.
- Wiehl, Frederick R., to The Singer Co. Integral main drive member for sewing machines. 3,103,190, 9-10-63, Cl. 112-220.
- Wieland, Clifford C. Furniture construction. 3,081,130, 3-12-63, Cl. 297-455.
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- Wettstein, Albert, Anner, Meystre, Wieland, Ehmann, Heusler, Hunger, and Kebrle. 3,098,085.
- Wettstein, Albert, Heusler, Kebrle, Meystre, and Wieland. 3,072,686.
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- Wieneke, Frederick L., to Barber-Colman Co. Heddle counter. 3,103,057, 9-10-63, Cl. 28-46.
- Wiener, Charles, C. H. Schroeder, and K. P. Link, to Wisconsin Alumni Research Foundation. Warfarin intermediates. 3,097,213, 7-9-63, Cl. 260-343.2.
- Wiener, George W., to Westinghouse Electric Corp. Process for producing oriented silicon steel. 3,078,198, 2-19-63, Cl. 148-111.
- Wiener, Jerome B., to The Magnavox Co. Card processing apparatus. 3,074,551, 1-22-63, Cl. 209-111.5.
- Wiener, Ludwig D., to Socony Mobil Oil Co., Inc. Treatment of drilling fluid. 3,084,121, 4-2-63, Cl. 252-8.5.
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- Wier, Harvey J., Sr. Fish scaler and cleaner device. 3,095,601, 7-2-63, Cl. 17-5.
- Wierbicki, Eugen, J. R. Shackelford, and G. E. Cooper, to The Rath Packing Co. Process for rapidly curing comminuted meat. 3,108,880, 10-29-63, Cl. 99-159.
- Wiercinski, Thomas A.: *See*—
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- Wieschel, John E., to Harnischfeger Corp. Powered outrigger beams for vehicles. 3,073,458, 1-15-63, Cl. 212-145.
- Wiese, Charles R.: *See*—
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- Wiesner, Ernst. Current-limiting reactors for fluorescent tubes or the like. 3,078,429, 2-19-63, Cl. 336-83.
- Wiessner, Manfred, to Kamera- und Kinowerke Dresden, VEB. Photographic cameras having built-in exposure meters. 3,072,034, 1-8-63, Cl. 95-10.
- Wiessner, Manfred, W. Hennig, and E. Loose, to Kamera- und Kinowerke Dresden, VEB. Exposure control mechanism for cameras. 3,072,030, 1-8-63, Cl. 95-10.
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- Wiest, Quentin W.: *See*—  
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- Wiest, Roy A. Bow tie. 3,115,640, 12-31-63, Cl. 2—151.
- Wieszeck, Emil S. Protectively contained sensing apparatus. 3,097,973, 7-16-63, Cl. 136—4.
- Wigal, Voorhis F. Rotary wing aircraft. 3,085,630, 4-16-63, Cl. 170—135.21.
- Wigal, Voorhis F. Rotor blade. 3,105,557, 10-1-63, Cl. 170—159.
- Wiggerink, Gerrit L.: *See*—  
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- Wiggermann, Georg, to W. Reiners. Controllable hydraulic gear-type machine. 3,077,835, 2-19-63, Cl. 103—3.
- Wiggermann, Georg, to W. Reiners. Hydraulic piston machine. 3,080,854, 3-12-63, Cl. 121—62.
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- Wiggins, Alpha M., to Electro-Voice, Inc. Unidirectional microphone. 3,115,207, 12-24-63, Cl. 181—31.
- Wiggins, Barney F. Barbed wire reel holder. 3,100,607, 8-13-63, Cl. 242—86.64.
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- Wigington, Raymond J., to Laporte Titanium Ltd. Process for the manufacture of titanium dioxide. 3,094,386, 6-18-63, Cl. 23—202.
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- Wight, John L., to Huntly Engineering & Welding Co. Ltd. Remote control for auxiliary transmissions. 3,093,008, 6-11-63, Cl. 74—335.
- Wight, Robert D., to General Motors Corp. Steering column attachment. 3,073,631, 1-15-63, Cl. 287—20.
- Wight, Robert D., to General Motors Corp. Idler arm support bearing. 3,096,128, 7-2-63, Cl. 308—36.1.
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- Wigner, Eugene P., to United States of America, Atomic Energy Commission. Neutronic reaction system. 3,102,851, 9-3-63, Cl. 204—193.2.
- Wiig, Chester M., to F. J. Littell Machine Co. Programming device for roll feed brake. 3,078,734, 2-26-63, Cl. 74—130.
- Wist, Herbert A., to E. I. du Pont de Nemours and Co. Distillation process for fluorocarbons. 3,101,304, 8-20-63, Cl. 202—39.5.
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- Wiken, Ralph, to The Falk Corp. Slide rule gear selector. 3,091,389, 5-28-63, Cl. 235—61.
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- Wiklund, Carl H., to Airequip Mfg. Co., Inc. Slide changing device. 3,074,314, 1-22-63, Cl. 88—28.
- Wikstrom, Berth A., to Bahco, Aktiebolaget. Ejector devices. 3,109,581, 11-5-63, Cl. 230—103.
- Wiktor, Dominik, to Federal Pacific Electric Co. Circuit interrupters. 3,097,275, 7-9-63, Cl. 200—78.
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- Wilbur, Paul C., and L. Vadas, to FMC Corp. Fruit handling apparatus. 3,088,578, 5-7-63, Cl. 198—33.
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- Wilcox, Doyle E., and A. J. Robinson, to North American Aviation, Inc. Capacitance pickoff with low coercion. 3,084,558, 4-9-63, Cl. 73—517.
- Wilcox, Frederick F. Method and process of conditioning and processing animals in meat packing plants. 3,115,671, 12-31-63, Cl. 17—45.
- Wilcox, George. Fishing lure. 3,076,282, 2-5-63, Cl. 43—35.
- Wilcox, Harold R., to Riggs & Lombard, Inc. Apparatus for treating webs. 3,074,261, 1-22-63, Cl. 68—5.
- Wilcox, Ira L. Clamp for holding sheet material for breaking. 3,084,930, 4-9-63, Cl. 269—239.
- Wilcox, Isaac L., to Seabright-Oswego Falls Corp. Multi-unit package. 3,114,496, 12-17-63, Cl. 229—52.
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- Wilcox, Wayne L., to Arcos Corp. Overlay electrode. 3,101,405, 8-20-63, Cl. 219—146.
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- Wild, Herbert K., to International Business Machines Corp. Byte converter. 3,079,597, 2-26-63, Cl. 340—347.
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- O'Mant, Derrick M., Twitchett, and Wild. 3,109,825.
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- Wildberger, Leon H., Sr. Automatic coffee maker. 3,096,427, 7-2-63, Cl. 219—44.
- Wildbolz, Rudolf, to Rieter Machine Works Ltd. Bale rasp. 3,101,513, 8-27-63, Cl. 19—80.
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- Wilde, Geoffrey L., and T. A. Oldfield, to Rolls-Royce Ltd. Gas turbine engine. 3,115,748, 12-31-63, Cl. 60—35.54.
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- Wilder, Harold F., and R. K. Lewis, to The Western Union Telegraph Co. Electronic start-stop regenerative repeater. 3,073,898, 1-15-63, Cl. 178—70.



- Wilder, John G., Jr., to United Aircraft Corp. Gaseous nozzle boundary. 3,091,924, 6-4-63, Cl. 60—35.54.
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- Wildi, Edwin, to Maschinenfabrik Benninger A.-G. Knock-off motion for thread processing machines. 3,096,945, 7-9-63, Cl. 242—19.
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- Wiley, Bruce F., to Phillips Petroleum Co. Flow meter and process for well bores. 3,076,334, 2-5-63, Cl. 73—155.
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- Wiley, Frank L., to North American Aviation Inc. Current protection device. 3,113,260, 12-3-63, Cl. 323—4.
- Wiley, Fred E., and H. C. Wain, to Phillips Petroleum Co. Apparatus for biaxially orienting thermoplastic film. 3,074,108, 1-22-63, Cl. 18—14.
- Wiley, Hugh. Planimeter device. 3,110,967, 11-19-63, Cl. 33—122.
- Wiley, John B., to General Motors Corp. Tin-can housing for a dynamoelectric machine. 3,081,411, 3-12-63, Cl. 310—254.
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- Zagar, Irvin F., and Wilfley. 3,115,097.
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- Wilgus, Donovan R., to California Research Corp. Para-N-alkyl-isoalkyl-benzene synthetic oils. 3,110,743, 11-12-63, Cl. 260—668.
- Wilhelm, Charles. Rotatable cylinder. 3,110,107, 11-12-63, Cl. 33—21.
- Wilhelm, Gary, to United States of America, Army. Firing mechanism for firearms. 3,103,758, 9-17-63, Cl. 42—69.
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- Wilhelmsen, Carl R., to Hazeltine Research, Inc. Binary adding circuit. 3,075,701, 1-29-63, Cl. 235—176.
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- Wilke, Werner R. F., to P. Beiersdorf and Co. A.G. Core of a spool for receiving self-adhesive tapes. 3,107,874, 10-22-63, Cl. 242—68.5.
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- Wilkerson, Edward D. Wheel alignment testing means and method. 3,081,546, 3-19-63, Cl. 33—46.
- Wilkerson, Edward D. Educational device for demonstrating earth globe rotation. 3,086,299, 4-23-63, Cl. 35—46.
- Wilkerson, Kenneth R.,  $\frac{1}{2}$  to S. Ross. Produce centering arrangement. 3,080,902, 3-12-63, Cl. 146—52.
- Wilkerson, Ruth G., to Holt Hosiery Mills, Inc. Foot-sock. 3,102,271, 9-3-63, Cl. 2—239.



- Wilkes, Gilbert, to United States of America, Navy. Parabolic disk antenna with aperture blocking correction. 3,071,770, 1-1-63, Cl. 343-781.
- Wilkes, Gilbert, to United States of America, Navy. Unsymmetrical antenna feed for conical scanning antenna. 3,072,905, 1-8-63, Cl. 343-754.
- Wilkes, John B., to California Research Corp. Preparation of 1-alkenes. 3,095,461, 6-25-63, Cl. 260-683.15.
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- Wilkins, Colbert W., to Owens-Illinois Glass Co. Container with cleavable coating on interior surface. 3,085,731, 4-16-63, Cl. 229-3.1.
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- Wilkins, John T., to The English Electric Co., Ltd. Noise suppressing type electric power transformer. 3,077,946, 2-19-63, Cl. 181-33.
- Wilkins, Lowell A. Apparatus for conditioning film. 3,083,387, 4-2-63, Cl. 15-93.
- Wilkins, Richard A. Conductive wire coating alloys, wires coated therewith and process for improving solderability therefor. 3,097,965, 7-16-63, Cl. 117-231.
- Wilkins, Robert E., and L. E. Fowle, to Minneapolis-Honeywell Regulator Co. Mechanical apparatus. 3,090,297, 5-21-63, Cl. 101-93.
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- Wilkinson, Donald G., to Imperial Chemical Industries Ltd. Thiachromone-(2,3-b) acridones and process for their production. 3,109,002, 10-29-63, Cl. 260-279.
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- Wilkinson, Geoffrey, to Ethyl Corp.  $\pi$ -cyclopentadienyl cobalt cyclopentadiene compounds. 3,088,961, 5-7-63, Cl. 260-439.
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- Wilkinson, Herbert W., Jr. Dyeing machine for producing variegated yarn. 3,112,633, 12-3-63, Cl. 68-148.
- Wilkinson, John R., to T. J. and F. M. Pierson as joint tenants. Hydraulic disc brake. 3,103,990, 9-17-63, Cl. 188-73.
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- Wilkinson, Raymond G., and T. L. Fields, to American Cyanamid Co. 2-(substituted-benzyl)-1,3-propanedinitriles. 3,092,653, 6-4-63, Cl. 260-465.
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- Wilks, Louis P., to Veliscol Chemical Corp. Thermal polymerization of dicyclopentadiene. 3,084,147, 4-2-63, Cl. 260-93.1.
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- Willard, Frank G., to Westinghouse Electric Corp. Digital signal sensing apparatus. 3,103,577, 9-10-63, Cl. 235-61.7.
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- Willcox, Frederick P., to Fairchild Camera and Instrument Corp. Densitometric data handling system. 3,072,889, 1-8-63, Cl. 340-173.
- Willcox, Frederick P., and L. F. Welanetz, to Fairchild Camera and Instrument Corp. Double torsion spring energy-storage photographic shutter. 3,096,700, 7-9-63, Cl. 95-63.
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- Willems, Donald J., to Armour and Co. Livestock feeding device. 3,088,437, 6-7-63, Cl. 119-56.
- Willems, Jozef F.: *See*—  
Cassiers, Paul M., Nys, Willems, and Hart. 3,113,022.
- Willems, Jozef F., and G. M. Stevens, to Gevaert Photo-Producten N.V. Spot prevention in light-sensitive silver halide emulsion layers. 3,078,163, 2-19-63, Cl. 96-67.
- Willems, Peter. Apparatus for generating oscillations in fluid. 3,096,080, 7-2-63, Cl. 259-1.
- Willer, George J., Jr., and F. B. Callanen, to The Pure Oil Co. Temperature measurement of stored fluids. 3,111,846, 11-26-63, Cl. 73-340.
- Willersinn, Herbert, G. Dietrich, K. J. Fust, H. Friederich, and H. P. Siebel, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Copolymers of 5,6-bismethylene-1,2,3,4,7,7-hexachlorobicyclo-(2,2,1)-heptene-(2) and process of making same. 3,110,694, 11-12-63, Cl. 260-45.4.
- Willes, Robert L.: *See*—  
Wilson, Donald K., and Willes. 3,098,934.
- Willett, Mamie M. Midget car race game. 3,071,377, 1-1-63, Cl. 273-86.
- Willey, Frank G., to Servo Corp. of America. Means for infrared imaging in color. 3,078,340, 2-19-63, Cl. 178-6.7.



- Willey, Frank G., to Servo Corp. of America. Means for infrared imaging in color. 3,078,341, 2-19-63, Cl. 178-6.8.
- Williamsitis, Victor A.: *See*—  
Begeman, Charles R., and Williamsitis. 3,092,981.  
Mann, Leonard J., Williamsitis, and Simmons. 3,097,509.
- Williams, Alan F., to Massey-Ferguson (Australia) Ltd. Fold-up mid-mounting for agricultural implements. 3,099,322, 7-30-63, Cl. 172-307.
- Williams, Alan F., to Massey-Ferguson (Australia) Ltd. Tine cultivator. 3,108,643, 10-29-63, Cl. 172-265.
- Williams, Albert H., to Caledex Machine Co. Ltd. Box making machine. 3,101,655, 8-27-63, Cl. 93-54.
- Williams, Alexander T. Photoelectric device for measurement of areas. 3,099,749, 7-30-63, Cl. 250-210.
- Williams, Alfred E., to The Pillsbury Co. Dehydration process and product. 3,103,439, 9-10-63, Cl. 99-199.
- Williams, Alfred L. W.: *See*—  
Hufferd, George H., Josephson, and Williams. 3,101,420.
- Williams, Arthur: *See*—  
Orsinger, Albert R., and Williams. 3,085,434.  
Rogers, Gail C., and Williams. 3,080,302.
- Williams, Arthur T., to C. R. Tidland. Expansion chuck. 3,097,808, 7-16-63, Cl. 242-68.2.
- Williams, Arthur T., and W. D. Smith; said Smith, assor. to C. R. Tidland. Roller for surfacing purposes. 3,095,634, 7-2-63, Cl. 29-113.
- Williams, Arthur T., and C. R. Tidland. Mandrel with expandable chucks. 3,108,757, 10-29-63, Cl. 242-68.2.
- Williams, Betty M., to Berlie (U.K.) Ltd. Corsets, girdles and like garments. 3,113,572, 12-10-63, Cl. 128-528.
- Williams, Beverly E., to Hodges Research and Development Co. Process for the improvement and preservation of hides and product therefrom. 3,073,665, 1-15-63, Cl. 8-94.18.
- Williams, Beverly E., to Hodges Research and Development Co. Process for tendering and preserving meat. 3,076,712, 2-5-63, Cl. 99-107.
- Williams, Beverly E., to Hodges Research and Development Co. Method for making a ground meat food product. 3,100,152, 8-6-63, Cl. 99-108.
- Williams, Bruce P., to Sylvia Electric Products Inc. Monostable multivibrator using emitter-follower feedback timing circuit. 3,084,266, 4-2-63, Cl. 307-88.5.
- Williams, Burdell S., to Hi-Press Air Conditioning of America, Inc. High pressure air conditioning system. 3,091,288, 5-28-63, Cl. 165-48.
- Williams, C. J.: *See*—  
Learmont, Robert K. 3,094,940.  
Learmont, Robert K. 3,109,544.
- Williams, Carter P.: *See*—  
Coberly, Clarence J., Brown, and Williams. 3,077,836.
- Williams, Cecil E., to Thompson Ramo Wooldridge Inc. Signal processing apparatus. 3,096,501, 7-2-63, Cl. 340-15.5.
- Williams, Charles. Installation equipment for successive elongated units. 3,090,110, 5-21-63, Cl. 29-203.
- Williams, Charles A., and E. S. Mills. System for distributing power within a building. 3,083,307, 3-26-63, Cl. 307-149.
- Williams, Charles O., and C. E. Miller, to Olin Mathieson Chemical Corp. Spiral wound shotshell. 3,076,409, 2-5-63, Cl. 102-43.
- Williams, Charles O., and C. F. Turner, to Olin Mathieson Chemical Corp. Shot load. 3,092,026, 6-4-63, Cl. 102-42.
- Williams, Charles R.: *See*—  
Hagen, Glenn E., Williams, Baker, and Jackson. 3,089,124.
- Williams, Charles R., G. E. Morrison, W. Leach, and W. J. Reely, to General Instruments Corp. Intercoupling apparatus. 3,106,635, 10-8-63, Cl. 235-61.6.
- Williams, Chester. Riding lawn mower. 3,097,465, 7-16-63, Cl. 56-7.
- Williams, Chester. Lawn mower. 3,100,958, 8-20-63, Cl. 56-7.
- Williams, Chester I. Overlap rod connector. 3,079,186, 2-26-63, Cl. 287-114.
- Williams, Chester I. Square column clamp. 3,107,087, 10-15-63, Cl. 269-125.
- Williams, Chester I. Portable threading machine. 3,107,558, 10-22-63, Cl. 80-6.
- Williams, Conrad L., to Dye Sheet Metal Products, Inc. Cup lid capper and separator. 3,099,119, 7-30-63, Cl. 53-296.
- Williams, Dale D. Gas sampler. 3,093,001, 6-11-63, Cl. 73-421.5.
- Williams, David A.: *See*—  
Fathauer, George H., and Williams. 3,114,859.
- Williams, David A., to Chemetron Corp. System for metering liquefied gas. 3,093,973, 6-18-63, Cl. 62-49.
- Williams, David A., to Chemetron Corp. Apparatus for handling liquefied gases. 3,097,498, 7-16-63, Cl. 62-55.
- Williams, David A., to Harvey-Wells Corp. Television system for detection of differences. 3,114,797, 12-17-63, Cl. 178-6.8.
- Williams, David A., and L. C. Browning, to Chemetron Corp. Apparatus for handling liquefied gases. 3,109,293, 11-5-63, Cl. 62-55.
- Williams, David B.: *See*—  
Williams, Edward B., Jr. 3,081,829.  
Williams, Edward B., Jr. 3,094,177.  
Williams, Edward B., Jr. 3,113,630.
- Williams, David P., Sr., 83½% to J. E. Morris. Gas purifying muffler. 3,073,684, 1-15-63, Cl. 23-277.
- Williams, David R., to Daystrom Inc. Transducer unit for printing type element. 3,112,693, 12-3-63, Cl. 101-102.
- Williams, David W., T. E. Jones, and E. A. Crouch, to United Kingdom Atomic Energy Authority. Fuel elements for nuclear reactors. 3,092,565, 6-4-63, Cl. 204-193.2.
- Williams, Delbert A. Portable key safe. 3,084,532, 4-9-63, Cl. 70-63.
- Williams, Deloss, to Chicago Pneumatic Tool Co. Rifle nut. 3,083,586, 4-2-63, Cl. 74-424.8.
- Williams, Donald W.: *See*—  
Morrison, Wilbert H., and Williams. 3,093,885.
- Williams, Earl P.: *See*—  
Mayhew, Raymond L., and Williams. 3,089,888.
- Williams, Edward B.: *See*—  
Albers, Gus A., and Williams. 3,111,179.
- Williams, Edward B., Jr., ½ to E. B. Williams, III ½ to J. W. Williams, and ½ to D. B. Williams. Drill bit. 3,081,829, 3-19-63, Cl. 175-376.
- Williams, Edward B., Jr., ½ to E. B. Williams, III, ½ to J. W. Williams, and ½ to D. B. Williams. Rotary drill bit with lateral cutter. 3,094,177, 6-18-63, Cl. 175-334.
- Williams, Edward B., Jr., ½ to E. B. Williams, III, ½ to J. W. Williams, and ½ to D. B. Williams. Drill bit. 3,113,630, 12-10-63, Cl. 175-340.
- Williams, Edward B., III: *See*—  
Williams, Edward B., Jr. 3,081,829.  
Williams, Edward B., Jr. 3,094,177.  
Williams, Edward B., Jr. 3,113,630.
- Williams, Edwin K., to Western Electric Co., Inc. Electrical connector. 3,091,745, 5-28-63, Cl. 339-32.
- Williams, Elbert C., to Tru Mech Corp. Selectively engageable means for plural roll tape dispensers. 3,086,417, 4-23-63, Cl. 83-416.
- Williams, Elmer T.: *See*—  
Mulkey, Virgil L., Neish, and Williams. 3,115,265.
- Williams, Emrys J., to International Computers and Tabulators Ltd. (formerly The British Tabulating Machine Co. Ltd.). Magnetic data storage devices. 3,099,822, 7-30-63, Cl. 340-174.1.
- Williams, Ernest J., and G. H. Anthony, to Trafalgar Engineering Co. Ltd. Cable making machines. 3,093,956, 6-18-63, Cl. 57-58.65.
- Williams, Eugene H. Toy kite. 3,074,673, 1-22-63, Cl. 244-153.
- Williams, Forrest V.: *See*—  
Gruber, Bernard A., Ruehrwein, and Williams. 3,090,703.
- Williams, Forrest V., to Monsanto Chemical Co. Production of pure phosphorus. 3,088,807, 5-7-63, Cl. 23-223.
- Williams, Forrest V., to Monsanto Chemical Co. Process for preparing boron phosphide. 3,094,387, 6-18-63, Cl. 23-204.
- Williams, Frank R., M. F. Perdigao, and B. B. S. T. Boomstra, to Cabot Corp. Conducting polymer compositions. 3,104,985, 9-24-63, Cl. 117-226.
- Williams, Frederick. Ceilings and the like. 3,094,201, 6-18-63, Cl. 189-88.
- Williams, Frederick E. Buoyant exercising device or toy. 3,102,280, 9-3-63, Cl. 9-348.
- Williams, Frederick, and H. G. Bowditch, to Harrison, McGregor & Guest Ltd. Agricultural machine. 3,107,921, 10-22-63, Cl. 275-1.
- Williams, Garnet M. E.: *See*—  
Churchill, John A., and Williams. 3,096,094.
- Williams, Garnet M. E., to Foster-Mallard Ltd. Sound reproducing machines. 3,086,780, 4-23-63, Cl. 274-10.
- Williams, George B. Composite paint roller. 3,094,770, 6-25-63, Cl. 29-116.
- Williams, George M., and G. P. Pallante, to United States Rubber Co. Method of injection molding fabric-reinforced articles. 3,087,201, 4-30-63, Cl. 18-59.
- Williams, George W., III: *See*—  
Ames, Robert G. 3,070,827.
- Williams, Gerald I., to Sperry Rand Corp. Switching circuit in a matrix arrangement utilizing transistors for switching information. 3,105,224, 9-24-63, Cl. 340-166.
- Williams, Glyn O.: *See*—  
Orr, Harley J., and Williams. 3,112,392.
- Williams, Harold W. Closure for containers. 3,073,472, 1-15-63, Cl. 215-46.
- Williams, Harry D., to E. I. du Pont de Nemours and Co. Process for the preparation of trans-2,5-dimethyl piperazine. 3,074,949, 1-22-63, Cl. 260-268.
- Williams, Harry L.: *See*—  
Day, Robert L., and Williams. 3,107,759.
- Williams, Harry R., to Bell & Gossett Co. Evaporator with oil return means. 3,111,819, 11-26-63, Cl. 62-471.
- Williams, Henry L. Vehicle cooling system cleaning apparatus. 3,094,131, 6-18-63, Cl. 134-98.
- Williams, Herbert E., to American Desk Mfg. Co. Chair seat or the like hinge. 3,098,677, 7-23-63, Cl. 297-332.
- Williams, Howard J., to The Bendix Corp. Fuel feeding system for gas turbine engines. 3,074,472, 1-22-63, Cl. 158-36.4.
- Williams, Howard J., to The Bendix Corp. Fuel feed device for gas turbine engines. 3,078,669, 2-26-63, Cl. 60-39.28.
- Williams, Howard J., F. R. Rogers, and B. J. Ryder, to The Bendix Corp. Fuel feed and power control system for gas turbine engines. 3,103,785, 9-17-63, Cl. 60-39.28.
- Williams, Jack L. R.: *See*—  
Laakso, Thomas M., and Williams. 3,096,305.



- Williams, Jack R.: *See*—  
Wilson, Lawrence V., Jr., and Williams. 3,094,571.
- Williams, James B.: *See*—  
Kern, Walter P., Stoddart, and Williams. 3,085,155.
- Williams, James E. Automatically scoring dart board. 3,101,198, 8-20-63, Cl. 273-102.2.
- Williams, James L., to United Kingdom Atomic Energy Authority. Manufacture of diarylalkyl phosphine oxides. 3,104,264, 9-17-63, Cl. 260-606.5.
- Williams, James L., to United Kingdom Atomic Energy Authority. Production of aryl secondary phosphine oxides. 3,105,097, 9-24-63, Cl. 260-606.5.
- Williams, James N. and L. J. Asphalt and compound melting kettle. 3,086,512, 4-23-63, Cl. 126-343.5.
- Williams, James T.: *See*—  
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- Williams, James T., and D. L. Lang, to Whirlpool Corp. Fabric cleaning apparatus with recovery control means. 3,113,445, 12-10-63, Cl. 68-12.
- Williams, John A.: *See*—  
Mariotti, Orlino F., and Williams. 3,104,772.
- Williams, John B. Camera attachment. 3,101,035, 8-20-63, Cl. 95-86.
- Williams, John C.: *See*—  
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- Williams, John G., to Worthington Corp. Mechanical seal with controlled leakage. 3,085,808, 4-16-63, Cl. 277-3.
- Williams, John K., to E. I. du Pont de Nemours and Co. 4-(1,2-dicyanovinyl) diaryldicyano methanes, and preparation thereof. 3,097,227, 7-9-63, Cl. 260-465.
- Williams, John R., to Selas Corp. of America. Radiant cup gas burner. 3,083,759, 4-2-63, Cl. 158-113.
- Williams, John R., to Raytheon Co. Transistor assembly and method. 3,089,219, 5-14-63, Cl. 29-25.3.
- Williams, John R., to Selas Corp. of America. Gas burner and high temperature rotary joint. 3,101,772, 8-27-63, Cl. 158-99.
- Williams, John R., and H. C. Santisi, to Selas Corp. of America. Radiant cup gas burner. 3,076,498, 2-5-63, Cl. 158-113.
- Williams, John W.: *See*—  
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- Williams, John W., 50% to J. W. Caruth. Water tap receptacle and drain. 3,096,782, 7-9-63, Cl. 137-360.
- Williams, Joseph H., to The Monotype Corp. Ltd. Step by step linear feed mechanism for photo-type composing machines. 3,092,000, 6-4-63, Cl. 95-4.5.
- Williams, Joseph H., to The Monotype Corp. Ltd. Cylinders for printing machines. 3,094,067, 6-18-63, Cl. 101-218.
- Williams, Joseph W.: *See*—  
Williams, Edward B., Jr. 3,081,829.  
Williams, Edward B., Jr. 3,094,177.  
Williams, Edward B., Jr. 3,113,630.
- Williams, Keith R., and D. P. Gregory, to Shell Oil Co. Gaseous fuel cells. 3,116,170, 12-31-63, Cl. 136-86.
- Williams, Kenneth J.: *See*—  
Barrett, Terence, English, and Williams. 3,109,658.
- Williams, Laurence: *See*—  
Speakman, Frank P., and Williams. 3,104,320.
- Williams, Lawrence S., to Toledo Scale Corp. Weighing scale. 3,074,496, 1-22-63, Cl. 177-178.
- Williams, Lawrence S., to Toledo Scale Corp. Chart reading mechanism. 3,100,600, 8-13-63, Cl. 235-1.
- Williams, Leo C.: *See*—  
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- Williams, Lloyd D.: *See*—  
Koenig, Martin F., Pastene, and Williams. 3,081,386.
- Williams, Loren J.: *See*—  
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- Williams, Luther. Shoe fastening device. 3,112,545, 12-3-63, Cl. 24-205.
- Williams, Malcolm S., and R. C. Fox, to California Research Corp. Paraffin wax compositions. 3,102,040, 8-27-63, Cl. 106-270.
- Williams, Mary B. Drying cabinet. 3,073,039, 1-15-63, Cl. 34-231.
- Williams, Michael, to The General Electric Co. Ltd. Manufacture of apparatuses including thin magnetic films. 3,095,319, 6-25-63, Cl. 117-107.
- Williams, Michael A.: *See*—  
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- Williams, Milton S., Jr.: *See*—  
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- Williams, Murray E., to Dexter Industries, Inc. Detent mechanism for securing a knob to a door latch. 3,091,490, 5-28-63, Cl. 292-352.
- Williams, Murray E., to Dexter Industries, Inc. Stop system for determining the normal sector of freedom of movement of a door knob. 3,093,400, 6-11-63, Cl. 292-1.
- Williams, Murray E., to Dexter Industries, Inc. Frame construction for door latches. 3,116,080, 12-31-63, Cl. 292-1.
- Williams, Paul H.: *See*—  
Smutny, Edgar J., and Williams. 3,112,338.
- Williams, Paul H., and R. T. Holm, to Shell Oil Co. Epoxyesters of 3,4-dihydropyran-2-carboxylic acids. 3,116,301, 12-31-63, Cl. 260-345.8.
- Williams, Norman C., and H. F. Everett, to Power Brake Equipment Co. Pneumatic motor. 3,088,707, 5-7-63, Cl. 253-2.
- Williams Patent Crusher & Pulverizing Co., Inc.: *See*—  
Williams, Robert M. 3,099,408.
- Williams, Paul H.: *See*—  
Green, Albert J., Randall, Williams, and Werner. 3,100,037.
- Sullivan, William J., and Williams. 3,081,311.
- Williams, Paul H., to Controls Co. of America. Timer apparatus with rapid advance. 3,089,994, 5-14-63, Cl. 318-443.
- Williams, Paul H., to Shell Oil Co. Epoxidation olefins with hydrogen peroxide and a cyanamide. 3,113,951, 12-10-63, Cl. 260-348.5.
- Williams, Paul H., and W. E. Beller, to Controls Co. of America. Shift mechanism. 3,076,349, 2-5-63, Cl. 74-335.
- Williams, Paul H., and J. J. Kaleba, to Controls Co. of America. Pressure switch contacts. 3,110,784, 11-12-63, Cl. 200-83.
- Williams, Paul L., to Toledo Scale Corp. Motion detector. 3,103,253, 9-10-63, Cl. 177-187.
- Williams, Philip B., H. E. Allen, and C. R. Hohmann, to The Muter Co. (Jensen Mfg. Co. Division). Blast-proof, water-proof loudspeaker. 3,073,916, 1-15-63, Cl. 179-115.5.
- Williams, Philip S.: *See*—  
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- Williams, Philip S., to Jersey Production Research Co. Seismic recording system. 3,072,906, 1-8-63, Cl. 346-1.
- Williams, Ralph A. Method and apparatus for repairing armatures and the like. 3,098,917, 7-23-63, Cl. 219-19.
- Williams, Ralph E., and W. F. Miller, to American Playground Device Co. Mechanical contoured nursery swing seat construction. 3,099,484, 7-30-63, Cl. 297-280.
- Williams, Ralph T., and D. W. Eley, to Engelhard Industries of Canada Ltd. Method of welding metallic gauze. 3,070,878, 1-1-63, Cl. 29-419.
- Williams, Ralph T., and D. W. Eley, to Engelhard Industries of Canada Ltd. Welding apparatus. 3,090,262, 5-21-63, Cl. 78-82.
- Williams, Ray C., to Standard Car Truck Co. Low oil level indicator for sealed journal bearing. 3,072,896, 1-8-63, Cl. 340-270.
- Williams, Ray L., to Stratoflex, Inc. Hose fitting having connecting means for an internal reinforcing member and method of assembly. 3,112,937, 12-3-63, Cl. 285-114.
- Williams Research Corp.: *See*—  
Williams, Sam B., and Benson. 3,077,076.  
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- Williams, Richard A., to Philco Corp. Method of manufacturing semiconductive device. 3,096,259, 7-2-63, Cl. 204-15.
- Williams, Richard D.: *See*—  
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- Williams, Richard E., to Scope, Inc. Organ vibrato control. 3,074,305, 1-22-63, Cl. 84-125.
- Williams, Richard E., to Melpar, Inc. Radar system. 3,076,191, 1-29-63, Cl. 343-14.
- Williams, Richard E., to Scope Inc. Vibrato circuit. 3,076,370, 2-5-63, Cl. 84-125.
- Williams, Richard H., Jr., to Westinghouse Air Brake Co. Subminiature relays. 3,102,974, 9-3-63, Cl. 317-176.
- Williams, Richard J., R. G. Heyl, Jr., and W. T. Downs, to Simmons Co. Motor operated hospital bed. 3,081,463, 3-19-63, Cl. 5-63.
- Williams, Robert: *See*—  
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- Williams, Robert A., to Eastman Kodak Co. Process and apparatus for concentrating nitric acid. 3,106,515, 10-8-63, Cl. 202-53.
- Williams, Robert E.: *See*—  
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- Williams, Robert J.: *See*—  
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- Williams, Robert K., and J. E. Blair. Pressure equalizing tow bar for boat trailers. 3,102,737, 9-3-63, Cl. 280-414.
- Williams, Robert L., B. L. Waddell, and J. W. Crownover, to Daystrom, Inc. Method and apparatus for utilizing ferroelectric material for data storage. 3,105,225, 9-24-63, Cl. 340-173.2.
- Williams, Robert M., to Williams Patent Crusher & Pulverizing Co., Inc. Hammer mill. 3,099,408, 7-30-63, Cl. 241-187.
- Williams, Robert P.: *See*—  
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- Williams, Roger B., Jr., to Toledo Scale Corp. Control circuit. 3,106,974, 10-15-63, Cl. 177-70.
- Williams, Roger B., Jr., to Toledo Scale Corp. Condition responsive device. 3,108,648, 10-29-63, Cl. 177-3.
- Williams, Roger B., Jr., to Toledo Scale Corp. Checking circuits. 3,112,805, 12-3-63, Cl. 177-46.
- Williams, Roger E., to General Railway Signal Co. Traffic counting system. 3,097,295, 7-9-63, Cl. 235-92.
- Williams, Russell J., and C. V. Brady, to Bemis Bro. Bag Co. Bag closure with unravel preventing means. 3,081,929, 3-19-63, Cl. 229-63.
- Williams, Russell J., and M. J. Heimoss, to Bemis Bro. Bag Co. Apparatus for manufacturing bags. 3,094,044, 6-18-63, Cl. 93-22.
- Williams, Russell J., and A. F. Ottinger, to Bemis Bro. Bag Co. Bags. 3,100,596, 8-13-63, Cl. 229-66.
- Williams, Russell J., and A. F. Ottinger, to Bemis Bro. Bag Co. Bags. 3,116,009, 12-31-63, Cl. 229-66.
- Williams, Sam B., and G. T. Burton, Jr., to Williams Research Corp. Instructional desk. 3,077,038, 2-12-63, Cl. 35-9.



- Williams, Sam B., and J. J. Benson, to Williams Research Corp. Gas turbine combustion chamber. 3,077,076, 2-12-63, Cl. 60-39.36.
- Williams, Sam B., and J. F. Jones, to Williams Research Corp. Gas turbine. 3,079,068, 2-26-63, Cl. 230-127.
- Williams, Sidney B.: *See*—
- Rubinstein, Harry W., and Williams. 3,073,007.
- Williams, Thomas F., to W. Mullins. Golf swing analyzer. 3,101,949, 8-27-63, Cl. 273-186.
- Williams, Vearl A.: *See*—
- Heffner, George R., Williams, Beicos, and Sutter. 3,081,487.
- Williams, Virgel E.: *See*—
- Bentkowsky, Jerome, Chadwick, and Williams. 3,106,903.
- Bentkowsky, Jerome, Chadwick, and Williams. 3,111,105.
- Williams, Walter O. Power brushes for washing automobiles and the like. 3,074,088, 1-22-63, Cl. 15-29.
- Williams, Webster F., Jr.: *See*—
- Schwartz, Lester R., and Williams. 3,099,243.
- Williams, William A., to Milton Roy Co. Lubricating pump for variable stroke mechanisms. 3,075,613, 1-29-63, Cl. 184-6.
- Williams, William A., to Milton Roy Co. Hydraulically-operated automatic air release valve for pulsating-pressure pumps. 3,107,624, 10-22-63, Cl. 103-44.
- Williams, William A., to T. B. Wood's Sons Co. Variable pitch sheaves having a large number of grooves. 3,108,483, 10-29-63, Cl. 74-230.17.
- Williams, William C.: *See*—
- Davis, Richmond L., Williams, and Hanner. 3,073,431.
- Williams, William E., to Cepac, Inc. Interferometer. 3,109,049, 10-29-63, Cl. 88-14.
- Williams, William F., to United States of America, Navy. G-actuated air controlled time relay. 3,077,160, 2-12-63, Cl. 102-82.
- Williams, William H. Cleat cleaner. 3,100,312, 8-13-63, Cl. 15-215.
- Williams, William J. Two point switch mechanism. 3,104,302, 9-17-63, Cl. 200-166.
- Williams, William W. Cotton harvester. 3,107,473, 10-22-63, Cl. 56-49.
- Williamson, Alton M.: *See*—
- Lawless, Clifford C., and Williamson. 3,091,471.
- Williamson, Anne O., to Genesco, Inc. Brassiere. 3,077,198, 2-12-63, Cl. 128-489.
- Williamson, Archie O.: *See*—
- Garis, Gordon O., and Williamson. 3,108,520.
- Williamson Co., The: *See*—
- De Camp, Albert E. 3,111,571.
- Williamson, David T. N., D. F. Walker, A. T. Shepherd, and D. W. H. Hampshire, to Ferranti, Ltd. Control apparatus for positioning an object. 3,098,186, 7-16-63, Cl. 318-162.
- Williamson-Dickie Mfg. Co., The: *See*—
- Mizell, Louis R. 3,089,806.
- Mizell, Louis R. 3,096,524.
- Williamson, Fletcher P.: *See*—
- Wallace, David H., Valliant, Williamson, and Munz. 3,099,567.
- Williamson, Floyd M. Control for die pads and presses. 3,077,344, 2-12-63, Cl. 267-1.
- Williamson, Floyd M. Hydraulic press ram cushion. 3,085,530, 4-16-63, Cl. 113-46.
- Williamson, Floyd M. Hydraulically actuated piercing unit. 3,089,375, 5-14-63, Cl. 83-571.
- Williamson, George A. Safety device for trip dog operation in hay balers. 3,092,226, 6-4-63, Cl. 192-22.
- Williamson, George H., to Johns-Manville Corp. Shingle stacker. 3,082,885, 3-26-63, Cl. 214-6.5.
- Williamson, George T.: *See*—
- Baumgartner, Herman J., Pezzaglia, and Williamson. 3,115,522.
- Williamson, Gilbert D., to Plasti-Con Pipe Co. Apparatus for producing cementitious conduits. 3,089,213, 5-14-63, Cl. 25-32.
- Williamson, Harry A.: *See*—
- Stumph, Richard V., and Williamson. 3,075,265.
- Williamson, Hilding V., and C. E. Wolfe, to Chematron Corp. Apparatus and method for refrigeration by carbon dioxide. 3,109,296, 11-5-63, Cl. 62-76.
- Williamson, John D.: *See*—
- Zebisky, Rudolph J., McCormack, Williamson, and Schneble. 3,095,309.
- Williamson, John G., Jr., to Perfecting Service Co. Lay control transmission for roving frames. 3,089,302, 5-14-63, Cl. 57-96.
- Williamson, John M., to National Distillers and Chemical Corp. Container for shipping, storing and dispensing sheet material in predetermined lengths. 3,098,594, 7-23-63, Cl. 225-48.
- Williamson, John R., and B. R. Coleman, to The Bendix Corp. Rocket engine thrust control system. 3,082,600, 3-26-63, Cl. 60-35.6.
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- Woodcock, Edward C. 3,102,462.
- Williamson, Marshall I., to Federal Paper Board Co., Inc. Semi-erected carton. 3,073,501, 1-15-63, Cl. 229-16.
- Williamson, Milo V. Water treatment system. 3,072,134, 1-8-63, Cl. 137-114.
- Williamson, Robert G., to Sperry Rand Corp. Logical circuits. 3,093,751, 6-11-63, Cl. 307-88.5.
- Williamson, Robert R., to General Precision, Inc. Gravity sensing instrument. 3,114,264, 12-17-63, Cl. 73-382.
- Williamson, T. D., Inc.: *See*—
- Ver Nooy, Burton. 3,071,991.
- Ver Nooy, Burton. 3,090,058.
- Ver Nooy, Burton. 3,107,696.
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- Williamson, Thomas B., to Stauffer Chemical Co. Method of controlling microorganisms with 4,6-diamino 2-ethylthio-5-nitrosopyrimidine. 3,092,545, 6-4-63, Cl. 167-33.
- Williamson, Tom R. Safety blade assembly for rotary mowers. 3,096,608, 7-9-63, Cl. 56-295.
- Williamson, William A., to Clark Equipment Co. Trailer with elevatable bed. 3,105,673, 10-1-63, Cl. 254-8.
- Williford, Oscar H., to Bell Telephone Laboratories, Inc. Telephone ringing circuit. 3,089,001, 5-7-63, Cl. 179-84.
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- Willinger, Allan H., to Aquariums Inc. Thermostatically-controlled aquarium heater. 3,107,289, 10-15-63, Cl. 219-41.
- Willinger, Allan H., to Aquariums Inc. Aquarium heater. 3,107,290, 10-15-63, Cl. 219-41.
- Willinger, Allan H., and H. W. Aquarium assembly. 3,091,220, 5-28-63, Cl. 119-5.
- Willinger, Harding W.: *See*—
- Willinger, Alan H., and H. W. 3,091,220.
- Willinger, William G. Rotary mower with swivel casing. 3,112,595, 12-3-63, Cl. 56-25.4.
- Willingham, John D., Jr. Pad assembly. 3,097,442, 7-16-63, Cl. 38-66.
- Willis Acceptance Corp.: *See*—
- Willis, Durward F. 3,097,680.
- Willis, Beuford N., to FMC Corp. Blade control mechanism for citrus fruit sectioning machines. 3,102,566, 9-3-63, Cl. 146-3.
- Willis, Christopher J.: *See*—
- Haszeldine, Robert N., and Willis. 3,114,741.
- Willis, Clyde P. Lumber stacking apparatus. 3,114,466, 12-17-63, Cl. 214-6.
- Willis, Durward E., to Willis Acceptance Corp. Vehicle tire and mounting means therefor. 3,097,680, 7-16-63, Cl. 152-331.
- Willis, John W.: *See*—
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- Schoppe, Heinrich, and Willis. 3,115,412.
- Willis, Raymond L.: *See*—
- Deines, Donald E., and Willis. 3,074,215.
- Willis-Reynolds Corp.: *See*—
- Reynolds, Alfred O., Plow, and Snyder. 3,080,680.
- Willis, Robert J., Jr., to General Electric Co. Steerable torque-balanced marine propulsion drive. 3,094,967, 6-25-63, Cl. 115-35.
- Willis, Robert J., Jr., to General Electric Co. Bevel gear drive. 3,111,111, 11-19-63, Cl. 115-34.
- Willis, Robert J., Jr., and H. Sorensen, to General Electric Co. Flexible drive-shaft assembly with self-aligning bearings. 3,083,680, 4-2-63, Cl. 115-34.
- Willis, Robert S. Fluid pressure operated shut-off valve. 3,092,136, 6-4-63, Cl. 137-458.
- Willis, Roderick M. Contact lens cleaning and storing device. 3,113,579, 12-10-63, Cl. 134-145.
- Willis, William M., and A. L. Becker, to Aeroquip Corp. Universal joint for tube sections of a fluid line. 3,112,129, 11-26-63, Cl. 285-226.
- Willis, William R., to National Tank Co. Metering system. 3,081,630, 3-19-63, Cl. 73-224.
- Willis, Winfield H., H. L. Louden, and R. N. Malm, to General Electric Co. Method and apparatus for forming tubular electric lamps and similar devices. 3,113,010, 12-3-63, Cl. 65-54.
- Willison, Donald: *See*—
- De Penti, Kenneth L., and Willison. 3,100,050.
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- Ayer, Donald R., Butler, and Williston. 3,095,544.
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- Knights, Richard N., Pitt, Willitt, and Wood. 3,091,416.
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- Willmes, Josef. Drum arrangement for a moisture extracting press. 3,103,164, 9-10-63, Cl. 100-107.
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- Willoughby, Francis E., to Willoughby Mfg. Co. Apparatus for equipping transport vehicles with temporary door closures. 3,091,287, 5-28-63, Cl. 160-368.



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- Willoughby, Victor A., to Eastman Kodak Co. Skew correction device for sensing a coded data bearing medium. 3,076,183, 1-29-63, Cl. 340—174.1.
- Wills, Bob W., to Kirsch Co. Cam operated master slide. 3,083,760, 4-2-63, Cl. 160—126.
- Wills, David V. Reversible combination tie-vest article. 3,093,830, 6-18-63, Cl. 2—102.
- Wills, David W. Coin holding and ash tray device. 3,094,129, 6-18-63, Cl. 131—238.
- Wills, Fred W., to Bell Telephone Laboratories, Inc. Variable velocity spring catapult. 3,073,496, 1-15-63, Cl. 226—24.
- Wills, Howard T.: See—  
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- Wills, Kenneth L., to Kaiser Aluminum & Chemical Corp. Welding method. 3,102,188, 8-27-63, Cl. 219—74.
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- Wills, Leonard A. Ejector control mechanisms for straw dispensers. 3,095,118, 6-25-63, Cl. 221—152.
- Wills, Leonard A. Sipping straw dispensers. 3,113,697, 12-10-63, Cl. 221—192.
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- Willsey, Charles H. Washing mechanism for egg separating apparatus. 3,101,146, 8-20-63, Cl. 198—229.
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- Willson, Dan H.: See—  
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- Willson, James R., to Robertshaw-Fulton Controls Co. Gas cock. 3,092,142, 6-4-63, Cl. 137—614.11.
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Stewart, James R., and Willyard. 3,087,999.
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- Willyoung, David M., and P. A. Becker, to General Electric Co. Liquid-cooled rotor for a dynamoelectric machine. 3,075,104, 1-22-63, Cl. 310—54.
- Willys Motors, Inc.: See—  
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- Wilmarth, Robert W., to International Telephone and Telegraph Corp. High power traveling wave tube. 3,104,344, 9-17-63, Cl. 315—39.3.
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- Wilmotte, Raymond M. Radio direction finding systems. 3,090,044, 5-14-63, Cl. 343—113.
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- Wilsman, Wilhelm, to Westfalia Separator A.G. Device for the mixing and homogenizing of liquid compositions. 3,079,133, 2-26-63, Cl. 259—3.
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- Wilson, Allen B., A. F. Novy, and B. P. Coleman, to Acme Steel Co. Method and tool for forming roof deck. 3,110,079, 11-12-63, Cl. 29—21.1.
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- Wilson, Forest. Article of furniture. 3,074,771, 1-22-63, Cl. 311—109.
- Wilson, Forest, to The Englander Co., Inc. Convertible divan ensemble. 3,093,410, 6-11-63, Cl. 297—119.
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- Wilson, Frederick E. J., to Avery-Hardoll Ltd. Liquid dispensing apparatus. 3,089,616, 5-14-63, Cl. 222-16.
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- Wilson, George P., and J. H. Specht. Painter's shield. 3,091,218, 5-28-63, Cl. 118-505.
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- Wilson, John B., to Reynolds Metals Co. Dispensing of gas charged liquids. 3,080,093, 3-5-63, Cl. 222-1.
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- Wilson, Kermit H. Folding table and seat structure. 3,075,809, 1-29-63, Cl. 297-159.
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- Wilson, Minor E., to Wilson Seat Co. Body cushion. 3,093,407, 6-11-63, Cl. 297-4.
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- Wilson, Murray V., to The Plessey Co. Ltd. Gaseous fission products absorption in liquid for measurement. 3,116,414, 12-31-63, Cl. 250-43.5.
- Wilson, Norman E., to Clean Home Products, Inc. Moth-cake containers. 3,087,679, 4-30-63, Cl. 239-57.
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- Wilson, Raymond O., to Olympic Screw & Rivet Corp. Method of assembling clinch pins. 3,112,562, 12-3-63, Cl. 29-430.
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- Wilson, Robert C., and H. B. Freyermuth, to General Aniline & Film Corp. Reaction of 4-amino-1,8-naphthalimides and aromatic diisocyanates, and resulting products. 3,096,333, 7-2-63, Cl. 260-281.
- Wilson, Robert C., and R. J. Puchaty, to Seismograph Service Corp. Radio location system. 3,102,266, 8-27-63, Cl. 343-105.
- Wilson, Robert D.: See—  
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- Wilson, Robert E.: See—  
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- Wilson, Robert M., to Dare Products, Inc. Electric fence insulator. 3,098,117, 7-16-63, Cl. 174-166.
- Wilson, Robert M., to Dare Products, Inc. Reel winder. 3,104,076, 9-17-63, Cl. 242-96.
- Wilson, Robert W., to R. H. Boulogny, Inc. Tobacco harvester. 3,083,517, 4-2-63, Cl. 56-27.5.
- Wilson, Robert W., to R. H. Boulogny, Inc. Plant tray and setting means for plant setting machines. 3,094,082, 6-18-63, Cl. 111-2.
- Wilson, Robert W., to R. H. Boulogny, Inc. Furrow opener for transplanter implement or the like. 3,108,551, 10-29-63, Cl. 111-3.
- Wilson, Rosser L.: See—  
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- Wilson, Rosser L., L. E. Hoyer, and I. E. Cox, to American Brake Shoe Co. Journal lubricators. 3,090,659, 5-21-63, Cl. 308-243.
- Wilson, Rufus W.: See—  
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- Wilson Seat Co.: See—  
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- Wilson, Thomas C., Inc.: See—  
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- Wilson, Thomas P.: See—  
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- Wilson, Verne H.: See—  
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- Wilson, Walter W.: *See*—  
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- Wilson, Warren M.: *See*—  
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- Wilson, William A., and G. S. John, to Standard Oil Co. Method of determining pipeline leakage. 3,084,259, 4-2-63, Cl. 250—106.
- Wilson, William E., to Westinghouse Electric Corp. Gas-filling apparatus and method. 3,081,801, 3-19-63, Cl. 141—8.
- Wilson, William E., Sr.: *See*—  
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- Wilson, William J., to Sanders Associates, Inc. Coaxial-to-waveguide power divider and directional coupler. 3,114,888, 12-17-63, Cl. 333—10.
- Wilson, William P., to United States Borax & Chemical Corp. Process for recovering values from ores containing clay. 3,095,282, 6-25-63, Cl. 23—312.
- Wilson, Willie B.: *See*—  
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- Wilson, Willie C., and D. L. Mosher; said Mosher assor. to said Wilson. Mechanism-escapement controlled. 3,076,344, 2-5-63, Cl. 74—1.5.
- Wilson, Wilmer G., and C. J. O'Rear, to Cities Service Oil Co. Marine drilling apparatus. 3,101,798, 8-27-63, Cl. 175—8.
- Wilson, Winfred E. Skeleton framework for modified hyperbolic paraboloid. 3,092,932, 6-11-63, Cl. 50—52.
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- Wilterdink, Meredith W., and T. F. Hursen, to The Bullard Co. Hydrofoil craft. 3,081,728, 3-19-63, Cl. 114—66.5.
- Wiltse, Charles F., and C. H. Esch. Portable light for fisherman. 3,106,350, 10-8-63, Cl. 240—59.
- Wiltse, Sumner D. O-ring structure. 3,111,324, 11-19-63, Cl. 277—203.
- Wiltshire, Arthur J., to White Sewing Machine Corp. Apparatus for making a resin-bonded fiber glass cone. 3,074,111, 1-22-63, Cl. 18—26.
- Wiltshire, Arthur J., to Apex Fibre-Glass Products, Inc. Method and apparatus for making light-weight pressure vessels of wound flexible strands. 3,114,665, 12-17-63, Cl. 156—155.
- Wimberley, John. Tree and stalk girdler. 3,090,159, 5-21-63, Cl. 47—1.
- Wimberly, Ruff R. Endodontal sterilizing and anesthetizing composition. 3,081,227, 3-12-63, Cl. 167—60.
- Wimmer, Glen E., to B. H. Bunn Co. System for automatically tying bundles. 3,085,501, 4-16-63, Cl. 100—4.
- Wimmer, Hans: *See*—  
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- Winberg, Nolan W. Load handling apparatus. 3,103,395, 9-10-63, Cl. 212—74.
- Winberg, Ragnar W. Drive for rotary feed attachments for sewing machines. 3,083,658, 4-2-63, Cl. 112—214.
- Winberg, Ragnar W. Buckle stock forming machine and method. 3,111,156, 11-19-63, Cl. 153—1.
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- Winchel, Henry T., to Consolidated Electronics Industries Corp. Timing circuit. 3,106,667, 10-8-63, Cl. 317—148.5.
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- Winchell, Alfred M., to Waterbury Pressed Metal Co. Oral breathing device. 3,096,762, 7-9-63, Cl. 128—190.
- Winchell, Frank J., and O. K. Kelley, to General Motors Corp. Transmission. 3,096,613, 7-9-63, Cl. 60—12.
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- Winchell, Paul: *See*—  
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- Winchell, Paul. Retractable fountain pen. 3,071,113, 1-1-63, Cl. 120—42.03.
- Winchell, Paul. Warning indicators for interrupted power supply of freezers. 3,077,177, 2-12-63, Cl. 116—114.
- Winchell, Paul, to Chelwin Productions, Inc. Guideway selector for multi-track records. 3,079,160, 2-26-63, Cl. 274—42.
- Winchell, Paul. Electrical heater for a container. 3,079,486, 2-26-63, Cl. 219—46.
- Winchell, Paul, to Chelwin Productions, Inc. Artificial heart. 3,097,366, 7-16-63, Cl. 3—1.
- Winchell, Paul. Conforming non-visible garters for hosiery. 3,097,407, 7-16-63, Cl. 24—248.
- Winchell, Paul, to Chelwin Productions, Inc. Pouring expediter for sugar, salt and the like. 3,110,424, 11-12-63, Cl. 222—148.
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- Winchester, John H., to The Eagle-Picher Co. Mat and tray combination. 3,087,752, 4-30-63, Cl. 296—1.
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- Winders, Raymond E., to Texaco Inc. Automatic scraper for use in deep wells. 3,072,194, 1-8-63, Cl. 166—170.
- Winders, Raymond E., to Texaco Inc. Automatic tank selector. 3,076,478, 2-5-63, Cl. 137—625.11.
- Windes, Frank V., and A. J. Paul, to International Business Machines Corp. Analog signal switching apparatus. 3,098,214, 7-16-63, Cl. 340—147.
- Windholz, Thomas B., to Celanese Corp. of America. Process of preparing polyamides from mixed anhydride and diamines. 3,082,191, 3-19-63, Cl. 260—78.
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- Wineman, Robert J., to Monsanto Research Corp. 5,5-di-methyl-4,6-methanospiro [2.5] octane as a new compound and use as a high energy fuel. 3,113,420, 12-10-63, Cl. 60—35.4.
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- Winfield, William S., and R. A. Muschamp, to General Electric Co. Coupling circuit for connecting together two resonant circuits and tuning the whole over a band of frequencies. 3,098,208, 7-16-63, Cl. 334—64.
- Winfree, Robert N., and H. C. Reed. Honing attachment for bread slicing machine. 3,079,738, 3-5-63, Cl. 51—247.
- Winfrey, Lewis L. Flag holders. 3,075,492, 1-29-63, Cl. 116—28.
- Wing, George S., to Hi-Shear Corp. Fast lead-in power drive socket. 3,079,819, 3-5-63, Cl. 81—121.
- Wing, George S., and H. L. Bochman, Jr., to Hi-Shear Corp. Tube polisher. 3,071,903, 1-8-63, Cl. 51—241.
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- Wingard, Henry S., and A. E. Maier, to Federal Pacific Electric Co. Latch-trip circuit breakers. 3,097,277, 7-9-63, Cl. 200—88.
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- Winge, John L., to The Bendix Corp. Brake camshaft bearing. 3,106,991, 10-15-63, Cl. 188—78.



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- Winkelmann, Herbert A., to Sheller Mfg. Corp. Method for conditioning rubber surfaces and forming flexible resin coatings thereon and the articles produced thereby. 3,080,255, 3-5-63, Cl. 117-47.
- Winkelmann, Herbert E., to General Motors Corp. Power operated antenna. 3,101,134, 8-20-63, Cl. 189-26.
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- Winkler, Alfred, to Agfa Aktiengesellschaft. Photographic camera. 3,115,077, 12-24-63, Cl. 95-10.
- Winkler, Alfred, and G. Kiper, to Agfa Aktiengesellschaft. Exposure controls for cameras. 3,087,396, 4-30-63, Cl. 95-10.
- Winkler, Alfred, D. Engelsmann, and H. Hackenberg, to Agfa Aktiengesellschaft. Camera with automatic exposure-determining structure. 3,094,912, 6-25-63, Cl. 95-10.
- Winkler, Alfred, and F. Jakob, to Agfa Aktiengesellschaft. Scanning assembly for cameras. 3,097,582, 7-16-63, Cl. 95-10.
- Winkler, Carl J., Sr. Orthodontic appliance. 3,111,758, 11-26-63, Cl. 32-14.
- Winkler, Edward D., to Albert & J. M. Anderson Mfg. Co. Electrical connector. 3,091,746, 5-28-63, Cl. 339-47.
- Winkler, Frederic C., to Westinghouse Electric Corp. Luminaire. 3,078,366, 2-19-63, Cl. 240-51.11.
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- Winkler, Richard, and K. Dunnebie, to Berkley Machine Co. Apparatus for squamiform lapping of blanks. 3,096,977, 7-9-63, Cl. 271-2.
- Winkler, Richard, and K. Dunnebie, to Berkley Machine Co. Apparatus for folding the closure flaps of envelopes and similar articles. 3,097,578, 7-16-63, Cl. 93-62.
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- Winn, Henry J. Fence panels for roadways. 3,096,079, 7-2-63, Cl. 256-24.
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- Winn, Russell E., to North American Philips Co., Inc. Manufacture of information storage matrices. 3,108,364, 10-29-63, Cl. 29-241.
- Winn, Stanley P. Roller blind for curved windows and the like. 3,092,174, 6-4-63, Cl. 160-262.
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- Winter, Charles H., Jr. Means for producing a visual phenomenon for increasing contrast ratio. 3,090,280, 5-21-63, Cl. 88-24.
- Winter, Charles M., to The Side-O-Matic Unloader Corp. Self powered boom assembly. 3,093,248, 6-11-63, Cl. 212-55.
- Winter, Donovan L., to Dewalt, Inc. Saber saw attachment for radial saw machine. 3,080,897, 3-12-63, Cl. 143-72.
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- Winters, John B., to Incar, Inc. Zinc plating composition and process. 3,095,362, 6-25-63, Cl. 204—55.
- Winters, John B., to Incar Inc. Copper plating composition and process. 3,109,784, 11-5-63, Cl. 204—52.
- Winters, John C., to Standard Oil Co. Gas chromatography apparatus. 3,115,766, 12-31-63, Cl. 73—23.
- Winters, Richard Q. Liquid level controller. 3,078,716, 2-26-63, Cl. 73—317.
- Winters, Thomas D.: *See—*
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- Winters, Willis B. Automatic system of agricultural irrigation. 3,114,243, 12-17-63, Cl. 61—12.
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- Henne, Hans, Ratsch, and Budan. 3,110,561.
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- Winther, Howard: *See—*
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- Winthrop, Arthur S., and T. J. Skotnicki, to Minnesota Mining and Mfg. Co. Epoxy resinous coating composition and fluidized bed coating method. 3,102,043, 8-27-63, Cl. 117—21.
- Winthrop, Stanley O.: *See—*
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- Winthrop, Stanley O., and M. A. Davis, to American Home Products Corp. Derivatives of dibenzo[b,e]azepines. 3,084,155, 4-2-63, Cl. 260—239.3.
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- Mineau, Paul J., and Winton. 3,086,715.
- Winton, Franklin W.: *See—*
- Kozlowski, Edward C., and Winton. 3,104,796.
- Winton, Lavoy. Safety seat and mounting means in combination therewith. 3,086,774, 4-23-63, Cl. 272—44.
- Wintringham, William T., to Bell Telephone Laboratories, Inc. Sum and difference stereophonic transmission with negative feedback. 3,083,264, 3-26-63, Cl. 179—1.
- Wintriss, George. Safety control for hydraulic machine with high pressure closing. 3,078,515, 2-26-63, Cl. 18—16.
- Wintriss, George. Enclosed precision switch. 3,098,141, 7-16-63, Cl. 200—159.
- Wintrade, Warner C.: *See—*
- Howard, Donald W., and Wintrade. 3,114,240.
- Wintzer, Herman C., to Allied Chemical Corp. Shell and tube heat exchangers. 3,114,415, 12-17-63, Cl. 165—158.
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- Winwood, John M., and J. P. Beasley, to North American Philips Co., Inc. Travelling wave tubes. 3,095,521, 6-25-63, Cl. 315—3.5.
- Winz, Karl: *See—*
- Braun, Oskar, and Winz. 3,074,632.
- Wipke, Walter J., to International Business Machines Corp. Two-torque spring slip clutch. 3,104,745, 9-24-63, Cl. 192—81.
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- Wippert, James A., to The Bendix Corp. Sonic altimeter. 3,102,261, 8-27-63, Cl. 343—5.
- Wippler, Constant G., to Compagnie de Saint-Gobain. Reti-culated polyvinyl chloride and method of making same. 3,101,306, 8-20-63, Cl. 204—154.
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- Rejeski, William E. 3,085,596.
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- Wirsching, Robert J., to Daimler-Benz Aktiengesellschaft. Fuel injection device. 3,080,818, 3-12-63, Cl. 103—2.
- Wirsching, Robert J., to Daimler-Benz Aktiengesellschaft. Control arrangement, particularly for fuel injection pumps. 3,108,829, 10-29-63, Cl. 287—62.
- Wirsing, Charles E., Jr., to The Martin Co. Brazed honey-comb structures. 3,084,770, 4-9-63, Cl. 189—34.
- Wirt, Harrison L., to General Electric Co. Device for feeding pulverized material. 3,097,767, 7-16-63, Cl. 222—368.
- Wirtanen, Axel M. Knock-out punch. 3,105,299, 10-1-63, Cl. 30—360.
- Wirth, Allan R., S. A. Murdock, and G. B. Berry, to The Dow Chemical Co. Method of dyeing acrylic acrylonitrile polymer fibers by stretching in a heated aqueous dye bath. 3,111,357, 11-19-63, Cl. 8—55.
- Wirth, Jane B. Combined diaper type garment and seat pad. 3,110,312, 11-12-63, Cl. 128—287.
- Wirth, John L., to Electro-Voice, Inc. Sound reproducing device. 3,075,053, 1-22-63, Cl. 179—100.41.
- Wirth, Mildred B. Seam presser. 3,092,707, 6-4-63, Cl. 219—21.
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- Wirth, Wolfgang, R. Hiltmann, and F. Mietzsch, to Farben-fabriken Bayer Aktiengesellschaft. 1-(gamma-dimethyl-aminopropoxy)-2-alkoxy alkenylbenzenes. 3,095,449, 6-25-63, Cl. 260—570.7.
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- Wirz, Willy, and H. Jucker, to Polymetron A.-G. Apparatus for continuously measuring the potential in a liquid and for simultaneously cleaning the measuring electrode. 3,073,772, 1-15-63, Cl. 204—195.
- Wisbrod, William, to Norton Mfg. Corp. Paddle and method of making the same. 3,091,781, 6-4-63, Cl. 9—24.
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- Schroeder, Collin H., and Link. 3,077,481.
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- Wise, Charles W. Drive means for an invalid's bed. 3,112,001, 11-26-63, Cl. 180—6.5.
- Wise, Coy J. Bolt holding tool. 3,094,020, 6-18-63, Cl. 81—13.
- Wise, Coy J. Wire splicing and tightening tool. 3,104,686, 9-24-63, Cl. 140—123.5.
- Wise, Daniel. Fabric strip support disposed across the stem portion of a presser foot. 3,096,735, 7-9-63, Cl. 112—151.
- Wise, Edgar W.: *See—*
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- Wise, Eugene P. Thermostatic fuel mixture control. 3,081,984, 3-19-63, Cl. 261—23.
- Wise, Eugene P., to Chrysler Corp. Deceleration air bleed for fuel charging manifold. 3,081,985, 3-19-63, Cl. 261—42.
- Wise, George S., Jr., to Deering Milliken Research Corp. Method of forming a roving package. 3,106,056, 10-8-63, Cl. 57—156.
- Wise, Glenn E. Cabinet. 3,093,832, 6-18-63, Cl. 4—1.
- Wise, Glenn E. Bird feeder. 3,094,100, 6-18-63, Cl. 119—51.
- Wise, Glenn E. Utility vehicle. 3,098,573, 7-23-63, Cl. 214—394.
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- Wise, James C., to Thompson Ramo Wooldridge Inc. Vapor-gas injection thrust vector control system. 3,101,591, 8-27-63, Cl. 60—35.54.
- Wise, Lester V. Optical line inscribing apparatus. 3,103,849, 9-17-63, Cl. 88—24.
- Wise, Ralph H., to The Anderson Co. Load-carrying assembly. 3,077,275, 2-12-63, Cl. 214—75.
- Wise, Ralph H. Wiper blade. 3,102,296, 9-3-63, Cl. 15—250.42.
- Wise, Ralph H. Windshield wiper blade. 3,107,384, 10-22-63, Cl. 15—250.42.
- Wise, Ralph M., to The Armstrong Rubber Co. Apparatus for splicing rubber-like articles. 3,075,571, 1-29-63, Cl. 156—502.
- Wise, Ralph M., to The Armstrong Rubber Co. Tire awling apparatus. 3,109,337, 11-5-63, Cl. 83—2.
- Wise, Ralph M., to The Armstrong Rubber Co. Tire awling method. 3,109,338, 11-5-63, Cl. 83—2.
- Wise, Robert H., and D. H. Meyer, to Standard Oil Co. Purification of terephthalic acid. 3,102,137, 8-27-63, Cl. 260—525.
- Wise, Robert T., to Big Drum, Inc. Apparatus for forming an edible article and a packaged article produced thereby. 3,092,944, 6-11-63, Cl. 53—276.
- Wise, Robert T., and L. A. Erickson, to Big Drum, Inc. Dispenser for conical members. 3,089,614, 5-14-63, Cl. 221—251.
- Wise, Roland E.: *See—*
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- Wiseblood, Nathan, to The Hub Testing Laboratory. Paving composition. 3,115,533, 12-24-63, Cl. 260—749.
- Wiseman, Adolph D. Tooth cleaning device. 3,101,727, 8-27-63, Cl. 132—93.
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- Wiseman, Earl R. Easy fish hook remover. 3,099,100, 7-30-63, Cl. 43—53.5.
- Wiseman, Everett D., to Verneo Corp. Blower wheel. 3,091,385, 5-28-63, Cl. 230—134.
- Wiseman, Russell B. Metalworking tool. 3,109,222, 11-5-63, Cl. 29—95.



- Wishart, James, to Consolidated Vacuum Corp. Valve for ultra-high vacuum apparatus. 3,108,780, 10-29-63, Cl. 251-334.
- Wishart, James, Jr.: *See*—  
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- Wishart, James L.: *See*—  
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- Wishman, Marvin, to American Cyanamid Co. Treatment of synthetic fiber tow. 3,083,071, 3-26-63, Cl. 8-130.1.
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- Wismer, Marco, and J. F. Foote, to Pittsburgh Plate Glass Co. Method of preparing polyethers of mono and disaccharides. 3,085,085, 4-9-63, Cl. 260-209.
- Wisne, Anthony E. Three-dimensional checking fixture. 3,111,767, 11-26-63, Cl. 33-174.
- Wisner, Arlin G. Bowling ball game amusement device. 3,078,096, 2-19-63, Cl. 273-41.
- Wisner, Delmer L.: *See*—  
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- Wisniewski, Tadeusz: *See*—  
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- Wisniewski, Walter S., to Repco Products Corp. Bolt retainers. 3,115,177, 12-24-63, Cl. 151-41.76.
- Wisotzky, Reuben, to American Biltrite Rubber Co., Inc. Elastomeric product, process and apparatus. 3,098,262, 7-23-63, Cl. 18-26.
- Wisseroth, Karl: *See*—  
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- Wisseroth, Karl, and E.-G. Kastning, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Withdrawal of reaction heat. 3,078,261, 2-19-63, Cl. 260-92.1.
- Wisseroth, Karl, R. Herbeck, H. Lautenschlager, H. Moeller, G. Schmidthomee, G. Staiger, H. G. Trieschmann, and H. Weber, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Process for the thermal oxidative degradation and simultaneous purification of linear polyolefins. 3,110,708, 11-12-63, Cl. 260-93.7.
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- Wissmiller, Ivan L., to Chicago Bridge & Iron Co. Support system for cryogenic liquid storage tank. 3,115,983, 12-31-63, Cl. 220-15.
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- Wistreich, Hugo E., and F. A. Di Pasquale, to Reliable Packing Co. Apparatus for guiding and conveying hogs to slaughter. 3,080,604, 3-12-63, Cl. 17-1.
- Wiswell, Grant A. Coin-actuated vending machine. 3,083,867, 4-2-63, Cl. 221-122.
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- Lindner, Paul L. 3,080,280.
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- Witherell, Charles E., to The International Nickel Co., Inc. Filler wire for shielded arc welding. 3,113,021, 12-3-63, Cl. 75-171.
- Withers, Burleigh, to Swift & Co. Refrigerator car trolley rail. 3,104,621, 9-24-63, Cl. 104-91.
- Withers, Burleigh, Jr., and W. F. Mueller, to Swift & Co. Refrigerator car trolley rail. 3,084,635, 4-9-63, Cl. 104-89.
- Withers, John S., to McGraw-Edison Co. Protectors for electric circuits. 3,116,389, 12-31-63, Cl. 200-131.
- Withers, William E., to Sun Oil Co. Liquid transfer metering system. 3,088,315, 5-7-63, Cl. 73-194.
- Withoff, Alfred J., to Wood Conversion Co. Spring-cushion structures. 3,070,814, 1-1-63, Cl. 5-354.
- Witkoff, Robert S. Resilient gripping device. 3,115,360, 12-24-63, Cl. 294-99.
- Witkowski, Henry J. Hot runner mold. 3,091,812, 6-4-63, Cl. 18-42.
- Witkowski, Henry J. Cover for plants. 3,093,930, 6-18-63, Cl. 47-29.
- Witmer, Amos B. Bolt remover tool. 3,087,364, 4-30-63, Cl. 81-53.
- Witmer, Clarence Le Roy, to American Can Co. Paper plate. 3,097,780, 7-16-63, Cl. 229-1.5.
- Witort, William W. Conduit raceway system and components therefor. 3,110,753, 11-12-63, Cl. 174-65.
- Witort, William W., J. W. Hudson, and E. J. King. Conduit system and components therefor. 3,110,754, 11-12-63, Cl. 174-70.
- Witschi, Fritz, to Ivf Bandage Machinery Co. Continuous production of packages containing a zig-zag folded strip of wadding or cotton wool material. 3,081,658, 3-19-63, Cl. 83-425.
- Witt, Alwin G. Heated container for transporting food. 3,074,394, 1-22-63, Cl. 126-261.
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- Witt, Donald R., to Phillips Petroleum Co. Polymerization of conjugated diolefins in the presence of transition metal borohydrides. 3,082,197, 3-19-63, Cl. 260-94.3.
- Witt, Francis J., to Bell Telephone Laboratories, Inc. Non-reciprocal wave translating network. 3,109,147, 10-29-63, Cl. 330-12.
- Witt, Horst, to Daimler-Benz Aktiengesellschaft. Rocket combustion chamber. 3,082,601, 3-26-63, Cl. 60-35.6.
- Witt, Richard P., to Illinois Tool Works Inc. Wire bending mechanism. 3,080,909, 3-12-63, Cl. 153-17.
- Witt, Robert H., to International Harvester Co. Tractor hood latch. 3,101,807, 8-27-63, Cl. 180-69.
- Witt, Robert H., and J. D. Clark, to International Harvester Co. Rotary mower. 3,107,472, 10-22-63, Cl. 56-25.4.
- Witt, Victor R., to International Business Machines Corp. Tape recording system. 3,085,236, 4-9-63, Cl. 340-347.
- Witt, Victor R., P. I. Prentky, and E. K. Dudek, to International Business Machines Corp. Skew elimination system. Re. 25,405, 6-25-63, Cl. 340-174.1.
- Witt, William R., Jr.: *See*—  
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- Wittek, Klem R., to Witte Golf Range Supply Co., Inc. Golf ball washer. 3,083,389, 4-2-63, Cl. 15-97.
- Wittek Mfg. Co.: *See*—  
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- Witten, Louis J., and L. Goldstein. Boat hull patch. 3,094,964, 6-25-63, Cl. 114-227.
- Wittenberg, Albert M., to Bell Telephone Laboratories, Inc. Electroluminescent matrix and access device. 3,078,373, 2-19-63, Cl. 250-213.
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- Petersen, Conrad W., Wittenberger, and St. John. 3,101,475.
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- Wittig, Georg, and H. Pommer, to Badische Anilin- & Soda-Fabrik Aktiengesellschaft. Production of unsaturated compounds. 3,078,256, 2-19-63, Cl. 260-666.
- Witting, Richard H. Crush-proof packaging. 3,113,670, 12-10-63, Cl. 206-59.
- Wittman, Steven J., to West Orange Hosiery Mill, Inc. Circular knit hosiery and method of closing the toe opening. 3,090,963, 5-28-63, Cl. 2-239.
- Wittmann, Ernst: *See*—  
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- Wittmoser, Adalbert, and W. Trojahn, to Rhein Stahl Eisenwerke Gelsenkirchen A.G. Centrifugal casting apparatus. 3,074,130, 1-22-63, Cl. 22-65.
- Wittnebert, Frederick R., and C. Sonntag, to The Parker Pen Co. Modular fountain pen. 3,087,464, 4-30-63, Cl. 120-46.
- Wittner, Eugene, and I. Rozalsky, to Shell Oil Co. Lubricating compositions. 3,100,749, 8-13-63, Cl. 252-49.9.
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- Wittrock, Henry J., to Kaiser Aluminum & Chemical Corp. Sealing of anodized coatings. 3,073,760, 1-15-63, Cl. 204-35.
- Wittrock, Henry J., to Kaiser Aluminum & Chemical Corp. Metal treatment. 3,098,804, 7-23-63, Cl. 204-41.
- Wittry, David B., to Applied Research Laboratories, Inc. Electron probe X-ray analyzer wherein the emitted X-radiation passes through the objective lens. 3,107,297, 10-15-63, Cl. 250-51.5.
- Wittwer, Edouard. Circulating pump arrangements, more especially for central heating systems. 3,072,069, 1-8-63, Cl. 103-218.
- Wittwer, Robert: *See*—  
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- Humbert, Kingsley E., Jr., Young, and Hough. 3,086,656.
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- Wixon, Harold E., to Colgate-Palmolive Co. Liquid detergent composition. 3,101,324, 8-20-63, Cl. 252-138.
- Wixon, Harold E., to Colgate-Palmolive Co. Oxidizing scouring cleanser and process of preparing same. 3,108,077, 10-22-63, Cl. 252-95.
- Wixon, Harold E., to Colgate-Palmolive Co. Stabilized trichloroauric acid and compositions containing same. 3,108,078, 10-22-63, Cl. 252-95.
- Wixon, Harold E., to Colgate-Palmolive Co. Water soluble textile bleaching and detergent composition. 3,108,079, 10-22-63, Cl. 252-99.



- Wizelman, Morris, to Globe Industries, Inc. Blister packaging machine. 3,092,945, 6-11-63, Cl. 53—373.
- Wizelman, Morris, to Globe Industries, Inc. Packaged comestible. 3,104,172, 9-17-63, Cl. 99—171.
- Wlodek, Stanley T., to Union Carbide Corp. Coated columbium. 3,081,530, 3-19-63, Cl. 29—194.
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- Woehner, Joseph J., to Allis-Chalmers Mfg. Co. Cable control unit. 3,101,138, 8-20-63, Cl. 192—4.
- Woelfel, Albert E., to Cameron Iron Works, Inc. High and low pressure responsive cut-off valve. 3,083,726, 4-2-63, Cl. 137—458.
- Woelfer, Robert O. End flap closing means for cartons. 3,071,910, 1-8-63, Cl. 53—376.
- Woelk, Hubert, to Spiegelglaswerke Germania Aktiengesellschaft Zweigniederlassung der Glaceries de Saint Roch Societe Anonyme. Process for the preparation of multiplane insulating glass. 3,097,061, 7-9-63, Cl. 18—59.
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- Woerner, David R. Automatic stirring device. 3,112,917, 12-3-63, Cl. 259—122.
- Woerner, Eldon H., to Bemis Bro. Bag Co. Bag. 3,092,303, 6-4-63, Cl. 229—625.
- Woerther, Clarence J., to International Minerals & Chemical Corp. Process for preparing slow release fertilizer compositions. 3,096,171, 7-2-63, Cl. 71—64.
- Woerther, Clarence J., to International Minerals & Chemical Corp. Production of clarified acidic phosphatic solutions. 3,099,622, 7-30-63, Cl. 210—49.
- Woessner, Donald E., to Socony Mobil Oil Co., Inc. Field gradient measurement of self-diffusion constant. 3,109,986, 11-5-63, Cl. 324—5.
- Woestemeyer, Francis B., to General Electric Co. Fail-safe pressure sensing device. 3,074,435, 1-22-63, Cl. 137—786.
- Wofford, Benjamin R.: *See—*  
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- Wohl, Robert J. Wide range electrodynamic actuator. 3,074,269, 1-22-63, Cl. 73—716.
- Wohl, Robert J. Electric vaporizers. 3,081,393, 3-12-63, Cl. 219—38.
- Wöhlbier, Günther, and G. Lüder, to Olympia Werke A.G. Ventilated typewriter motor. 3,113,658, 12-10-63, Cl. 197—16.
- Wohler, Stanley A., W. A. Lundy, and B. H. Baisley, to Kellett Aircraft Corp. Power tools. 3,074,163, 1-22-63, Cl. 30—180.
- Wohlfeil, Leonard H. Card holder. 3,075,723, 1-29-63, Cl. 242—851.
- Wohlhaupter, Emil and E., and F. Eyring, to Emil Wohlhaupter & Co. Tool clamping device. 3,082,014, 3-19-63, Cl. 279—103.
- Wohlhaupter, Emil, & Co.: *See—*  
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- Wohlhaupter, Erwin: *See—*  
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- Wohlrahe, Frank C., A. M. Mark, W. B. Roth, and C. Mehlretter, to United States of America, Agriculture. Process for production of amylose film. 3,116,351, 12-31-63, Cl. 264—186.
- Wöhner, Karl-Heinz: *See—*  
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- Wohnsiedler, Henry P., and R. H. Hunt, to American Cyanamid Co. Amino-aldehyde molding resins modified with polyacrylamide or methylol polyacrylamide. 3,081,277, 3-12-63, Cl. 260—452.
- Wohnsiedler, Henry P., to American Cyanamid Co. Thermo-setting amine resins modified with a polyester and a polyacrylamide. 3,081,278, 3-12-63, Cl. 260—453.
- Wohnsiedler, Henry P., and C. J. Ammondson, to American Cyanamid Co. Resinous composition and process of preparation. 3,108,029, 10-22-63, Cl. 156—330.
- Woitach, Peter T., Jr., and C. E. Herrick, Jr., to General Aniline & Film Corp. Printing plates comprising ink receptive azo dye surfaces. 3,086,861, 4-23-63, Cl. 96—33.
- Wojciechowski, Walter J., and G. H. Brandt, to Harris-Intertype Corp. Dampening device for lithographic printing press. 3,096,710, 7-9-63, Cl. 101—148.
- Wojcik, Richard P., to International Harvester Co. Packing and shipping container. 3,079,061, 2-26-63, Cl. 229—14.
- Wolansky, John, and B. J. Kitko, to Thompson Ramo Wooldridge Inc. Rotary regenerator drum fabrication. 3,081,822, 3-19-63, Cl. 165—10.
- Wolber, James E., to The Pure Oil Co. Corrosion probe with cathodically protected compensating element. 3,098,991, 7-23-63, Cl. 338—13.
- Wolbers, August B. Clamp. 3,091,421, 5-28-63, Cl. 248—41.
- Wolcott, Edson R. Ultrasonic transducer. 3,078,403, 2-19-63, Cl. 318—116.
- Wolcott, Glenn W., to Penn Aircraft Products, Inc. Flaring tool. 3,109,479, 11-5-63, Cl. 153—79.
- Wolcott, Henry O., to Optimat, Inc. Wide range high fidelity balanced amplifier. 3,111,630, 11-19-63, Cl. 330—82.
- Wolcott, John H.: *See—*  
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- Wolcott, Roger L.: *See—*  
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- Wolensky, William, to International Business Machines Corp. Data boundary cross-over and/or advance data access system. 3,109,162, 10-29-63, Cl. 340—1725.
- Wolf, Alfred, to Geophysical Research Corp. Multiple geophone recording system for seismic prospecting. 3,072,211, 1-8-63, Cl. 181—5.
- Wolf, Alfred, to Societe de Prospection d'Inventions Techniques Spit. Explosive actuated pin driver. 3,074,070, 1-22-63, Cl. 1—445.
- Wolf, Alfred A., to Fidelity Instrument Corp. Motor control circuit utilizing a half wave magnetic amplifier. 3,090,902, 5-21-63, Cl. 318—331.
- Wolf, Alfred A., to General Dynamics Corp. White noise fault detection system. 3,102,231, 8-27-63, Cl. 324—57.
- Wolf, Arnold F.: *See—*  
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- Wolf, Carlton H.: *See—*  
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- Wolf, Cecil R., J. P. Holland, and P. F. Sharp, to Frantz Mfg. Co. Overhead door construction. 3,104,699, 9-24-63, Cl. 160—40.
- Wolf, Christian-Friedrich: *See—*  
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- Wolf, Christian-Friedrich, and W. Engel, to Siemens-Schuckertwerke Aktiengesellschaft. Method and means for recording and reproducing magnetic signals. 3,114,010, 12-10-63, Cl. 179—1002.
- Wolf, Clement W.: *See—*  
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- Wolf, Cyril W. Hair trimming attachment for electric razors. 3,109,236, 11-5-63, Cl. 30—90.
- Wolf, David. Message transmitting means. 3,075,791, 1-29-63, Cl. 282—1.
- Wolf, Erich, to Schlosser & Co. G.m.b.H. Manufacture of crystalline porous stones. 3,082,100, 3-19-63, Cl. 106—40.
- Wolf, Gilbert H.: *See—*  
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- Wolf, Gottlieb, to Sulzer Freres, S.A. Two-stroke diesel engine with an exhaust gas driven turboblower. 3,095,692, 7-2-63, Cl. 60—13.
- Wolf, Harley L., to American Doll & Toy Corp. Collapsible game table. 3,078,095, 2-19-63, Cl. 273—30.
- Wolf, Horst: *See—*  
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- Wolf, Irving W.: *See—*  
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- Wolf, Irving W., and O. G. White, to General Electric Co. Method for fabricating small elements of thin magnetic film. 3,081,210, 3-12-63, Cl. 156—8.
- Wolf, Jack J., and K. W. Miller, to The General Tire & Rubber Co. Dual rate rubber bushing. 3,082,999, 3-26-63, Cl. 267—57.
- Wolf, Jacques, & Co.: *See—*  
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- Sellet, Lucien. 3,072,611.
- Wolf, James E., to R.S.L. Shuttlescocks Co., Ltd. Shuttlecock. 3,089,704, 5-14-63, Cl. 273—106.
- Wolf, Lloyd J. Control for dual engine vehicles. 3,090,458, 5-21-63, Cl. 180—14.
- Wolf, Martin: *See—*  
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- Wolf, Morris A. Clothing display form. 3,084,837, 4-9-63, Cl. 223—68.
- Wolf, Murray: *See—*  
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- Wolf, Neil H. Process for leaching of alumina from aluminous material. 3,094,378, 6-18-63, Cl. 23—532.
- Wolf, Paul A.: *See—*  
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- Wolf, Robert L.: *See—*  
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- Wolf, Robert M., Jr. Belt buckle. 3,103,047, 9-10-63, Cl. 24—73.
- Wolf, Richard N., to Minneapolis-Honeywell Regulator Co. Electrical apparatus. 3,084,881, 4-9-63, Cl. 242—672.
- Wolf, Rudolph J., Jr.: *See—*  
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- Wolf, Walter A., to Vaco Products Co. Electrical terminal connector. 3,107,964, 10-22-63, Cl. 339—205.
- Wolf, Walter J., to Leathercraft, Inc. Carrying case. 3,086,630, 4-23-63, Cl. 190—48.
- Wolf, Wilhelm: *See—*  
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- Wolf, William C. Deep well submersible pumping unit. 3,091,181, 5-28-63, Cl. 103—45.
- Wolf, Willy, to Bodi & Wienenberger Aktiengesellschaft. Expandable link bracelet with link detaching means. 3,084,503, 4-9-63, Cl. 59—79.
- Wolfe, Albert. Removable slats for Venetian blinds. 3,086,586, 4-23-63, Cl. 160—236.
- Wolfe, Clarence E.: *See—*  
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- Wolfe, Deloit R. Orthodontic pliers. 3,085,339, 4-16-63, Cl. 32-66.
- Wolfe, Edgar H.: *See*—  
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- Wolfe, Fred L., J. W. Earnest, and A. T. Johnson, to Truss-Masters, Inc. Boat. 3,075,488, 1-29-63, Cl. 114-66.5.
- Wolfe, Gene R., and N. G. Robisch, to The Procter & Gamble Co. Parallel wire separator. 3,106,524, 10-8-63, Cl. 209-379.
- Wolfe, George E., Jr. Plant watering system. 3,108,400, 10-29-63, Cl. 47-18.
- Wolfe, Gilbert L. Method for making building panels. 3,074,157, 1-22-63, Cl. 29-469.
- Wolfe, John C.: *See*—  
Rathmann, Heinrich W., and Wolfe. 3,085,004.
- Wolfe, John L. Expandable chamfering attachment for a rotatable reamer. 3,078,743, 2-26-63, Cl. 77-73.
- Wolfe, Leslie E. Cable brake for trucks. 3,077,790, 2-19-63, Cl. 74-506.
- Wolfe, Paul D., to E. I. du Pont de Nemours and Co. Manufacture of improved thermoplastic pipe. 3,089,187, 5-14-63, Cl. 18-14.
- Wolfe, Peter N., to Westinghouse Electric Corp. Display device. 3,073,992, 1-15-63, Cl. 315-169.
- Wolfe, Peter N., to Westinghouse Electric Corp. Display device. 3,086,143, 4-16-63, Cl. 315-169.
- Wolfe, Peter N., and E. A. Sack, Jr., to Westinghouse Electric Corp. Solid state display screens. 3,107,315, 10-15-63, Cl. 315-169.
- Wolfe, Raymond: *See*—  
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- Wolfe, Richard: *See*—  
Palfrey, Frederick M., and Wolfe. 3,088,920.
- Wolfe, Robert M., to Bell Telephone Laboratories, Inc. Ferro-electric shift register. 3,100,887, 8-13-63, Cl. 340-173.2.
- Wolfe, Roger W., to Burroughs Corp. Drive circuit for electronic counters with means to prevent spurious switching. 3,092,752, 6-4-63, Cl. 315-8.5.
- Wolfe, Roger W., to Burroughs Corp. Magnetron beam switching tube. 3,097,322, 7-9-63, Cl. 313-156.
- Wolfe, Roger W., and E. J. Grohe, Jr., to Burroughs Corp. Noise-generating tube. 3,112,423, 11-26-63, Cl. 315-8.6.
- Wolfe, Wayne F., to Hunt Foods and Industries, Inc. Forming horn support. 3,071,092, 1-1-63, Cl. 113-8.
- Wolfe, Wayne F., to United Can and Glass Co. Can body making machine. 3,100,470, 8-13-63, Cl. 113-11.
- Wolfe, William A., and L. Pease, to Atomic Energy of Canada Ltd. Concentric tube structure. 3,106,520, 10-8-63, Cl. 204-193.2.
- Wolfe, William R., Jr., to E. I. du Pont de Nemours and Co. Primary cells. 3,081,204, 3-12-63, Cl. 136-137.
- Wolfe, William R., Jr., to E. I. du Pont de Nemours and Co. Electrolytic cell. 3,110,630, 11-12-63, Cl. 163-154.
- Wolfendale, Caleb F., to Servomatic Hydraulics (Guildford) Ltd. Potentiometers. 3,071,758, 1-1-63, Cl. 340-187.
- Wolfenden, Henry C. L.: *See*—  
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- Wolfensperger, Adolph, to Rockwell Mfg. Co. Plug valve construction. 3,096,070, 7-2-63, Cl. 251-214.
- Wolfensperger, Adolph, to Rockwell Mfg. Co. Fluid pressure tight joint. 3,101,191, 8-20-63, Cl. 251-309.
- Wolferts, Max A. Holder for invalid walker. 3,085,258, 4-16-63, Cl. 5-92.
- Wolf, Dietrich, to Contraves AG. Phase modulated positioning servo-system. 3,083,324, 3-26-63, Cl. 318-28.
- Wolf, Edmund A., to Champion Papers, Inc. Composition comprising polycarbonate and sucrose ester and cellulosic web coated therewith. 3,108,977, 10-29-63, Cl. 260-9.
- Wolf, Edwin F. Apparatus for instruction and practice use in bowling with tenpins. 3,076,652, 2-5-63, Cl. 273-54.
- Wolf, Elmer A., Jr.: *See*—  
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- Wolf, Elmer A., Jr., to Texas Instruments Inc. Junction growing technique. 3,072,504, 1-8-63, Cl. 148-1.5.
- Wolf, Elmer A., Jr., to Texas Instruments Inc. Masking device useful for making transistors. 3,088,435, 5-7-63, Cl. 118-504.
- Wolf, Friedrich, to International Standard Electric Corp. Apparatus for effecting the automatic contrast control in television receivers. 3,104,281, 9-17-63, Cl. 178-7.5.
- Wolf, Fritz. Rotary printing machine. 3,072,050, 1-8-63, Cl. 101-177.
- Wolff, George M., and F. J. Lasak, to General Electric Co. Hose structure. 3,109,461, 11-5-63, Cl. 138-137.
- Wolff, Heinz S., and S. A. Roach. Apparatus for measuring dust particles. 3,092,583, 6-4-63, Cl. 233-3.
- Wolff, Henry E., and A. F. Abbey. Process for preparing a stable, edible coconut water extract. 3,076,714, 2-5-63, Cl. 99-125.
- Wolff, Hermann P., to International Business Machines Corp. Gyator apparatus and method for handling information. 3,074,637, 1-22-63, Cl. 235-164.
- Wolff, Hermann P., to International Business Machines Corp. Logic system using waves distinguishable as to frequency. 3,090,923, 5-21-63, Cl. 328-93.
- Wolff, Hubert G., J. Rogers, and H. H. Da Moude, to United States of America, Navy. Dipped sonar data transmission system. 3,092,803, 6-4-63, Cl. 340-3.
- Wolff, Joe M., to Cav-Wal Block Corp. Machine for manufacturing air cavity building blocks. 3,089,214, 5-14-63, Cl. 25-41.
- Wolff, Otto E.: *See*—  
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- Wolff, Paul A., to Kerr-McGee Oil Industries Inc. Submersible barge for submarine operations. 3,099,912, 8-6-63, Cl. 61-46.5.
- Wolff, Robert A., to Admiral Corp. Oscillator circuit. 3,113,178, 12-3-63, Cl. 178-5.8.
- Wolff, Robert A., to Admiral Corp. F.M. stereo indicator. 3,116,372, 12-31-63, Cl. 179-15.
- Wolff, Willi: *See*—  
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- Wolff, William F., to Standard Oil Co. Insecticidal diesters of dithiosulfuric acid. 3,071,505, 1-1-63, Cl. 167-22.
- Wolff, William R.: *See*—  
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- Wolfinger, Kurt, to Rodi & Wienerberger Aktiengesellschaft. Expandable linkage having connectors with integral pretensioning means. 3,099,908, 8-6-63, Cl. 59-79.
- Wolford, Wallace W., to Owens-Illinois Glass Co. Container gauging apparatus. 3,080,659, 3-12-63, Cl. 33-174.
- Wolfram, Hans: *See*—  
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- Wolfram, William S.: *See*—  
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- Wolfram, William S., to General Motors Corp. Drives for vehicle engine cooling fans. 3,103,308, 9-10-63, Cl. 230-270.
- Wolfram, William S., and J. W. Houston, to General Motors Corp. Torque transmitting mechanism. 3,081,856, 3-19-63, Cl. 192-104.
- Wolfsen, Cecil, and I. Fox; said Fox assor. to said Wolfson. Non-drip valves for pressurized containers. 3,079,048, 2-26-63, Cl. 222-108.
- Wolfson, Irving: *See*—  
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- Wolinsky, Albert, to General Precision, Inc. Binary digital single-brush readout device. 3,095,559, 6-25-63, Cl. 340-347.
- Wollensak, John C., to Ethyl Corp. Preparation of cyclopentadiene metal compounds. 3,088,960, 5-7-63, Cl. 260-439.
- Wollentin, Robert W., to Westinghouse Electric Corp. Electroluminescent device and method. 3,110,837, 11-12-63, Cl. 313-108.
- Wollett, Ernest S., to S. G. Leoffler. Apparatus for packaging finely divided materials. 3,103,698, 9-17-63, Cl. 18-5.
- Wolner, Paul, and R. H. Walter, Jr., to Aeroil Products Co., Inc. Temperature control systems. 3,099,392, 7-30-63, Cl. 236-21.
- Wollweber, Hartmund: *See*—  
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- Wolman, Lane L.: *See*—  
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- Wolman, William: *See*—  
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- Wolner, Herbert E. Coaster vehicle for children. 3,109,667, 11-5-63, Cl. 280-87.02.
- Wolniak, Stanley C.: *See*—  
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- Wolny, Joseph. Broken screw extractor and driver. 3,106,233, 10-8-63, Cl. 145-1.
- Wolowitz, William H. Ribbon for typing and obliterating. 3,114,447, 12-17-63, Cl. 197-172.
- Wolpin, Martin P., and J. G. Goerner, to Bell Aerospace Corp. Electro hydraulic servo device. 3,078,863, 2-26-63, Cl. 137-82.
- Wolsh, Bernard. Electronically controlled backwater valve. 3,077,203, 2-12-63, Cl. 137-392.
- Wolski, Adolph J., to The Pauland Corp. Semi-conductor device having a gas-discharge type switching characteristic. 3,109,938, 11-5-63, Cl. 307-88.5.
- Wolski, John J.: *See*—  
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- Wolson, John J.: *See*—  
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- Wolstein, Friedrich, and G. Gelhaus. Separate precipitation of sodium and potassium bicarbonate from sodium chloride-potassium chloride solutions. 3,112,173, 11-26-63, Cl. 23-64.
- Wolter, Gilbert R.: *See*—  
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- Wolterding, Richard A.: *See*—  
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- Woltersdorf, Friedrich W., to Siemens & Halske, Aktiengesellschaft. Method for hot box detection. 3,100,097, 8-6-63, Cl. 246-169.
- Wolujczyk, Marian: *See*—  
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- Wolven, Albert W. Water-kettle. 3,091,302, 5-28-63, Cl. 177-149.
- Wolverine Diesel Power Co.: *See*—  
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- Wolverton, Kenneth H.: *See*—  
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- Wolverton, Marcine P., to Midway Mfg. Co. Projectile apparatuses. 3,089,476, 5-14-63, Cl. 124-11.



- Wolverton, Marcine P., and H. S. Ross. Target apparatus. 3,089,703, 5-14-63, Cl. 273-105.2.
- Womack, Archer L., A. C. Blaine, and B. Orley, to Weyerhaeuser Co. Portable yarder. 3,109,522, 11-5-63, Cl. 189-11.
- Womack, Jack M.: *See*—  
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- Womack, Sherman E.: *See*—  
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- Wompey, John J. Electric heater. 3,077,531, 2-12-63, Cl. 219-39.
- Wong, Hans B. Multiple reel carrier. 3,107,878, 10-22-63, Cl. 242-86.7.
- Wonso, Stanley. Closure for collapsible tubes or bottles. 3,095,128, 6-25-63, Cl. 222-514.
- Woo, James J., to International Business Machines Corp. Analog to digital converter. 3,114,144, 12-10-63, Cl. 340-347.
- Woo, Way D., to Minneapolis-Honeywell Regulator Co. Magnetic shift register coupling loop. 3,114,897, 12-17-63, Cl. 340-174.
- Woo, Way D., R. D. Kodis, and S. Ruhman, to Raytheon Co. Magnetic control systems. 3,075,179, 1-22-63, Cl. 340-174.
- Wood, A. K., Mfg. Co.: *See*—  
Stoteran, Donald A., and Cochran. 3,075,495.  
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- Wood, Albert J. Mailing piece. 3,093,296, 6-11-63, Cl. 229-92.8.
- Wood, Arthur B., to Admart, Inc. Beverage-cup holder. 3,104,788, 9-24-63, Cl. 224-45.
- Wood, Arthur G., to Permuta Closures Ltd. Bottle closures. 3,109,547, 11-5-63, Cl. 215-41.
- Wood, Arthur G., to Permuta Closures Ltd. Bottle closures and the like. 3,109,548, 11-5-63, Cl. 215-46.
- Wood, Augusta C.: *See*—  
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- Wood, Barrie: *See*—  
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- Wood, Barrie, to The Distillers Co. Ltd. Production of unsaturated aliphatic nitriles. 3,094,552, 6-18-63, Cl. 260-465.9.
- Wood Brothers Mfg. Co.: *See*—  
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Wood, Mervel E. 3,080,696.
- Wood, Carl F.: *See*—  
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- Wood, Carl L., to Henry J. Kaiser Co. Ignition system for internal combustion engine. 3,100,479, 8-13-63, Cl. 123-148.
- Wood, Charles F. Track score board. 3,104,484, 9-24-63, Cl. 40-130.
- Wood, Charles H., Jr.: *See*—  
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- Wood, Charles R. Artist's brush case and rack. 3,077,977, 2-19-63, Cl. 206-1.7.
- Wood Conversion Co.: *See*—  
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- Wood, David D.: *See*—  
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Schroeder, Robert C., and Wood. 3,114,336.  
Schroeder, Robert C., and Wood. 3,114,338.
- Wood, Davis M., E. B. Holte, and C. W. Ecker, to United States of America, Navy. Missile container suspension system. 3,072,022, 1-8-63, Cl. 89-1.7.
- Wood, Delos R., to Multi-Clean Products Inc. Vacuum cleaning apparatus. 3,082,465, 3-26-63, Cl. 15-327.
- Wood, Donald C.: *See*—  
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- Wood, Dorothy M. Jumping, exercise, and play device. 3,104,104, 9-17-63, Cl. 272-74.
- Wood, Edward H., to General Bronze Corp. Sliding window and counterbalancer combination. 3,114,178, 12-17-63, Cl. 20-52.2.
- Wood, Ernest C.: *See*—  
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- Wood, Ervin G. Memoranda and directory support for cradle-type telephones. 3,084,474, 4-9-63, Cl. 45-5.
- Wood, Frank A., to Zenith Radio Corp. Television sweep transformer with filament winding insulator. 3,092,797, 6-4-63, Cl. 336-198.
- Wood, Frank E., deceased; A. C. Wood, executrix, to Sutton, Steele & Steele, Inc. Method and apparatus for separating intermixed divided materials. 3,105,040, 9-24-63, Cl. 209-466.
- Wood, Gar, Industries, Inc.: *See*—  
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Aske, Charles B., Jr. 3,078,125.  
Grove, Earl I. 3,079,460.  
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McCarthy, John. 3,085,828.  
Mulhern, William A. 3,083,060.
- Wood, Garfield A., Jr. Fishing reel. 3,104,075, 9-17-63, Cl. 242-84.54.
- Wood, Garfield A., Jr. Free spool casting reel. 3,104,850, 9-24-63, Cl. 242-84.45.
- Wood, George A., Jr.: *See*—  
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- Wood, George C., 1/4 to M. H. Lane, Sr., and 1/4 to M. H. Lane, Jr. Accounting apparatus. 3,109,925, 11-5-63, Cl. 235-61.11.
- Wood, George I., Jr., and F. C. Egley, to Western Tool and Stamping Co. Method of and means for starting internal combustion engines. 3,076,448, 2-5-63, Cl. 123-179.
- Wood, Gordon G.: *See*—  
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- Wood, Hamilton L., to Acme Visible Records, Inc. Record cabinet tray slide and support. 3,108,841, 10-29-63, Cl. 312-338.
- Wood, Harold: *See*—  
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Moran, John J., and Wood. 3,107,205.
- Wood, Henry C., and V. A. Mills, to Welch, Inc. Lock construction. 3,103,804, 9-17-63, Cl. 70-139.
- Wood, Herbert H., to Thomas Walker Ltd. Fastening devices for wearing apparel. 3,101,518, 8-27-63, Cl. 24-227.
- Wood, Homer J., to United Aircraft Corp. Vortex venturi. 3,073,114, 1-15-63, Cl. 60-39.14.
- Wood, Homer J., to Continental Aviation and Engineering Corp. Compressor anti-surge control for a gas turbine engine. 3,080,712, 3-12-63, Cl. 60-39.29.
- Wood, James A.: *See*—  
Fox, Charles L. 3,101,816.
- Wood, James R., to International Business Machines Corp. Arithmetic element. 3,089,645, 5-14-63, Cl. 235-175.
- Wood, James R., and H. L. Boggs, to Western Tool and Engineering Co. File sharpness tester. 3,090,220, 5-21-63, Cl. 73-9.
- Wood, John, Co.: *See*—  
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Woollen, Charles E., Jr. 3,073,583.
- Wood, John L., to West Virginia Pulp and Paper Co. Pipe coupling. 3,094,343, 6-18-63, Cl. 285-113.
- Wood, John M., Jr. Anchors. 3,101,694, 8-27-63, Cl. 114-208.
- Wood, John P., M. F. Gillett, E. B. Neitzel, and J. J. Godbey, to The Atlantic Refining Co. Method and means of electrical prospecting using analog models and electrode impedance cancelling apparatus. 3,113,265, 12-3-63, Cl. 324-1.
- Wood, Joseph L., and G. P. Henegar, to Olin Mathieson Chemical Corp. Method of operating mercury cathode cells. 3,109,796, 11-5-63, Cl. 204-125.
- Wood, Judson A., to Olin Mathieson Chemical Corp. Purification of lithium chloride. 3,114,602, 12-17-63, Cl. 23-89.
- Wood, John, Co.: *See*—  
Forbush, Lothrop M., Wolf, and Wood. 3,112,510.
- Wood, Keith E., to Deere & Co. Agricultural and like machine and rotor therefor. 3,087,523, 4-30-63, Cl. 146-106.
- Wood, Keith S., to Wood Brothers Mfg. Co. Extensible shaft. 3,073,135, 1-15-63, Cl. 64-23.
- Wood, Leon G. S., to The Foxboro Co. D-C voltage measuring apparatus. 3,075,146, 1-22-63, Cl. 324-99.
- Wood, Lonnie G., to Smith-Douglass Co., Inc. Pump anti-cavitation device. 3,091,184, 5-28-63, Cl. 103-113.
- Wood, Loren E., to Black, Sivalls & Bryson, Inc. Safety pressure relief device. 3,091,359, 5-28-63, Cl. 220-89.
- Wood, Marc, Societe Anonyme pour la Promotion des Echanges Techniques Internationaux: *See*—  
Gewiss, Lucien V. 3,087,623.
- Wood, Memnon J., to Thokol Chemical Corp. Casings for rocket motors. 3,092,962, 6-11-63, Cl. 60-35.6.
- Wood, Merlin D.: *See*—  
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- Wood, Mervel E., to Wood Bros. Mfg. Co. Device for attaching implements to tractors. 3,080,696, 3-12-63, Cl. 56-25.4.
- Wood Newspaper Machinery Corp.: *See*—  
Degutis, Anthony C., and Peterson. 3,100,604.
- Wood, Noah P., to Diebold, Inc. Tabulating card file tray construction. 3,108,585, 10-29-63, Cl. 124-28.
- Wood, Rex C.: *See*—  
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- Wood, Richard A., to G. I. Magnuson, executrix of the estate of R. M. Magnuson, deceased. Electrical counting and control circuit. 3,107,853, 10-22-63, Cl. 235-98.
- Wood, Richard A., to Morton Salt Co. Transistor control circuit. 3,113,250, 12-3-63, Cl. 317-148.5.
- Wood, Robert R., to The Yale and Towne Mfg. Co. Braking mechanism for hand truck. 3,074,516, 1-22-63, Cl. 188-119.
- Wood, Robert S., to The Plessey Co. Ltd. Rotary displacement pumps. 3,075,470, 1-29-63, Cl. 103-126.
- Wood, Robert S., to The Plessey Co. Ltd. Rotary displacement pumps. 3,077,840, 2-19-63, Cl. 103-126.
- Wood, Russell D. Baby sit-up device. 3,071,411, 1-1-63, Cl. 297-285.
- Wood, Sidney W. H.: *See*—  
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- Wood, Thomas F., to The Givaudan Corp. Process for making alkyl-1,1-dimethylindans. 3,078,319, 2-19-63, Cl. 260-668.
- Wood, Warren R. High fidelity sound reproducer. 3,115,947, 12-31-63, Cl. 181-31.
- Wood, Wilburn W. Fire detecting device. 3,087,456, 4-30-63, Cl. 116-105.



- Wood, William H., to Ken-Lab, Inc. Individual disposal unit. 3,092,049, 6-4-63, Cl. 110-9.
- Wood, William P.: *See*—  
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- Woodall, Robert A.: *See*—  
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- Woodard, Norman O. Tire regrooving machine. 3,097,685, 7-16-63, Cl. 157-13.
- Woodard, William R., and P. R. Cox, Jr., to Monsanto Chemical Co. Method for producing clear aqueous polyethylene oxide solutions. 3,088,838, 5-7-63, Cl. 106-287.
- Woodberry, Norman T.: *See*—  
Reynolds, Walter F., Jr., and Woodberry. 3,076,740.
- Woodbridge, Caspar L.: *See*—  
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- Woodbridge, Joseph E., and F. R. Lawrence, to The Atlantic Refining Co. Polyoxesters of benzoylbenzoic acid. 3,110,724, 11-12-63, Cl. 260-469.
- Woodburn, James, Jr., to Amsted Industries Inc. Process for producing a shaped graphite article. 3,089,195, 5-14-63, Cl. 18-47.5.
- Woodburn, James, Jr., to Amsted Industries Inc. Insert core for slide shut-off device. 3,090,090, 5-21-63, Cl. 22-84.
- Woodburn, Paul M. Non-drip pouring insert. 3,096,899, 7-9-63, Cl. 215-47.
- Woodbury, Clifford R., Jr. Baby food feeder. 3,076,574, 2-5-63, Cl. 215-11.
- Woodbury, Clifford R., Jr. Baby food feeder. 3,093,256, 6-11-63, Cl. 215-11.
- Woodbury, Roderick V., to Westinghouse Electric Corp. Pressurized seals for the shafts of fans. 3,081,096, 3-12-63, Cl. 277-4.
- Woodbury, Roger B.: *See*—  
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- Woodcock, Charles A.: *See*—  
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- Woodcock, Edward C., to Williamson Mfg. Co. Ltd. Photographic shutters. 3,102,462, 9-3-63, Cl. 95-63.
- Woodcock, Eugene L., G. W. Dueker, and M. J. Golay, to The Perkin-Elmer Corp. Radiation pyrometer. 3,094,001, 6-18-63, Cl. 73-355.
- Woodcock, Ralph N.: *See*—  
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- Woodell, Rudolph, to Beaunit Corp. Crimpable fibers of regenerated cellulose. 3,097,414, 7-16-63, Cl. 28-82.
- Woodell, Rudolph, to Beaunit Corp. Composite bulky regenerated cellulose yarn. 3,103,732, 9-17-63, Cl. 28-81.
- Woodell, Rudolph, to Beaunit Corp. Process for the production of crimpable regenerated cellulose fibers and yarn. 3,112,986, 12-3-63, Cl. 18-54.
- Wooden, Lawrence T. Push-over gate. 3,089,267, 5-14-63, Cl. 39-5.
- Wooden, Ralph G.: *See*—  
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- Woodford, Ernest M., and G. V. Hultgren, to Farrel-Birmingham Co., Inc. Tapering mechanism for roll-grinding machines. 3,070,925, 1-1-63, Cl. 51-49.
- Woodhams, Edward J., to Michigan Equity Corp. Vertically slidable tiltable sash. 3,091,005, 5-28-63, Cl. 20-49.
- Woodhouse, Charles F. Apparatus and method for measuring oxygen tension in bone. 3,083,706, 4-2-63, Cl. 128-2.1.
- Woodin, Carl A.: *See*—  
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- Woodin, Harvey E., and C. A. Closure and operating mechanism therefor. 3,086,766, 4-23-63, Cl. 268-124.
- Woodland, Edward. Smoke pipe top. 3,100,433, 8-13-63, Cl. 98-76.
- Woodland, Edward F. Closure for pneumatic tube carrier. 3,073,546, 1-15-63, Cl. 243-35.
- Woodland, Norman J., to International Business Machines Corp. Pulse generator. 3,103,593, 9-10-63, Cl. 307-88.
- Woodle, Marilyn G., and R. J. Bertie, to Reserve Mining Co. Blast hole charge and charging method. 3,075,464, 1-29-63, Cl. 102-23.
- Woodley, James M., to Dido Lures, Inc. U-shaped bead chain suspension for fishing lure. 3,110,979, 11-19-63, Cl. 43-42.74.
- Woodley, Joseph V., Jr.: *See*—  
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- Woodling, George V. Electrical heating devices. 3,114,819, 12-17-63, Cl. 219-20.
- Woodmansee, John B. Moisture extractor. 3,071,148, 1-1-63, Cl. 137-193.
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- Woodruff, Frank, to The Bendix Corp. Two way valve. 3,100,497, 8-13-63, Cl. 137-119.
- Woodruff, George M., A. R. Pasquine, and O. W. Stoeckli, to General Foods Corp. Package collecting. 3,107,014, 10-15-63, Cl. 214-6.
- Woodruff, H. Boyd: *See*—  
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- Woodruff, Howard C.: *See*—  
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- Woodruff, Maurice D., to The Bauer Bros. Co. Hydro cyclone. 3,101,313, 8-20-63, Cl. 209-211.
- Woodruff, R. S., & Co.: *See*—  
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- Woodruff, Ralph S., Sr., to R. S. Woodruff & Co. Combined ice chest, seat, life preserver, and reversible back. 3,099,482, 7-30-63, Cl. 297-193.
- Woodruff, Richard K., to Refractory Products Co. Refractory-forming products. 3,092,247, 6-4-63, Cl. 206-46.
- Woods, Allan M., to Newday, Inc. Relief paste-up process. 3,086,462, 4-23-63, Cl. 101-401.2.
- Woods, Bernard N.: *See*—  
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- Woods, Harold A.: *See*—  
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- Woods, John E., to Standard-Thomson Corp. Fluid control apparatus. 3,096,827, 7-9-63, Cl. 170-160.13.
- Woods, John E., to Standard-Thomson Corp. Fluid control apparatus. 3,096,936, 7-9-63, Cl. 236-56.
- Woods, John E., to Standard-Thomson Corp. Method of assembly and calibration of thermal responsive device. 3,099,878, 8-6-63, Cl. 29-405.
- Woods, Joseph J.: *See*—  
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- Woods, Marquis A. Radiant panel assembly. 3,074,521, 1-22-63, Cl. 189-85.
- Woods, Randall C. Concrete pipe forming apparatus. 3,096,556, 7-9-63, Cl. 25-36.
- Woods, Stephen E., and T. R. A. Davey, to Metallurgical Processes Ltd., and National Smelting Co., d.b.a. Metallurgical Development Co. Removal of cadmium from zinc. 3,080,227, 3-5-63, Cl. 75-63.
- Wood's, T. B., Sons Co.: *See*—  
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- Woods, Warren W.: *See*—  
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- Woods, Wayne H.: *See*—  
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- Anderson, Dewey L., and Woods. 3,105,344.
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- Anderson, Dewey L., and Woods. 3,105,347.
- Woods, William G.: *See*—  
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- Newsom, Herbert C., Woods, and McCloskey. 3,072,718.
- Newsom, Herbert C., Woods, and McCloskey. 3,082,252.
- Woodson, Kenneth W. Package sealing. 3,083,821, 4-2-63, Cl. 206-47.
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- Woodward, Arthur S., and E. L. Pihl, to United-Carr Fastener Corp. Electrical lamp socket. 3,072,878, 1-8-63, Cl. 339-176.
- Woodward, Benjamin W., and W. G. Anders, to Sperry Rand Corp. Safety switch for mechanized files. 3,077,967, 2-19-63, Cl. 192-130.
- Woodward, Charles D., to Texaco, Inc. Down hole pipe plugging tool. 3,074,482, 1-22-63, Cl. 166-55.6.
- Woodward, Elmer R., to MGM Brakes, Inc. Brake-release mechanism. 3,107,583, 10-22-63, Cl. 92-63.
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- Woodward, Gary F., to King-Seely Thermos Co. Temperature sensor assembly. 3,100,995, 8-20-63, Cl. 73-343.
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- Woodward, Myrnell L., and K. R. Skinner, to General Motors Corp. Non-glare mirror. 3,075,430, 1-29-63, Cl. 88-77.
- Woodward, Oakley M., Jr., and J. B. Rankin, to Radio Corp. of America. Steerable antenna. 3,090,956, 5-21-63, Cl. 343-100.
- Woodward, Paul E., Jr.: *See*—  
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- Woodward, Richard C., Jr., to The Emerson Mfg. Co. Multiple pulley variable ratio transmission. 3,088,326, 5-7-63, Cl. 74-230.17.
- Woodward, Robert M.: *See*—  
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- Woodward, Stephen G., and R. F. Bailey, to The Bendix Corp. Fuel nozzle. 3,081,952, 3-19-63, Cl. 239-464.
- Woodward, Stephen G., and C. A. Hartman, to The Bendix Corp. Fuel supply system. 3,106,196, 10-8-63, Cl. 123-119.
- Woodward, Stephen G., and K. D. Aumick, to The Bendix Corp. Valve structure. 3,113,523, 12-10-63, Cl. 103-53.
- Woodward, Stewart A., to General Electric Co. Multiple push-button switch. 3,095,756, 7-2-63, Cl. 74-503.
- Woodward, William H., to Lancashire Dynamo Electronic Products Ltd. Digital control apparatus for Ward-Leonard electrical machines. 3,095,530, 6-25-63, Cl. 318-145.
- Woodward, William L. Snare trap. 3,109,254, 11-5-63, Cl. 43-85.
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- Woodworth, John A., and A. B. Underwood, to W. & F. Mfg., Inc. Lock for sliding doors. 3,105,711, 10-1-63, Cl. 292-113.
- Woodworth, N. A., Co.: See—  
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- Woodworth, Robert D.: See—  
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- Woody, Carroll L.: See—  
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- Woody, George D., to H. B. Reese Co., Inc. Conveying apparatus. 3,108,679, 10-29-63, Cl. 198-25.
- Woody, Wayland B., and M. G. Scott, to Cabot Corp. Water braking and cooling system. 3,072,224, 1-8-63, Cl. 188-264.
- Woody, Wayland B., M. G. Scott, and M. L. Jones. Vehicle mounted derrick. 3,091,312, 5-28-63, Cl. 189-11.
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- Wooldridge, Lawson C., to Brockway Engineering Co. Ltd. Belt supporting rollers for endless belt conveyors. 3,096,874, 7-9-63, Cl. 198-192.
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- Woolgar, Reginald J., to Economics Foundations Ltd. Power assisted feed for a Kelly bar. 3,094,312, 6-18-63, Cl. 254-29.
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- Woolenweber, William E., Jr., to Schwitzer Corp. Pressurized oil seal for rotating machinery. 3,090,546, 5-21-63, Cl. 230-132.
- Woolenweber, William E., Jr., and R. A. Bozzola, to Schwitzer Corp. Air lubricated bearing. 3,090,544, 5-21-63, Cl. 230-116.
- Woolenweber, William E., Jr., J. A. Hardy, and G. Paul, to Schwitzer Corp. Anti-whirl bearing. 3,096,126, 7-2-63, Cl. 308-9.
- Woolley, Brown J. Methods and apparatus for removing defective casing or pipe from well bores. 3,087,546, 4-30-63, Cl. 166-46.
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- Woolley, Harold O., Jr., to AMP Inc. Electrical connector and method of making the same. 3,076,255, 2-5-63, Cl. 29-155.55.
- Woolley, Kathryn D.: See—  
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- Woolley, Lee A., to Kingston Products Corp. Synchronous motor. 3,112,818, 12-3-63, Cl. 192-4.
- Woolley, Samuel J.: See—  
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- Woolley, Samuel J., to Borg-Warner Corp. Variable speed transmission. 3,074,294, 1-22-63, Cl. 74-675.
- Woolley, Samuel J., and C. J. Padgett, to General Electric Co. Air control device. 3,082,678, 3-26-63, Cl. 98-106.
- Woolley, Wayne R., deceased; (by K. D. Woolley, executrix), and C. L. Brown, to Republic Steel Corp. Machine for laying reinforcing bars in concrete pavement. 3,083,621, 4-2-63, Cl. 94-39.
- Woolrich, Willis R. Multi-immersion quick freezer. 3,078,687, 2-26-63, Cl. 62-64.
- Woolslayer, Homer J., C. Jenkins, and J. R. Woolslayer, to Lee C. Moore Corp. Low-bed semi-trailer with attached jack and mat devices. 3,083,987, 4-2-63, Cl. 280-423.
- Woolslayer, Joseph R.: See—  
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- Woolston, William D., and J. J. Fitzgerald, to Vector Engineering Contractors, Inc. Oil mist separator. 3,093,469, 6-11-63, Cl. 55-324.
- Woolven, John L. Folding decoration. 3,093,461, 6-11-63, Cl. 41-11.
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- Wooster Brush Co., The: See—  
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- Wooton, Gilbert B.: See—  
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- Wooten, William A. Magnetic recording method and apparatus. 3,073,912, 1-15-63, Cl. 179-100.2.
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- Wootton, William R., to Babcock & Wilcox Ltd. Pressure vessels. 3,079,033, 2-26-63, Cl. 220-46.
- Wootton, William R., to Babcock & Wilcox Ltd. Pressurized water nuclear reactor. 3,089,836, 5-14-63, Cl. 204-193.2.
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- Worbois, Robert J.: See—  
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- Worden, Donald A., and S. R. Smolen. Pressure regulator with automatic relief valve. 3,102,549, 9-3-63, Cl. 137-116.3.
- Worden, Leslie E. Light controlled electrical system and relay therefor. 3,089,065, 5-7-63, Cl. 317-130.
- Worden, Norbert P., to C. M. Hall Lamp Co. Lamp mounting. 3,105,642, 10-1-63, Cl. 240-41.5.
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- Work, George A. Nuclear radiation dosimeter reader apparatus. 3,098,156, 7-16-63, Cl. 250-71.5.
- Work, Ralph O., to United States of America, Atomic Energy Commission. Bayonet type coupling with pivoted segment release means. 3,100,655, 8-13-63, Cl. 285-33.
- Work, Ruth E. Hair waving appliance. 3,109,438, 11-5-63, Cl. 132-31.
- Workman, Wesley R., to Minnesota Mining and Mfg. Co. Photo-sensitive compositions and articles therefrom. 3,074,869, 1-22-63, Cl. 204-158.
- Workman, Wesley R., to Minnesota Mining and Mfg. Co. Heat sensitive copy sheet, process of making and using. 3,094,417, 6-18-63, Cl. 96-28.
- Workman, Woodrow I., to International Packings Corp. Priming pump. 3,085,515, 4-16-63, Cl. 103-178.
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- Worley, Norman G., and M. Rooney, to Babcock & Wilcox Ltd. Pressure vessel. 3,108,704, 10-29-63, Cl. 220-1.
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- Worley, William E., and R. B. Farrar, to The Bendix Corp. Fuel control system for ramjet engine. 3,092,960, 6-11-63, Cl. 60-35.6.
- Worm, Alan F. Animal hatch. 3,091,221, 5-28-63, Cl. 119-19.
- Worman, Martin, to Ingersoll-Rand Co. Dustless drill. 3,090,451, 5-21-63, Cl. 175-213.
- Worman, Martin, and J. W. Adams, to Ingersoll-Rand Co. Crust breaker. 3,106,875, 10-15-63, Cl. 92-110.
- Wormser, Alexander F., and E. E. Lynch, to General Electric Co. Temperature measurement system. 3,111,032, 11-19-63, Cl. 73-359.
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- Wormser, Eric M., R. D. De Waard, and A. C. Rudomanski, to Barnes Engineering Co. Thermal detector and reference source. 3,097,300, 7-9-63, Cl. 250-83.3.
- Wormser, Eric S., R. W. Ankney, and A. A. Hurschman, to The Gibson-Homans Co. Piston arrangement for dispensing partially compressible plastic materials. 3,075,675, 1-29-63, Cl. 222-327.
- Wormser, Hans: See—  
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- Worn, David K., to The International Nickel Co., Inc. Method of converting metal powder into flake. 3,099,080, 7-30-63, Cl. 29-420.
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- Worrall, Kevin A.: See—  
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- Worrel, Richard M., 1/2 to H. A. Huebner. Rotary harvesters. 3,098,341, 7-23-63, Cl. 56-377.
- Worrel, Vernon J.: See—  
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- Worsham, Charles H., to Esso Research and Engineering Co. Direct production of electrical energy from liquid fuels. 3,113,049, 12-3-63, Cl. 136-86.
- Worsham, Floyd L., Sr. Shingled roof construction. 3,091,057, 5-28-63, Cl. 50-222.
- Worsley, Michael, B. N. Wilson, and B. O. Schoepfle, to Hooker Chemical Corp. Cyclic compounds of antimony and bismuth. 3,109,853, 11-5-63, Cl. 260-446.
- Worster, David B. Convertible vehicle body. 3,087,759, 4-30-63, Cl. 298-24.
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- Worth, Donald F.: *See*—  
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- Worth, Francis C., to Adolph Gottscho, Inc. Marking device. 3,085,506, 4-16-63, Cl. 101-334.
- Worth, Francis C., to Adolph Gottscho, Inc. Marking apparatus. 3,102,468, 9-3-63, Cl. 101-35.
- Worth, Francis C., to Adolph Gottscho, Inc. Marking apparatus. 3,112,689, 12-3-63, Cl. 101-35.
- Worth, Francis C., to Adolph Gottscho, Inc. Marking apparatus. 3,112,691, 12-3-63, Cl. 101-35.
- Wortham, Albert W.: *See*—  
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- Worthen, Eugene P., and F. S. Barbour, to Bethlehem Steel Co. Multistage flash distilling plant. 3,096,256, 7-2-63, Cl. 202-173.
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- Worthington Biochemical Corp.: *See*—  
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- Worthington, James C., Jr., F. H. Frantz, and A. S. De Paul, to Westinghouse Electric Corp. Dynamoelectric machine. 3,110,832, 11-12-63, Cl. 310-254.
- Worthington, Peter L., to General Electric Co. Brazing tool. 3,110,793, 11-12-63, Cl. 219-9.5.
- Worthington, William D. System for fluid transfusion. 3,098,480, 7-23-63, Cl. 128-214.
- Worton, Albert G., to The Warren-Teed Products Co. Method of treating peptic ulcers with panto-thenic acid. 3,092,548, 6-4-63, Cl. 167-55.
- Wossner, Felix, to Fichtel & Sachs A.G. Shock absorber. 3,113,644, 12-10-63, Cl. 188-100.
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- Wotiz, John H., to Diamond Alkali Co. Preparation of carbonyls of group VIB metals. 3,100,687, 8-13-63, Cl. 23-203.
- Wotiz, John H., to Diamond Alkali Co. Aromatic ethynyl pesticides. 3,113,068, 12-3-63, Cl. 167-30.
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- Wozniak, Aleksander. Water-borne craft. 3,090,974, 5-28-63, Cl. 9-1.
- Wray, Robert L., Jr., to General Electric Co. Vaporizer. 3,085,145, 4-9-63, Cl. 219-41.
- Wren, John P., to The Garrard Engineering and Mfg. Co., Ltd. Tape recorder apparatus. 3,087,686, 4-30-63, Cl. 242-55.13.
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- Wright, Charles S., to The Pure Oil Co. Esters of boron diallyl compositions. 3,072,616, 1-8-63, Cl. 260-78.4.
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- Wright, Donald E., to Western Gear Corp. Grading machine having rotary cutting drums. 3,101,932, 8-27-63, Cl. 262-19.
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- Wright, George C., to Norwich Pharmacal Co. N-carbethoxy aminoacid 5-nitrofurfurylidene. 3,096,347, 7-2-63, Cl. 260-347.5.
- Wright, George C., to The Norwich Pharmacal Co. 3-(22-cyanoethyl)-1-(5-nitrofurfurylideneamino) hydantoin. 3,110,714, 11-12-63, Cl. 260-240.
- Wright, George W., R. J. Jauch, and C. W. Kruckeberg, to Tokheim Corp. Liquid dispensing system. 3,099,367, 7-30-63, Cl. 222-26.
- Wright, Gerard C., to Burroughs Corp. Control apparatus for form feeding devices. 3,114,491, 12-17-63, Cl. 226-75.
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- Wright, James A., to Supreme Products Corp. Drive coupling arrangement for massaging devices. 3,075,519, 1-29-63, Cl. 128-49.
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- Wright, Jerome E., and J. Shellick, to Radio Corp. of America. Method of mounting a semiconductor device. 3,109,225, 11-5-63, Cl. 209-155.5.
- Wright, John B., to The Upjohn Co. Novel N-arylsulfonyl-N'-(2,5-endomethylene-1,2,5,6-tetrahydrobenzyl) ureas. 3,072,720, 1-8-63, Cl. 260-553.
- Wright, John B., to The Upjohn Co. Novel N-arylsulfonyl-N'-(1,2,3,6-tetrahydro-3-pyridyl) ureas and oral antidiabetic compositions. 3,105,006, 9-24-63, Cl. 167-55.
- Wright, John B., to The Upjohn Co. Certain 3,4-diaryl-Δ<sup>2</sup>-1,2,5-thiadiazoline-1,1-dioxides and their preparation. 3,115,495, 12-24-63, Cl. 260-301.



- Wright, John B., to The Upjohn Co. Certain 3,4-disubstituted-1,2,5-thiadiazole-1,1-dioxides and their preparation. 3,115,496, 12-24-63, Cl. 260-301.
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- Wright, John G., J. M. Chafin, and G. M. Wynn, to The Auto-Soler Co. Wire feeding means. 3,112,056, 11-26-63, Cl. 226-151.
- Wright, John H., to Monsanto Chemical Co. Device for transmission of curvilinear motion in one plane to rectilinear motion in the same plane. 3,077,788, 2-19-63, Cl. 74-108.
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- Wright, Ralph H., and L. F. Stringer, to Westinghouse Electric Corp. Taper rolling mill control. 3,081,652, 3-19-63, Cl. 80-56.
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- Wright, Rex O. Versatile remote control system for starting motor vehicles. 3,078,834, 2-26-63, Cl. 123-179.
- Wright, Richard C., to Iron Firearm Mfg. Co. Oil burning furnace. 3,071,181, 1-1-63, Cl. 158-4.
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- Wright, Theodore M. Wire staple handling apparatus. 3,075,196, 1-29-63, Cl. 1-95.
- Wright, Thomas H. Oil seal for automotive crank shafts. 3,112,112, 11-26-63, Cl. 277-11.
- Wright, William B., Jr., and R. A. Hardy, Jr., to American Cyanamid Co. Cinnamohydroxamic acid. 3,072,701, 1-8-63, Cl. 260-453.
- Wright, William B., Jr., S. Goldstein, and H. J. Brabander, to American Cyanamid Co. Nitrososulfanilamides and methods of preparing the same. 3,116,286, 12-31-63, Cl. 260-239.8.
- Wright, William E., and C. H. Coney, to Eastman Kodak Co. Sucrose ester of 2,2,4-trimethyl-3-oxovaleric acid as an extender. 3,106,477, 10-8-63, Cl. 106-169.
- Wright, William F. Apparatus for measuring variable pressure using conductive fluid. 3,103,821, 9-17-63, Cl. 73-398.
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- Wright, William L., and R. A. Stuart, to Westinghouse Electric Corp. System for controlling the quantity and direction of current supplied to a load. 3,107,324, 10-15-63, Cl. 321-16.
- Wright William M. D. Oscillation drive and pick-off device for a rate gyro. 3,078,729, 2-26-63, Cl. 74-5.6.
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- Wright, William W., to Guardian Electric Mfg. Co. Printed circuit mounting means for switch blades. 3,085,139, 4-9-63, Cl. 200-166.
- Wrighton, Robert J., to Pacific Scientific Co. Safety harness device. 3,100,609, 8-13-63, Cl. 242-107.4.
- Wrighton, Robert J., to Pacific Scientific Co. Safety harness device. 3,105,662, 10-1-63, Cl. 244-122.
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- Wrigley, Clifford C., to General Motors Corp. Brake cooling fluid systems. 3,071,211, 1-1-63, Cl. 188-18.
- Wrigley, Clifford C., and J. D. Malloy, to General Motors Corp. Heavy-duty truck brake. 3,071,210, 1-1-63, Cl. 188-18.
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- Wrigley, Wm., Jr., Co.: *See*—  
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- Wroten, Don L., ½ to Krogh Industries, Inc. Bowling lane maintenance apparatus. 3,083,390, 4-2-63, Cl. 15-103.5.
- Wruble, Milton, S. J. Rundman, and J. H. Koning, to The Upjohn Co. Oil-in-water emulsion for oral administration, and process for preparation. 3,085,939, 4-16-63, Cl. 167-65.
- Wruck, Max W., ½ to Lawton Printing Co. Graining printing plates. 3,072,546, 1-8-63, Cl. 204-141.
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- Wu, Charles T., to Baldwin-Lima-Hamilton Corp. Temperature compensated gage arrangement. 3,116,469, 12-31-63, Cl. 338-3.
- Wu, Peig F., to International Business Machines Corp. Parametron system. 3,108,195, 10-22-63, Cl. 307-88.
- Wu, Yao H., R. F. Feldkamp, and W. G. Lobeck, Jr., to Mead Johnson & Co. 1-acyl and 1-carbalkoxy-3-pyrrolidinols. 3,083,208, 3-26-63, Cl. 260-326.3.
- Wu, Yao H., R. F. Feldkamp, and W. A. Gould, to Johnson, Mead, & Co. 3,5-diaryl-3-pyrrolidinols. 3,095,424, 6-25-63, Cl. 260-326.5.
- Wu, Yao H., R. F. Feldkamp, and W. A. Gould, to Mead Johnson & Co. 3-benzyl-1,2-diloweralkyl-3-pyrrolidinols. 3,108,117, 10-22-63, Cl. 260-326.5.
- Wubbe, Leo J., to The Anderson Co. Windshield wiper assembly. 3,087,343, 4-30-63, Cl. 74-95.
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- Wulf, Charles A., Jr., C. M. Hunt, and J. P. Lofberg, Jr., to C. A. Wulf, Jr., A. W. Wulf, C. M. Hunt, and J. P. Lofberg, Jr. Curtain wall material. 3,110,370, 11-12-63, Cl. 189-34.
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- Wulf, Otto J. H., to Fuller Co. Heat exchange method and apparatus. 3,087,253, 4-30-63, Cl. 34-10.
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- Wunderlich, Gerhard, and H. Sippel, to M. Grundig. Record cards for business machines and means for embossing the same. 3,096,432, 7-2-63, Cl. 235-61.12.
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- Wunsch, Frederick W. Tractor mounted metal post driver. 3,073,571, 1-15-63, Cl. 254-29.
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- Wurdack, Walter I. Boat mooring attachment. 3,108,563, 10-29-63, Cl. 114-230.
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- Wurstner, Robert G., and R. W. Jahnke, to The Lubrizol Corp. Asphaltic products. 3,093,610, 6-11-63, Cl. 260-28.5.
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- Wurzberg, Otto B., and W. Herbst, to National Starch and Chemical Corp. Heat-sealable, water-activatable starch films. 3,071,485, 1-1-63, Cl. 106-213.
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- Wurzburger, Paul D., to The Weatherhead Co. Pipe coupling. 3,092,405, 6-4-63, Cl. 285-341.
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- Yard, Alfred B., Jr. Device for extinguishing cigars and cigarettes. 3,111,128, 11-19-63, Cl. 131—256.
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- Yarder Mfg. Co., The: *See*—  
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- Yardney International Corp.: *See*—  
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- Andre, Henri G. 3,082,279.
- Chapman, Christopher L. C. 3,100,165.
- Chiodini, Fernando, and Gold. 3,079,047.
- Comanor, Milton, and Chireau. 3,113,891.
- Comanor, Milton, and Gold. 3,103,452.
- Doyen, Jean. 3,075,034.
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- Horowitz, Carl, and Breitner. 3,098,770.
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- Mendelsohn, Meyer. 3,082,193.
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- Solomon, Frank, and Enters. 3,100,164.
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- Yarmak, Julius, to Coal Industry (Patents) Ltd. Vaned pumps and motors. 3,112,709, 12-3-63, Cl. 103—136.
- Yarmak, Julius, and J. Synac, to Coal Industry (Patents) Ltd. Reversible hydrostatic torque converter. 3,098,359, 7-23-63, Cl. 60—53.
- Yarnall, Richard L., to Texas Instruments Inc. Apparatus for detecting surface break. 3,081,547, 3-19-63, Cl. 33—126.5.
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- McKee, John F. 3,109,444.
- Yaros, Roman S. Hardness tester anvil. 3,114,259, 12-17-63, Cl. 73—81.
- Yarlick, Charles J., and R. F. Mertz, to I-T-E Circuit Breaker Co. Tulip clip primary contacts with star spacer. 3,097,904, 7-16-63, Cl. 339—64.
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- Hobson, Eric D. 3,073,376.
- Yartz, Johnny W., to General Electric Co. Sink connection support for waste disposal apparatus. 3,082,964, 3-26-63, Cl. 241—100.5.
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- Yartz, Johnny W., and F. J. Clements, to General Electric Co. Sink connection support for waste disposal apparatus. 3,108,755, 10-29-63, Cl. 241—100.5.
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- Miyauchi, Hideo. 3,082,671.
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- Yasuda, Susumu, to Nippon Electric Co. Ltd. Manufacturing method of magnetic focusing equipment. 3,081,527, 3-19-63, Cl. 29—155.6.
- Yasuda, Takushi, and Y. Fujimoto, to Victor Co. of Japan, Ltd. Magnetic tape feeding device for magnetic recording and reproducing apparatus. 3,114,513, 12-17-63, Cl. 242—55.12.
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- Yasui, Roku. Torus valve. 3,115,159, 12-24-63, Cl. 137—606.



- Yatabe, Yoshio. Method of manufacturing a grinder or hone having fine cushiony surfaces. 3,092,476, 6-4-63, Cl. 51-293.
- Yatagai, Taizo, S. Matsuda, and H. Matsuda, to Nippon Shokubai Kagaku Kogyo Co., Ltd. Process for producing alkyl tin halide compounds. 3,085,102, 4-9-63, Cl. 260-429.7.
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- Yates, Harold W., to Barnes Engineering Co. Camera shutter. 3,095,795, 7-2-63, Cl. 95-53.
- Yates, James F. Traction member for vehicle wheel. 3,078,126, 2-19-63, Cl. 301-44.
- Yates, John W., and J. A. Clements, to General Motors Corp. Automatic parking device. 3,073,407, 1-15-63, Cl. 180-1.
- Yates, Paul C.: See—  
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Alexander, Guy B., and Yates. 3,085,876.
- Yates, Sam M. Combination tissue dispensing and disposal container. 3,095,087, 6-25-63, Cl. 206-57.
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- Yatsko, John F. Clipping attachment for hedge trimmer. 3,073,025, 1-15-63, Cl. 30-132.
- Yavelberg, Irvin S., to United States of America, Navy. Electronic timer. 3,088,409, 5-7-63, Cl. 102-70.2.
- Yawn, Preston W. Cotton gin lift device. 3,091,346, 5-28-63, Cl. 212-9.
- Yazell, Harold N., Jr., to The Goodyear Tire & Rubber Co. Compound heel radius for bead seats of pneumatic tire wheels. 3,107,125, 10-15-63, Cl. 301-97.
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- Yearley, Bernard C., to Malleable Research and Development Foundation. Method of producing nodular iron. 3,076,705, 2-5-63, Cl. 75-130.
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- Yellott, John I. Swimming pool cover for collection or reflection of solar heat. 3,072,920, 1-15-63, Cl. 4-172.
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- Yemmans, Otto. Tool stock centering device. 3,079,694, 3-5-63, Cl. 33-185.
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- Yetter, Edward W., to Burroughs Corp. Potentiometer control system. 3,114,102, 12-10-63, Cl. 323-79.
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- Yevick, George J. Fluid impulse mechanism. 3,084,629, 4-9-63, Cl. 103-1.
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- Yoshii, Hajime, and R. J. Ehret, to Ampex Corp. Push-pull limiter with inductive averaging element. 3,115,582, 12-24-63, Cl. 307—88.5.
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- Young, Fred M., to Young Radiator Co. Stamped header shell-and-tube heat exchanger. 3,111,167, 11-19-63, Cl. 165—158.
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- Young, Frederick L., Jr.: *See*—  
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- Young, Frink M.: *See*—  
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- Young, George H. S.: *See—*  
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- Young, Harland H., E. J. Majka, and R. H. Eshbaugh, to Swift & Co. Reconstituted leather product and method of making. 3,116,200, 12-31-63, Cl. 162—151.
- Young, Harry R. Depth control mechanism for drilling machines. 3,082,650, 3-26-63, Cl. 77—25.
- Young, Henry J., to National Research Development Corp. Electric fuel cells. 3,112,228, 11-26-63, Cl. 136—86.
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- Young, Jacob H., to Western Wire Products Co. Anti-splitting tie iron. 3,082,658, 3-26-63, Cl. 85—11.
- Young, James A., to Owens-Illinois Glass Co. Container. 3,080,090, 3-5-63, Cl. 220—60.
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- Young, Joseph K. D. Self hooking tail chain. 3,091,492, 5-28-63, Cl. 294—81.
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- Young, Larry L. Guidance system for missiles. 3,073,550, 1-15-63, Cl. 244—14.
- Young, Leo, and R. J. O'Donnell, to United States of America, Air Force. Microwave target azimuth simulator. 3,108,274, 10-22-63, Cl. 343—17.7.
- Young, Lyle M. Ventilating system. 3,107,682, 10-22-63, Cl. 137—218.
- Young, Lyman W. Missile shooting toy. 3,112,109, 11-26-63, Cl. 273—101.
- Young, Merrill A., to Curtiss-Wright Corp. Impact wrench structure for tightening or loosening rod joints. 3,094,021, 6-18-63, Cl. 81—52.3.
- Young, Merrill A., to Curtiss-Wright Corp. Threaded stud extractor tool. 3,094,022, 6-18-63, Cl. 81—53.
- Young, Merrill A., and F. H. Sweet, to Curtiss-Wright Corp. Hangers for tools such as rotary impact wrenches. 3,081,056, 3-12-63, Cl. 248—203.
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- Young, Robert G., and E. H. Rhoads, to Sperry Rand Corp. Self actuating latch. 3,078,001, 2-19-63, Cl. 217—60.
- Young, Robert R., C. Ludwig, and F. Santiago, to McDowell Co., Inc. Apparatus for loading bulk material. 3,107,795, 10-22-63, Cl. 214—14.
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- Yount, Stanley G. Composite metal reinforced sheet means. 3,113,435, 12-10-63, Cl. 61—7.
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- Yuen, Yat C. Temperature control apparatus and installations. 3,101,779, 8-27-63, Cl. 165—50.
- Yuen, Yat C. Drinking straw and container. 3,101,855, 8-27-63, Cl. 215—1.
- Yuill, Alexander M., to Imperial Chemical Industries Ltd. Electric detonators. 3,096,714, 7-9-63, Cl. 102—28.
- Yuille, Ernest C., to American Cyanamid Co. Preparation of dispersions containing hydrous aluminum oxide. 3,112,265, 11-26-63, Cl. 106—286.
- Yule, John A. C., to Eastman Kodak Co. Low temperature clayden prescreening. 3,110,593, 11-12-63, Cl. 96—45.
- Yung, David W., to Sinclair Research Inc. Foam suppression. 3,083,168, 3-26-63, Cl. 252—321.
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- Yurkinas, Joseph W., and G. B. Brown. Device for retrieving sunken objects. 3,085,263, 4-16-63, Cl. 9—9.
- Yuryan, Joseph B., to Thomas Taylor & Sons, Inc. Apparatus for advancing flexible, strand-like material into the field of action of processing means. 3,082,808, 3-26-63, Cl. 153—1.5.
- Yusem, Milton. Process for preparing polysiloxane compositions. 3,094,507, 6-18-63, Cl. 260—46.5.
- Yuter, Morton G., to American Machine & Foundry Co. Helically formed tubing welding and cutting same into sections. 3,073,944, 1-15-63, Cl. 219—62.
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- Zabel, Lowell W., G. M. Eastwood, and C. J. Moen, to Kimberly-Clark Corp. Papermaking machine. 3,114,791, 12-17-63, Cl. 88—14.
- Zabel, Norman R., and D. E. Brink, deceased (by V. W. Brink, executrix), to Jet Research Center, Inc. Method for studying explosions stereoscopically. 3,074,170, 1-22-63, Cl. 33—1.
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- Zaborowski, Henryk L., to Commissariat a l'Energie Atomique. Method and apparatus for determining the spectrum of an alpha radiation source. 3,114,040, 12-10-63, Cl. 250—71.5.
- Zabriskie, Douglas M., to The Western Union Telegraph Co. Adjustable stylus holder for facsimile recording. 3,108,845, 10-29-63, Cl. 346—139.
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- Zachery, Ross H. Harvester for potatoes and the like. 3,106,249, 10-8-63, Cl. 171—14.
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- Zack, Albert, to Sylvania Electric Products, Inc. Method of manufacturing electrical coils. 3,112,556, 12-3-63, Cl. 27—155.57.
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- Zagar, Irvin F., and G. M. Wiffley, to A. R. Wiffley and Sons, Inc. Corrosion resistant centrifugal pump. 3,115,097, 12-24-63, Cl. 103—103.
- Zagar, Peter G., R. H. Burns, D. Falcioni, and J. C. Kleiber, to Permanent Cement Co. Apparatus and method for cooling finely divided solid particles. 3,070,970, 1-1-63, Cl. 62—63.
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- Zakin, Jacques L., to Socony Mobil Oil Co., Inc. Anthranthrone grease. 3,102,861, 9-3-63, Cl. 252—28.
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- Zalenski, Leonard F., to Eternaloc, Inc. Run resistant fabric. 3,106,830, 10-15-63, Cl. 66—198.
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- Zandman, Felix, to The Budd Co. Photoelastimetric apparatus for stress analysis. 3,096,175, 7-2-63, Cl. 88—14.
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Weller, Peter R. 3,105,204.  
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- Ziegler, George F.: *See*—  
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- Ziehlke, Robert J.: *See*—  
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- Ziemia, Edward R., and J. C. Arentz, to Textile Machine Works. Clamp and cutter mechanism for knitting machines. 3,090,217, 5-21-63, Cl. 66-140.
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- Zietz, Joseph R., Jr.: *See*—  
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- Ziff-Davis Publishing Co.: *See*—  
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- Ziffer, Garret F., to Laboratory For Electronics, Inc. Thickness control servosystem. 3,084,314, 4-2-63, Cl. 318-28.
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- Ziffer, Walter, to Westinghouse Electric Corp. Monolithic semiconductor devices. 3,110,870, 11-12-63, Cl. 331-113.
- Zifferer, Kenneth B., W. L. Sechrest, E. G. Renoll, and B. Coleman, to U.S. Expansion Bolt Co. Fastening device. 3,107,570, 10-22-63, Cl. 85-2.4.
- Zifferer, Lothar R. Apparatus for vacuum gassing sand forms. 3,098,268, 7-23-63, Cl. 22-10.
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- Zijlstra, Tjeerd. Camping trailer and boat. 3,107,369, 10-22-63, Cl. 9-1.
- Zike, Clarence G.: *See*—  
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- Zike, Vincent A.: *See*—  
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- Zilk, Carl S. Elastomer valve. 3,102,712, 9-3-63, Cl. 251-298.
- Ziller, Lester G., to Comfort Equipment Co. Mounting device for auxiliary apparatus on agricultural implements. 3,071,088, 1-1-63, Cl. 111-73.
- Zillgitt, Julius A.: *See*—  
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- Zima, Herbert, to Rohm & Haas G.m.b.H. Ion exchange resin. 3,085,072, 4-9-63, Cl. 260-2.2.
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- Zimberoff, Manuel. Photographic ear identification system. 3,102,459, 9-3-63, Cl. 95-1.1.
- Zimmer, John T., to Raytheon Co. Moving target indicator systems. 3,096,514, 7-2-63, Cl. 343-7.7.
- Zimmer, Michel, to Paillard S.A. Cameras having a device for securing a detachable release cable. 3,073,231, 1-15-63, Cl. 95-53.
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- Zimmerle, Wilbur J., to General Motors Corp. Dynamo-electric machine core assembly. 3,110,831, 11-12-63, Cl. 310-217.
- Zimmerley, Stuart R., to Kennecott Copper Corp. Reverberatory smelting method and apparatus. 3,102,806, 9-3-63, Cl. 75-74.
- Zimmerley, Stuart R., A. E. Back, R. R. Beck, and H. H. Pick, to Kennecott Copper Corp. Rotary furnace production of sponge iron. 3,096,172, 7-2-63, Cl. 75-33.
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- Zimmerman, Ervin W. Double exposure film shield for cameras. 3,088,390, 5-7-63, Cl. 95-36.
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- Zimmerman, Harold M. Pre-mixed concrete system. 3,107,901, 10-22-63, Cl. 259-147.
- Zimmerman, Henry B.: *See*—  
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- Zimmerman, Herman M., to Union Carbide Corp. Process for plating adherent lead dioxide. 3,087,870, 4-30-63, Cl. 204-32.
- Zimmerman, Hoge Warren, Co.: *See*—  
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- Zimmerman, Hollis P., B. W. Merrill, and R. J. Piro, to New Castle Products, Inc. Folding door structure. 3,073,382, 1-15-63, Cl. 160-183.
- Zimmerman, Jack J. Automatic soldering machine. 3,094,093, 6-18-63, Cl. 113-126.
- Zimmerman, Jerome. Plate cylinder separating attachment for offset presses. 3,076,407, 2-5-63, Cl. 101-218.
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- Zimmerman, John A., Jr., to AMP Inc. Electrical connector. 3,077,572, 2-12-63, Cl. 339-217.
- Zimmerman, John R. Fabric folding machine. 3,109,643, 11-5-63, Cl. 270-79.
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- Zimmerman, Joseph, to E. I. du Pont de Nemours and Co. Drawing of nylon. 3,091,015, 5-28-63, Cl. 28-72.
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- Zimmerman, Lawrence. Barn sweeper. 3,115,654, 12-31-63, Cl. 15-49.
- Zimmerman, Leo W. Apparatus for cleaning art brushes. 3,076,994, 2-12-63, Cl. 15-264.
- Zimmerman, Leon H., Jr.: *See*—  
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- Zimmerman, Milford S.: *See*—  
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- Zimmerman, Robert D., to Ingersoll-Rand Co. Drill bit. 3,100,545, 8-13-63, Cl. 175-419.
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- Zimmerman, Samuel M. Thermometer. 3,082,625, 3-26-63, Cl. 73-362.
- Zimmermann, Bernhardine, to Peter Küpper, K.G. Cap. 3,089,147, 5-14-63, Cl. 2-197.
- Zimmermann, Frederick N., to March Mfg. Co. Portable electric immersion liquid pump. 3,074,349, 1-22-63, Cl. 103-87.
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- Zimmermann, Heinrich, and L. Schwer, to O. and S. Steidinger. Pick-up for scanning a sound groove for two-coordinate recording. 3,113,783, 12-10-63, Cl. 274-37.
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- Zimmermann, Joseph J., to Electronic Secretary Industries, Inc. Automatic telephone dialing apparatus. 3,072,746, 1-8-63, Cl. 179-5.
- Zimmermann, Lukas. Trepanning tool. 3,086,410, 4-23-63, Cl. 77-69.
- Zimmermann, Markus, and F. Hafiger, to Geigy Chemical Corp. 2-phenyl-5,6-dimethyl-morpholines and 2-phenyl-5,6-tetramethylene-morpholines. 3,112,311, 11-26-63, Cl. 260-247.
- Zimmermann, William A. Power mower safety device. 3,086,346, 4-23-63, Cl. 56-25.4.
- Zimmers, Melvin, to Superior Industries Corp. Combined shipping container, display holder and wall rack. 3,081,868, 3-19-63, Cl. 206-45.14.
- Zimmie, William E., and F. W. Bloecher; said Bloecher assor. to said Zimmie. Method of removing silt from tanks. 3,080,264, 3-5-63, Cl. 134-22.
- Zimmie, William E., and F. W. Bloecher, Jr.; said Bloecher assor. to said Zimmie. Method of removing and preventing accumulation in cooling systems. 3,085,916, 4-16-63, Cl. 134-22.
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- Zimmon, Harold, to Zimmon & Co., Inc. Slipper for geriatrics and other uses. 3,106,790, 10-15-63, Cl. 36-9.
- Zimny, Sidney J., and H. Green, to United Sign Co. Turnpike sign. 3,080,669, 3-12-63, Cl. 40-52.
- Zimsky, John J.: *See*—  
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- Zindler, Roger R., and O. A. Kershner, to Lambert Brake Corp. Fluid-cooled heavy duty disc brake. 3,081,842, 3-19-63, Cl. 188-72.
- Zingery, Wilbur L., to North American Aviation, Inc. Heat distributor. 3,112,651, 12-3-63, Cl. 74-5.
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- Zingsheim, Felix M., to Kasten Mfg. Corp. Telescopic draw bars. 3,116,076, 12-31-63, Cl. 280-482.
- Zink, Heinrich J., E. John, and P. Buttner, to Zahnraederfabrik Renk Aktiengesellschaft. Epicyclic gear transmission with herringbone teeth. 3,090,258, 5-21-63, Cl. 74-801.
- Zink, John, Co.: *See*—  
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- Zink, John S., Reed, and Godnight. 3,101,769.
- Zink, John S., R. D. Reed, and H. Godnight, to John Zink Co. Burner for gaseous and liquid fuels. 3,101,769, 8-27-63, Cl. 158-11.
- Zink, Julius: *See*—  
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- Zink, Preston E.: *See*—  
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- Zinke, Robert L., to Sperry Rand Corp. Delay pulse generator. 3,104,331, 9-17-63, Cl. 307-88.5.
- Zinkin, Harold. Exercising apparatus. 3,116,062, 12-31-63, Cl. 272-53.
- Zinn, Daniel L. Molding and holddown spacer of wall panels. 3,098,547, 7-23-63, Cl. 189-35.
- Zinn, Donald V.: *See*—  
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- Zinn, Julius A. Carton having a collapsible pouring spout. 3,071,305, 1-1-63, Cl. 229-17.
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- Zinn, Walter H., to United States of America, Atomic Energy Commission. Flow system for reactor. 3,093,562, 6-11-63, Cl. 204-193.2.
- Zinneman, Carl E. Combination game cart and chair. 3,073,614, 1-15-63, Cl. 280-30.
- Zins, Berl L. Garments having an elastic waistband with automatically adjustable waist measurements. 3,097,365, 7-16-63, Cl. 2-237.
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- Ziolkowski, Adrian J., G. Faibel, R. W. Astheimer, and R. F. Leftwich, to United States of America, National Aeronautics and Space Administration. Multi-lobar scan horizon sensor. 3,083,611, 4-2-63, Cl. 88-1.
- Ziolkowski, Robert L.: *See*—  
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- Zion, Moses, to The Lionel Corp. Weight operated toy railway track switch. 3,081,400, 3-12-63, Cl. 246-251.
- Zipelius, Robert, to H. Kellner, t/a Deutsche Cement-Industrie H. Kellner & Co. Roadway marking. 3,094,046, 6-18-63, Cl. 94-1.5.
- Zipf, Oscar R., to F. L. Hill. Extrusion dies. 3,112,828, 12-3-63, Cl. 207-10.
- Zipper, Donald H., to Continental Can Co., Inc. Glass jar grippers. 3,108,682, 10-29-63, Cl. 198-162.
- Zipper, Walter J. Tire pressure indicator. 3,111,930, 11-26-63, Cl. 116-34.
- Zirkle, Charles L.: *See*—  
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Kaiser, Carl, and Zirkle. 3,106,578.
- Zirkle, Charles L., to Smith Kline & French Laboratories. Ethers of 3-oxa and 3-thia-9-azabicyclo (3.3.1)-nonan-7-ol. 3,075,977, 1-29-63, Cl. 260-243.
- Zirkle, Charles L., to Smith Kline & French Laboratories. Antiemetic compositions and methods of treating nausea and vomiting. 3,088,869, 5-7-63, Cl. 167-55.
- Zirkle, Charles L., to Smith Kline & French Laboratories. Alkanoylthioxanthenes and -xanthenes. 3,095,425, 6-25-63, Cl. 260-328.
- Zirkle, Charles L., to Smith Kline & French Laboratories. Aminomethylthienyl and furyl alcohol derivatives. 3,097,206, 7-9-63, Cl. 260-268.
- Zirkle, Charles L., to Smith Kline & French Laboratories. 10-aminoalkylbenzo [B,F] tiepin and -dibenz [B,F] oxepin derivatives. 3,100,207, 8-6-63, Cl. 260-268.
- Zirm, Konrad L., and A. Pongratz, to Lannacher Heilmittel Gesellschaft m.b.H. Dinicotinoyl N-allyl normorphine ester. 3,093,647, 6-11-63, Cl. 260-285.
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- Zirwas, Johann-Gerhard, to Siemens & Halske Aktiengesellschaft. Pilot controlled voltage level regulation having switch-over, upon pilot failure, from instantaneous to past-integrated-and-stored pilot control. 3,109,999, 11-5-63, Cl. 333-16.
- Zitcer, Abel L.: *See*—  
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- Zitelli, Louis T., to Varian Associates. Collector coolant system. 3,098,165, 7-16-63, Cl. 313-21.
- Zitelli, Louis T., to Varian Associates. Klystron amplifier with temperature compensated tuning means. 3,103,609, 9-10-63, Cl. 315-5.48.
- Zitko, Ronald F.: *See*—  
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- Zitko, Ronald F., to International Harvester Co. Seed tape planter. 3,078,681, 2-26-63, Cl. 61-72.6.
- Zito, George V.: *See*—  
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- Zivi, Edwin L. Adjustable and convertible wheel chair. 3,103,384, 9-10-63, Cl. 297-130.
- Zivi, Edwin L. Manual traction device. 3,105,489, 10-1-63, Cl. 128-75.
- Zizka, Egon, to Master Power Corp. End plate structure for pneumatic motor. 3,080,851, 3-12-63, Cl. 121-34.
- Zizzo, Thomas J., to GZR Co., Inc. Electrical wire finder. 3,078,073, 2-19-63, Cl. 254-134.3.
- Zlotnick, Herbert, to Mucon Corp. Ceramic dielectric compositions and method of making the same. 3,080,239, 3-5-63, Cl. 106-39.
- Zlotnick, Herbert, to Mucon Corp. Ceramic dielectric compositions and method of making the same. 3,103,442, 9-10-63, Cl. 106-39.
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- Zmoda, Barney J., to Colgate-Palmolive Co. Method and product for polishing aluminum with steel wool and a partial ester of phosphoric acid and an aliphatic alcohol. 3,115,425, 12-24-63, Cl. 134-6.
- Znamirovski, Henry, to Eastern Products Corp. Window shade roller. 3,102,584, 9-3-63, Cl. 160-300.
- Znamirovski, Henry, to Eastern Products Corp. Window shade roller. 3,115,927, 12-31-63, Cl. 160-301.
- Zober, Walter, to Electronic Associates Inc. Remote signaling system. 3,076,348, 2-5-63, Cl. 74-221.
- Zoeller, Richard J., and J. R. Henderson, to The Pillsbury Co. Dough package. 3,102,818, 9-3-63, Cl. 99-172.
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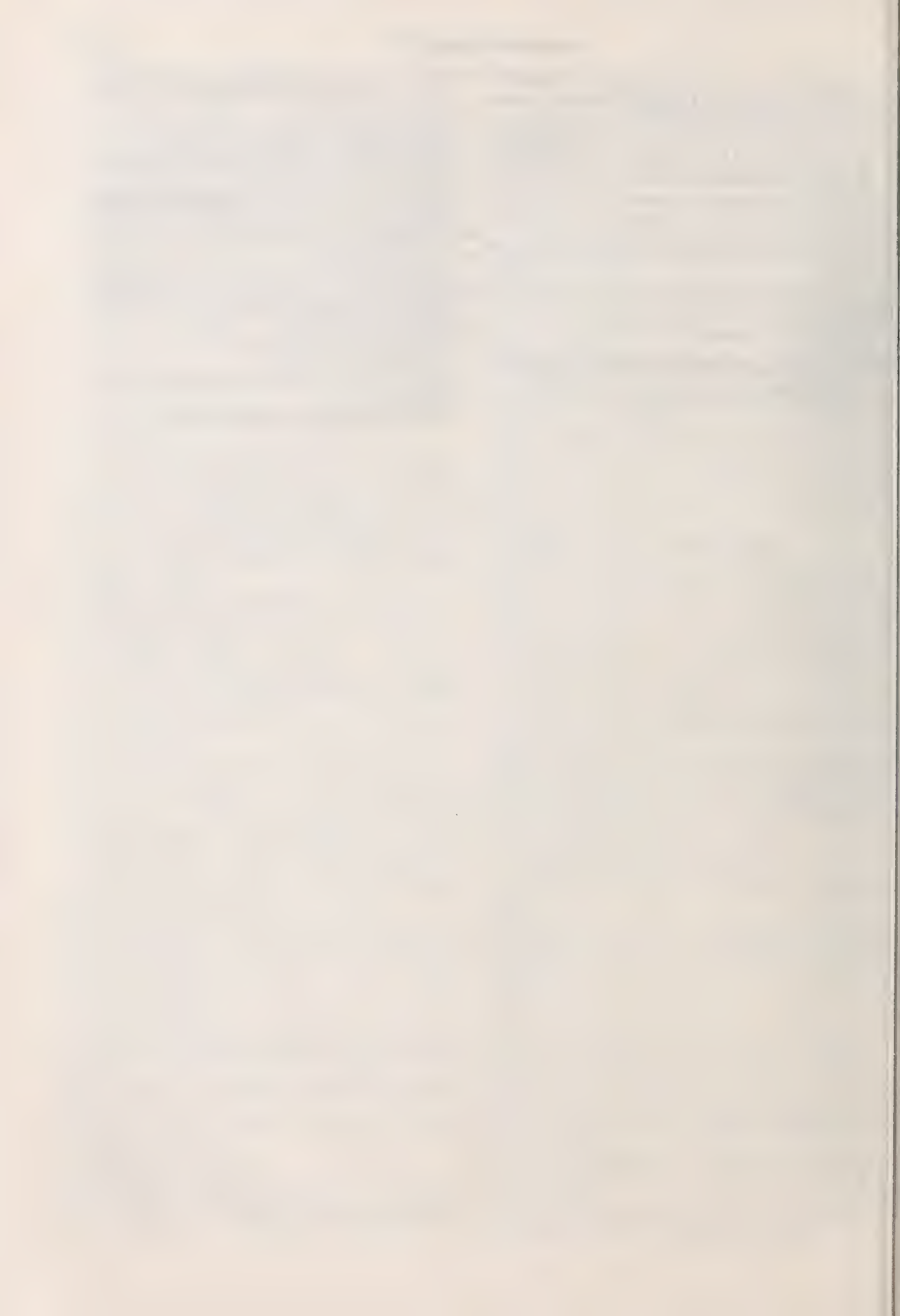


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- Anderson, Bruce W. Reflective hand signal for pedestrians. 195,749, 7-23-63, Cl. D72-1.
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- Anderson, Howard A., to Bissell Inc. Combination fluid dispenser and brush for cleaning upholstery or the like. 195,081, 4-23-63, Cl. D9-2.
- Anderson, Howard A., to Bissell Inc. Housing for a carpet sweeper. 196,035, 8-20-63, Cl. D9-2.
- Anderson, Howard A., to Bissell Inc. Dispensing applicator for cleaning upholstery. 196,707, 10-29-63, Cl. D9-2.
- Anderson, Howard A., to Bissell Inc. Carpet cleaner. 196,708, 10-29-63, Cl. D9-2.
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- Anderson, Lloyd E., Sr., to Pittsburgh-Des Moines Steel Co. Elevated storage tank. 197,265, 12-31-63, Cl. D91-1.
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- Anesi, Mario. Flycutter for cutting circles. 197,141, 12-17-63, Cl. D54-13.
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- Auwaerter, John F., H. Dreyfuss, and D. M. Genaro. Printing telegraph apparatus cabinet. 194,872, 3-26-63, Cl. D26-5.
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- Beals, Bradley A., R. J. Gormley, and J. Sucre, to Sperry Rand Corp. Combined computer control panel and printer. 196,644, 10-22-63, Cl. D26-5.
- Beals, Bradley A., R. J. Gormley, and J. Sucre, to Sperry Rand Corp. Computer keyboard. 196,652, 10-22-63, Cl. D26-5.
- Bear Brand Hosiery Co.: *See*—  
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- Beardmore, John E., to Karoll's, Inc. Combined mobile lounge chair and removable tray. 196,176, 9-3-63, Cl. D15-1.
- Beardsley, Melville W., P. W. Jackson, Jr., A. G. Anderson, and G. W. Gilbert, to National Research Associates, Inc. Air cushion vehicle. 196,283, 9-10-63, Cl. D71-1.
- Beattie, William S.: *See*—  
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- Beaumann, Raymond, to Ebauches S.A. Pill dispenser. 195,734, 7-23-63, Cl. D52-2.
- Becker, Frederick W., to Westinghouse Electric Corp. Combined fry pan and lid therefor. 196,130, 8-27-63, Cl. D44-1.
- Becker, Frederick W., to Westinghouse Electric Corp. Cooking vessel or the like. 196,131, 8-27-63, Cl. D44-1.
- Becker, Robert F., to Minneapolis Honeywell Regulator Co. Switch unit. 197,230, 12-31-63, Cl. D26-13.
- Beckman Instruments Inc.: *See*—  
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- Beckman, Ronald, and W. J. Cannan, to Herman Miller, Inc. Chair. 197,058, 12-10-63, Cl. D15-1.
- Beder, Samuel L. Dust pan. 194,509, 2-5-63, Cl. D44-18.
- Beekenkamp, Gerald, and D. G. King, to King Plastics Ltd. Telephone booth. 197,005, 12-3-63, Cl. D13-1.
- Beemak, Inc.: *See*—  
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- Behr, Walter, and H. Keitel, to Olympia Werke A.G. Printing machine. 195,624, 7-9-63, Cl. D26-5.
- Belnert, John D., to International Patent Research Corp. Lawn sprinkler. 195,078, 4-16-63, Cl. D91-1.
- Beinert, John D., to International Patent Research Corp. Combined and timer and regulator for fluids. 196,603, 10-15-63, Cl. D52-6.
- Beitscher, Henry. Wheeled jack for containerized freight. 197,225, 12-31-63, Cl. D14-3.
- Belejack, Stephen. Combined display and merchandising rack for packaged goods. 195,752, 7-23-63, Cl. D80-9.
- Belin, Juliette. Necklace or similar article. 196,933, 11-19-63, Cl. D45-16.
- Belknap, James R., to Beckman Instruments Inc. Mobile instrument console. 195,465, 6-18-63, Cl. D26-5.
- Bell Aerospace Corp.: *See*—  
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- Benert, William B., to Electro-Med, Inc. Cigarette vending machine. 194,757, 3-5-63, Cl. D52-3.
- Benjamin, E. Burton, to The Cornelius Co. Beverage dispensing valve or similar article. 194,389, 1-15-63, Cl. D2-3.
- Benjamin, E. Burton, to Northwest Automatic Products Corp. Beverage vending machine. 195,693, 7-16-63, Cl. D52-3.
- Benne, Leonard J., to American Greetings Corp. Display rack. 195,492, 6-18-63, Cl. D80-9.
- Benner-Nawman, Inc.: *See*—  
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- Benner, Paul B., D. C. Klingaman, and A. W. Sieving, to Caterpillar Tractor Co. Motor grader. 195,329, 6-4-63, Cl. D14-3.
- Bennett, Edward J., to Lily-Tulip Cup Corp. Dish. 194,621, 2-19-63, Cl. D44-10.
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- Bennett, Lester H., to G & B Mfg. Co., Inc. Evaporative air cooler. 195,440, 6-11-63, Cl. D62-4.
- Bennett, Richard E. Boat. 197,197, 12-24-63, Cl. D71-1.
- Benson, Arthur E., to United States Rubber Co. Tire. 196,700, 10-22-63, Cl. D90-20.
- Bentley, Clark E., and R. C. Montgomery. Novelty vest. 196,482, 10-8-63, Cl. D3-4.
- Bequette, James H., 40% to F. J. McWilliams, 20% to J. T. Cupples, 20% to M. L. Cervantes, and 20% to B. F. Davis. Garment drying cabinet. 197,085, 12-10-63, Cl. D49-1.
- Bergauer, George W. Sandwich server. 195,269, 5-21-63, Cl. D44-10.
- Berger, Bernard B., to National Steel Cabinet Co. Garden utility cart. 196,836, 11-12-63, Cl. D14-3.
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- Bergeron, Theodore, to T. J. Holmes Co., Inc. Atomizer top. 195,009, 4-9-63, Cl. D58-26.
- Bergeron, Victor J. Drinking mug. 195,045, 4-16-63, Cl. D44-9.
- Bergman, Jack, to Pennwood Numechron Co. Clock. 196,661, 10-22-63, Cl. D42-7.
- Bergstrom, Harold G., to Charles Beseler Co. Color photograph processing unit. 196,153, 8-27-63, Cl. D61-1.
- Berlant, George, to New Hermes Engraving Machine Corp. Bowling ball engraving machine. 194,721, 2-26-63, Cl. D64-11.
- Berlema, George H. Suction cleaner attachment for cleaning Venetian blinds or the like. 196,630, 10-22-63, Cl. D9-2.
- Berman, Jules, & Associates, Inc.: *See*—  
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- Berman, Maxwell, to Douglas Aircraft Co., Inc. Communication speaker for masks. 196,437, 10-1-63, Cl. D26-14.
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- Bernay, Josef J. Hanging receptacle for bath articles. 195,452, 6-18-63, Cl. D4-3.
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- Berry, R. G., Corp.: *See*—  
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- Berry, William S. Frame for a combined table and seat unit. 196,655, 10-22-63, Cl. D33-14.



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- Beseler, Charles, Co.: See—  
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- Best, Melvin H., and C. A. Samhammer, to The National Cash Register Co. Control console for a data processing system. 194,789, 3-12-63, Cl. D26—5.
- Best, Melvin H., and C. A. Samhammer, to Shwayder Brothers, Inc. Luggage case. 195,240, 5-14-63, Cl. D87—5.
- Best, Melvin H., M. C. Leinberger, and N. J. Schweitzer, to The National Cash Register Co. Magnetic data-storage strip canister. 197,064, 12-10-63, Cl. D26—5.
- Beth, Richard: See—  
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- Beth, Virginia, to R. and V. Beth, and J. and M. Glavich. Building. 195,764, 7-30-63, Cl. D13—1.
- Betts, Ralph P., to Matralin Co., Inc. Night table. 196,240, 9-10-63, Cl. D33—6.
- Betts, Ralph P., to Matralin Co., Inc. Dresser. 196,241, 9-10-63, Cl. D33—6.
- Betts, Ralph P., to Matralin Co., Inc. Dressing table. 196,242, 9-10-63, Cl. D33—6.
- Bevilacqua, Ernest M., A. T. Kostanecki, and E. Noyes, to General Electric Co. Facade of a compartmentalized housing for electric devices. 195,844, 8-6-63, Cl. D26—13.
- Bianco, Ernest E., and L. C. Leoni, deceased (B. B. Leoni, executrix), to General Electric Co. Electrical transformer. 195,975, 8-13-63, Cl. D26—15.
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- Bingham, George H., Jr., and O. Olson, to Cambridge Rubber Co. Shoe sole. 196,559, 10-15-63, Cl. D7—5.
- Binns, Thomas W., to Quaker Lace Co. Tablecloth. 194,385, 1-8-63, Cl. D92—26.
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- Blazey, Lawrence, to Nordson Corp. Combined housing and control panel for sprayer pumps and the like. 196,759, 10-29-63, Cl. D62—2.
- Blee, Robert W., and R. S. Paddy, to General Electric Co. Cooking oven or similar article. 195,610, 7-2-63, Cl. D81—4.
- Bloch, Roy W., to Magline, Inc. Loading ramp for vehicles and the like. 195,546, 7-2-63, Cl. D13—1.
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- Blommel Sign Co., The: See—  
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- Blum, Henry H., to General Electric Co. Control station cabinet. 196,303, 9-17-63, Cl. D26—5.
- Blum, Henry H., to General Electric Co. Electronic data collector cabinet. 196,645, 10-22-63, Cl. D26—5.
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- Blumenstein, Walter K., and A. David, to The Otto Konigsloew Mfg. Co. Ampoule applicator. 197,161, 12-17-63, Cl. D83—12.
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- Bodenger, Jacob. Case for a stethoscope chest piece or similar article. 197,041, 12-3-63, Cl. D83—12.
- Bodenheimer, Ted F., to Owens Plastics Co. Jug. 195,280, 5-21-63, Cl. D58—5.
- Boehler, Gabriel D., and W. F. Foshag. Amphibious ground effect machine. 195,490, 6-18-63, Cl. D71—1.
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- Boggild, Robert, and W. L. Dale. Slide projector or similar article. 194,443, 1-22-63, Cl. D61—1.
- Bohlin, Regis R., to Jennings Radio Mfg. Corp. Hermetically sealed electromagnetic relay. 196,301, 9-17-63, Cl. D26—1.
- Boldt, Melvin, to Moffats Ltd. Cooking stove. 195,235, 5-14-63, Cl. D81—4.
- Boldt, Melvin H., to Schick Inc. Electric shaver. 195,953, 8-13-63, Cl. D22—3.
- Boldt, Melvin H., to Zenith Radio Corp. Phonograph tone arm. 196,117, 8-27-63, Cl. D26—14.
- Boldt, Melvin H., to Zenith Radio Corp. Television remote control or similar article. 196,647, 10-22-63, Cl. D26—5.
- Boldt, Melvin H., to Automatic Canteen Co. of America. Phonograph cabinet. 197,089, 12-10-63, Cl. D56—4.
- Boldt, Melvin H., and T. H. Morrison. Beverage vending machine. 195,141, 4-30-63, Cl. D52—3.
- Bo'dt, Melvin H., and T. H. Morrison, to Automatic Canteen Co. of America. Food vending machine or similar article. 195,354, 6-4-63, Cl. D52—3.
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- Bordinat, Eugene, Jr., to Ford Motor Co. Lamp bezel for automobiles or the like. 194,511, 2-5-63, Cl. D48—32.
- Bordinat, Eugene, Jr., to Ford Motor Co. Automobile tonneau cover. 194,665, 2-26-63, Cl. D14—27.
- Bordinat, Eugene, Jr., to Ford Motor Co. Taillight unit for automobiles or the like. 195,224, 5-14-63, Cl. D48—32.
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- Borg-Erickson Corp.: See—  
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- Borgman, Arthur C., to The Patent Scaffolding Co., Inc. Walkway frame. 196,877, 11-12-63, Cl. D54—1.
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- Bostrom, John D., to Poster Packaging, Inc. Packaging container. 195,601, 7-2-63, Cl. D58—11.
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- Bostrom, John D., to Poster Packaging, Inc. Packaging container. 196,537, 10-8-63, Cl. D58—12.6.
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- Bozarth, Charles E., to General Electric Co. 120 column printer enclosure. 195,203, 5-14-63, Cl. D26—5.



- Bozarth, Charles E., to General Electric Co. Computer electronics rack. 196,302, 9-17-63, Cl. D26-5.
- Bozarth, Charles E., to General Electric Co. Computer electronics rack. 196,352, 9-17-63, Cl. D26-5.
- Bradbury, James W., to Forward Corp. Flexible drive shaft for manicuring tools and the like. 195,595, 7-2-63, Cl. D55-1.
- Branch, Harold, and R. H. Horton, to National Research Associates, Inc. Air cushion boat. 195,921, 8-6-63, Cl. D71-1.
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- Brassaw, Alden J.: See—  
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- Braun, David H., to All-Tech Industries, Inc. Game target unit. 195,308, 5-28-63, Cl. D34-5.
- Braun, David H., and H. J. Mabs, to All-Tech Industries, Inc. Amusement vehicle apparatus. 195,680, 7-16-63, Cl. D34-15.
- Braun, Samuel, to B.C.N. Design Products Inc. Display box for an electric razor or the like. 196,327, 9-17-63, Cl. D58-12.6.
- Braun, Samuel, to B.C.N. Design Products Inc. Display box for an electric razor or the like. 196,328, 9-17-63, Cl. D58-12.6.
- Bravo, Joel W., to General Aniline & Film Corp. Photographic printing apparatus. 195,437, 6-11-63, Cl. D61-1.
- Bravo, Joel W., to General Aniline & Film Corp. Overhead projector. 195,911, 8-6-63, Cl. D61-1.
- Bravo, Joel W., to General Aniline & Film Corp. Image projector. 196,395, 9-24-63, Cl. D61-1.
- Bredon, Pat M. Rotary toothbrush. 196,631, 10-22-63, Cl. D9-2.
- Bredon, Pat M. Pair of eyeglasses. 197,090, 12-10-63, Cl. D57-1.
- Breed, Arie E., and B. W. Gustafson, to Deere & Co. Swath fluffer for hay and like crops. 195,863, 8-6-63, Cl. D40-1.
- Breek, Charles P., and E. H. McCauley. Document sorter cabinet. 194,605, 2-19-63, Cl. D26-5.
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- Bren, Joseph R. Television program reminder system board. 194,975, 4-9-63, Cl. D25-1.
- Bretford Mfg., Inc.: See—  
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- Bridges, De Warren. Multi-beam lamp. 196,803, 11-5-63, Cl. D48-20.
- Briese, John E. Novelty hat. 195,813, 8-6-63, Cl. D3-13.
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- Brighton, John C. Refuse holder. 197,007, 12-3-63, Cl. D14-3.
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- Brinkman, Margaret C. Replacement spout for teapots or the like. 195,729, 7-23-63, Cl. D44-26.
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- Brock, Elmer B. Flower pot. 195,136, 4-30-63, Cl. D35-3.
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- Brock, Kenneth E., to American Mat Corp. Link type floor mat. 194,905, 4-2-63, Cl. D9-6.
- Brock, Kenneth E., to American Mat Corp. Link type floor mat. 194,906, 4-2-63, Cl. D9-6.
- Brockman, Karl V., to Stark Ceramics, Inc. Wall block. 195,334, 6-4-63, Cl. D18-2.
- Bro-Dart Industries, Inc.: See—  
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- Broder, Leonard. Plug tap. 194,909, 4-2-63, Cl. D26-1.
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- Brody, Harvey, to Norvay, Inc. Dispenser for oil or the like. 196,816, 11-5-63, Cl. D58-17.
- Brody, Philip M.: See—  
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- Brody, Philip M., and F. H. Rahr, to Wood Conversion Co. Tile or similar article. 194,462, 1-29-63, Cl. D18-2.
- Brody, Philip M., and F. H. Rahr, to Wood Conversion Co. Tile or similar article. 194,598, 2-19-63, Cl. D18-2.
- Broeren, Frank L., C. S. Cole, E. A. Filipowicz, and D. G. Hope, to American Can Co. Dispenser for folded paper napkins. 195,096, 4-23-63, Cl. D52-2.
- Broeren, Frank L., C. S. Cole, E. A. Filipowicz, and D. G. Hope, to American Can Co. Dispenser for folded paper napkins. 195,097, 4-23-63, Cl. D52-2.
- Broeren, Frank L., C. S. Cole, E. A. Filipowicz, and D. G. Hope, to American Can Co. Dispenser for folded paper napkins. 195,098, 4-23-63, Cl. D52-2.
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- Broun, Morrison J., to Otis Elevator Co. Elevator car. 195,117, 4-30-63, Cl. D13-1.
- Broun, Morrison J., to Otis Elevator Co. Decorative panel. 195,399, 6-11-63, Cl. D13-1.
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- Brown, Harry W., and R. C. Ingels, to Cutler-Hammer, Inc. Depressible trigger actuator for a reversible electric switch. 195,510, 6-25-63, Cl. D26-13.
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- Fadow, Paul D. Automobile disk wheel. 196,042, 8-20-63, Cl. D14-30.
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- Fogerty, James P., A. Spaak, F. W. Stevens, and I. H. Miller; said Fogerty, Spaak, and Stevens assors, to W. R. Grace & Co., and said Miller assor, to Owens-Illinois Glass Co. Crate for bottles. 194,999, 4-9-63, Cl. D58-5.
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- Frank, Heinrich H., to The Ridge Tool Co. Tube holder for soldering and the like. 196,675, 10-22-63, Cl. D54-1.
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- Gacki, Leonard W., to Medical Metals Inc. Film processing tank. 196,460, 10-1-63, Cl. D61-1.
- Gacki, Leonard W. Silver recovery unit for the retrieval of silver from hypo solutions. 196,794, 11-5-63, Cl. D16-2.
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- Gandelman, Morris D., to Jacques Kreiser Mfg. Corp. Watch bracelet or similar article. 196,932, 11-19-63, Cl. D45-4.
- Ganick, William H., to Keyes Fibre Co. Plate or similar article. 196,599, 10-15-63, Cl. D44-15.
- Gant, Charles A. Combination sugar packet dispenser, condiment and flower holder. 195,270, 5-21-63, Cl. D44-24.
- Gantenbrink, Heinrich, to Prescolite Mfg. Corp. Lighting fixture diffuser. 195,051, 4-16-63, Cl. D48-16.
- Gantenbrink, Heinrich, to Prescolite Mfg. Corp. Lighting fixture diffuser. 195,274, 5-21-63, Cl. D48-16.
- Gantenbrink, Heinrich, to Prescolite Mfg. Corp. Lighting fixture diffuser. 196,260, 9-10-63, Cl. D48-16.
- Ganzel, Charles, and W. H. Ransone, to William H. Ransone, Inc. Hydro-pneumatic gun or the like. 196,461, 10-1-63, Cl. D62-2.



- Garcia, Philip, to General Motors Corp. Wheel cover. 196,785, 11-5-63, Cl. D14-30.
- Gardner, James M. Blower casing. 196,341, 9-17-63, Cl. D62-2.
- Gardner Laboratory, Inc.: *See*—
- Cattaro, Matthew A., Gibson, and Giovannoni. 195,054.
- Garfinkle, Marvin E. Mobile serving unit. 195,121, 4-30-63, Cl. D14-3.
- Garnell, Lloyd L.: *See*—
- Dwyer, Anthony A., Garnell, McClay, and Sealock. 196,252-59.
- Garner, Auburn T. Desk tray. 196,890, 11-12-63, Cl. D74-1.
- Garraffa, Jerome, to Winston Pipe & Tobacco, Inc. Smoking pipe. 196,952, 11-19-63, Cl. D85-8.
- Garrett Tubular Products, Inc.: *See*—
- Herbolsheimer, Bruce E. 196,570.
- Garvey, Leo J. Jug. 195,896, 8-6-63, Cl. D58-5.
- Gaspar, Mitchell. Tray for syringes. 194,418, 1-15-63, Cl. D83-1.
- Gaustad, Carl G. Toy jumping horse. 195,039, 4-16-63, Cl. D34-5.
- Gaylord Bros., Inc.: *See*—
- Cleminshaw, Douglas R., and Urion. 196,843.
- Geddes, Robert A. Combined scraper and brush for aluminum sash and frames or the like. 197,116, 12-17-63, Cl. D9-6.
- Gehrie, Charles S., to Presto Lock Co. Luggage lock or similar article. 194,552, 2-12-63, Cl. D50-7.
- Gehrie, Charles S., to Presto Lock Co. Luggage lock or similar article. 195,993, 8-13-63, Cl. D50-7.
- Gehrie, Charles S., to Presto Lock Co. Brief case lock or similar article. 197,139, 12-17-63, Cl. D50-7.
- Gehrs, Stephen W. Medicine cabinet or similar article. 196,557, 10-15-63, Cl. D4-3.
- Geisen, John R. Electric service box or the like. 195,338, 6-4-63, Cl. D26-13.
- Geisler, Fred J. Combined point stirrer and pry bar. 195,362, 6-4-63, Cl. D54-13.
- Gelles, Daniel E. Garment display stand. 195,184, 5-7-63, Cl. D80-8.
- Gelles, Daniel E. Clothing display rack or similar article. 196,346, 9-17-63, Cl. D80-8.
- Gelles, Daniel E. Clothing display rack or similar article. 196,347, 9-17-63, Cl. D80-8.
- Gelles, Daniel E. Display stand for shirts or the like. 196,624, 10-15-63, Cl. D80-9.
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- Auwaerter, John F., Dreyfuss, and Genaro. 194,872.
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- Flynn, Frank M. 195,100.
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- Blee, Robert W., and Faigy. 195,610.
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- Genin, Robert I., and L. S. Wirth, to Child Guidance Toys, Inc. Toy railroad water tower. 195,041, 4-16-63, Cl. D34-15.
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- Gerber, Gary A., to American Machine & Foundry Co. Bottle. 196,147, 8-27-63, Cl. D58-6.
- Gerber, William C. Rear floor mat for automobiles, and the like. 194,347, 1-8-63, Cl. D9-6.
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- Gershun, Merton L., to American Furniture Co., Inc. Combined bench, vanity desk and chest unit. 194,685, 2-26-63, Cl. D33-7.
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- Godfrey, James H., and R. H. Russell. Portable power saw. 194,736, 2-26-63, Cl. D93-3.
- Godfrey, James H., R. H. Russell, and C. R. Tyke, to The Stanley Works. Hand drill. 197,142, 12-17-63, Cl. D54-14.
- Goguen, Donald J., and J. J. Coleman, to C. L. Berger & Sons, Inc. Shaft aligner. 197,140, 12-17-63, Cl. D52-1.
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- Goldberger, Paul. Lappet woven textile fabric. 194,903, 3-26-63, Cl. D92-1.
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- Goldsmith, Willis H. Combined calendar-nameplate and pad holder. 194,411, 1-15-63, Cl. D74-5.
- Goldstein, Jacob, to Murray Mfg. Corp. Electric control panelboards or similar article. 196,977, 11-26-63, Cl. D26-13.
- Goldtrap, Charley L., to Twentieth Century Products Corp. Toilet tank ballcock. 195,807, 7-30-63, Cl. D91-3.
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- Goodman, Charles M., to Reynolds Metals Co. Decorative screen or the like. 195,144, 4-30-63, Cl. D54-2.
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- Goodrich, Eugene E., and J. R. Mango, to Bastion-Blessing Co. Refrigerated display case for prepared foods or the like. 195,446, 6-11-63, Cl. D80-11.
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- Gordon, James. Edible serving spoon. 194,780, 3-12-63, Cl. D8-1.
- Gordon, James. Edible serving spoon. 195,498, 6-25-63, Cl. D8-1.
- Gordon, James C., and T. A. Dobson, to The Seeburg Corp. Automatic phonograph. 194,485, 1-29-63, Cl. D56-4.
- Gorman, D. Y.: See—  
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- Gotham Industries, Inc.: See—  
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- Gottsegen, Marten, to Gotham Industries, Inc. Compartmented tray or the like. 194,474, 1-29-63, Cl. D44-10.
- Gottsegen, Marten, to Gotham Industries, Inc. Ice bucket or the like. 194,475, 1-29-63, Cl. D44-15.
- Gottsegen, Marten, to Gotham Industries, Inc. Ice bucket or the like. 194,476, 1-29-63, Cl. D44-15.



- Gottsegen, Marten, to Gotham Industries, Inc. Ice bucket or the like. 194,477, 1-29-63, Cl. D44-15.
- Gottsegen, Marten, to Gotham Industries, Inc. Ice bucket or the like. 195,637, 7-9-63, Cl. D44-15.
- Gottsegen, Marten, to Gotham Industries, Inc. Insulated food and beverage container. 195,700, 7-16-63, Cl. D58-17.
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- Gould, Glenn E., to William M. Wilson's Sons, Inc. Metering pump. 194,643, 2-19-63, Cl. D65-1.
- Gould, Harry H., to Shuko Shoe Corp. Shoe. 195,758, 7-30-63, Cl. D7-7.
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- Graham, Luell M., to Bell Aerospace Corp. Aircraft. 196,763, 10-29-63, Cl. D71-1.
- Grahn, Arne Y., to The Poly Choke Co., Inc. Ventilated gun sight rib. 195,340, 6-4-63, Cl. D30-1.
- Gran, Carl A., to Magi-Pak Corp. Dispensing container for liquids. 196,272, 9-10-63, Cl. D58-17.
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- Graser, Clarence F., W. F. Kraus, and W. S. Sheppley, Jr., to International Business Machines Corp. Data processing system operator's station. 194,845, 3-19-63, Cl. D26-5.
- Graser, Clarence F., W. F. Kraus, E. J. Sabella, and J. F. Talerico, to International Business Machine Corp. Cabinet for a tape drive. 196,646, 10-22-63, Cl. D26-5.
- Grasty, William P., to Abbott Laboratories. Bottle. 195,738, 7-23-63, Cl. D58-6.
- Graves, Howard K. Document reproducing apparatus. 194,815, 3-12-63, Cl. D61-1.
- Graybar, Sidney H., and I. Miller. House. 196,496, 10-8-63, Cl. D13-1.
- Grayson, Jack M. Convertible table, bench, bed platform and chest unit. 194,849, 3-19-63, Cl. D33-14.
- Graziano, Joseph C. Display case or similar article. 195,389, 6-4-63, Cl. D80-11.
- Greasley, Eric A., to Pressac Ltd. Lamp holder. 196,177, 9-3-63, Cl. D26-1.
- Greasley, Eric A., to Pressac Ltd. Lamp holder. 196,178, 9-3-63, Cl. D26-1.
- Greeman, Edward A., Bickler, and J. Sherman. Back scratcher. 194,337, 1-1-63, Cl. D86-10.
- Green, Donald E. Chest or similar article. 194,751, 3-5-63, Cl. D33-19.
- Green, Homer T., to The Parker Pen Co. Fountain pen nib. 195,385, 6-4-63, Cl. D74-17.
- Green, Homer T., to The Parker Pen Co. Writing instrument ink cartridge. 196,993, 11-26-63, Cl. D74-17.
- Green, James W., Jr., to The Eastern Co. Fire alarm signal or similar article. 194,738, 3-5-63, Cl. D7-1.
- Green, John R., Jr. Golf club head. 195,135, 4-30-63, Cl. D34-5.
- Green, Lawrence L. Casket hardware member. 194,534, 2-12-63, Cl. D19-2.
- Greenberg, Leonard E., to Coleco Industries, Inc. Play pool or similar article. 195,175, 5-7-63, Cl. D34-5.
- Greene, Robert L., to Beckman Instruments, Inc. Electrode holder. 196,643, 10-22-63, Cl. D26-1.
- Greene, William E.: *See*—  
De Muth, Quentin D., and Greene. 194,399.
- Greenwell, Joseph L., to American Cellular Corp. Jug. 195,596, 7-2-63, Cl. D58-5.
- Greiser, Olga M. Artificial Christmas tree. 195,847, 8-6-63, Cl. D29-1.
- Greisch, Fred, Mfg. Co., The: *See*—  
Webster, James D. 196,609.  
Webster, James D. 196,678.
- Griffith, Vernon D. Nail polish applicator. 196,022, 8-13-63, Cl. D86-10.
- Griffith, Vernon D., and J. Bruns, 1/2 to F. E. and B. Bonner. Rain cape. 196,096, 8-27-63, Cl. D3-3.
- Griff's of America, Inc.: *See*—  
Fellers, Robert L. 195,503.
- Grinnell Corp.: *See*—  
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- Griparris, Andrew G. Water ski tow hitch. 195,068, 4-16-63, Cl. D71-1.
- Grise, Frederick G. J., to Electric Spoon, Inc. Portable electric food mixer. 195,422, 6-11-63, Cl. D44-1.
- Grise, Frederick G. J., and W. C. Lovell, to Electric Spoon, Inc. Portable electric food mixer. 194,984, 4-9-63, Cl. D44-1.
- Grise, Lionel, Jr., to Electric Spoon, Inc. Portable electric food mixer. 194,620, 2-19-63, Cl. D44-1.
- Grise, Lionel, Jr., to Electric Spoon, Inc. Portable electric food mixer. 195,423, 6-11-63, Cl. D44-1.
- Grogel, Merrill A., to Reynolds Metals Co. Tray or the like. 195,682, 7-16-63, Cl. D44-10.
- Groscher, Nathan, to Lindy Pen Co., Inc. Merchandise display fixture. 195,753, 7-23-63, Cl. D80-10.
- Gross, Angus R., Jr. Combined water strainer and sea valve. 194,654, 2-19-63, Cl. D91-1.
- Grove, Marvin H. Completion valve. 195,444, 6-11-63, Cl. D78-1.
- Grove Valve and Regulator Co.: *See*—  
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- Grover, Lee B. Weeding tool. 194,923, 4-2-63, Cl. D35-2.
- Grow, Harry N., and R. G. Rohde, to Hamilton Mfg. Co. Student drafting table. 195,036, 4-16-63, Cl. D33-14.
- Grow-Rite Corp.: *See*—  
De Vos, Marcel O. 194,668.
- Grube, Friedrich O.: *See*—  
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- Grube, Wilhelm K. F. and F. O., to Kaweco Badische Fullfederfabrik Friedrich Grube. Fountain pen or the like. 194,412, 1-15-63, Cl. D74-17.
- Grudski, Daniel P. Play tower. 196,735, 10-29-63, Cl. D34-5.
- Grushon, Elwood W. Combined cigarette lighter holder and pen holder stand. 194,894, 3-26-63, Cl. D74-6.
- Grushon, Elwood W. Combined pocket lighter, level and compass. 196,934, 11-19-63, Cl. D48-27.
- Guadagnini, Frank E., J. W. Patierno, H. Asdurian, D. M. Heize, and E. J. Schwarz, to Northrop Corp. Airplane. 195,014, 4-9-63, Cl. D71-1.
- Guagliardo, Sam. Dwelling. 194,453, 1-29-63, Cl. D13-1.
- Guerlain, Inc.: *See*—  
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- Guerlain, Jean-Jacques, to Guerlain, Inc. Bottle. 195,281, 5-21-63, Cl. D58-8.
- Gugelot, Hans, and H. Sukopp, to Lumoprint Zindler KG. Copying machine. 197,096, 12-10-63, Cl. D61-1.
- Guild, Lurelle V. A., R. A. W. Johanson, and R. C. Lampe, to Electrolux Corp. Vacuum cleaner or similar article. 194,781, 3-12-63, Cl. D9-2.
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- Gulf States Paper Corp.: *See*—  
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- Gulotta, Gerald D., and G. Goda, to Clay-Adams, Inc. Combined incubator and illuminator for test tubes and rack for pipettes. 195,027, 4-16-63, Cl. D16-2.
- Gunkel, Frederick H.: *See*—  
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- Gunter, Curtis, to Austen Display, Inc. Star or similar article. 195,131, 4-30-63, Cl. D29-1.
- Gunter, Curtis, to Austen Display, Inc. Decorative star ornament or similar article. 196,516, 10-8-63, Cl. D29-1.
- Guss, Louis. Support for urine specimen container, or similar article. 194,965, 4-2-63, Cl. D83-1.
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- Gustine, Charles W.: *See*—  
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- Gutridge, Jack E., to Pullman Inc. Center beam for a railway vehicle. 197,195, 12-24-63, Cl. D66-3.
- Habelquist, John L., to Traub Mfg. Co. Interlocking finger ring set. 195,691, 7-16-63, Cl. D45-10.
- Habich, Adolph B., to Detrex Chemical Industries, Inc. Dry cleaning machine. 195,478, 6-18-63, Cl. D49-1.
- Hackathorn, Robert A., and R. M. Lytle, to Crawford Door Co. Garage door or similar article. 196,360, 9-24-63, Cl. D13-1.
- Hackney, Harold B., and B. Harkins, to Automatic Tripod, Inc. Lamp base. 197,081, 12-10-63, Cl. D48-20.
- Hackney, James K., Jr., to Ampex Corp. Portable tape recorder. 195,512, 6-25-63, Cl. D26-14.
- Hadley, Brice G. Combined trophy and clock. 195,982, 8-13-63, Cl. D42-7.
- Hadley, George. Staircase railing. 194,392, 1-15-63, Cl. D13-7.
- Haeger Potteries, Inc., The: *See*—  
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- Haga, Henry G., to General Motors Corp. Wheel cover. 196,786, 11-5-63, Cl. D14-30.
- Hahn, Inc.: *See*—  
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- Haimson, Jacob, and R. E. Haynes, to Varian Associates. Linear accelerator for cancer radiotherapy or the like. 195,237, 5-14-63, Cl. D83-1.
- Hain, George W., to Lyon Inc. Sink. 195,113, 4-30-63, Cl. D4-2.
- Hajek, Elmer T. Fishing lure. 195,777, 7-30-63, Cl. D31-4.
- Halaby, Samuel A., to Samuel Halaby, Inc. Sprayer for insecticides or the like. 195,977, 8-13-63, Cl. D31-3.
- Halaby, Samuel, Inc.: *See*—  
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- Haldeman, Donald F., and C. A. Stone. Letter opener. 194,859, 3-19-63, Cl. D74-1.
- Hale, Thomas K., to Robertshaw-Fulton Controls Co. Thermostat. 195,143, 4-30-63, Cl. D52-7.
- Hall, Richard B.: *See*—  
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- Hall, Richard B., to Diminon Electric Corp. Manicuring case. 196,771, 10-29-63, Cl. 86-10.



- Haller, Herbert C. Winding reel. 194,753, 3-5-63, Cl. D41-1.
- Hallock, Edward C. Spacing unit for a grille. 195,481, 6-18-63, Cl. D54-2.
- Hallock, Edward C. Grille. 195,482, 6-18-63, Cl. D54-2.
- Hallock, Edward C. Grille. 195,483, 6-18-63, Cl. D54-2.
- Halloran, Fred J. Open cutting die for making shoe parts. 196,197, 9-3-63, Cl. D54-4.
- Halpern, Irving J., and H. W. Stan, to J. Halpern Co. Toy gun or the like. 196,246, 9-10-63, Cl. D34-15.
- Halpern, J. Co.: See—
- Halpern, Irving J., and Stan. 196,246.
- Halvorson, Kaari M. Magnet-supported deodorant casing. 196,907, 11-19-63, Cl. D16-2.
- Hamernick, Vincent. Knife holder. 196,250, 9-10-63, Cl. D44-29.
- Hamill, Peter J., and R. A. Ferguson. Emergency switch plate cover. 195,031, 4-16-63, Cl. D26-13.
- Hamilton, Allen B., and C. G. Thoresen, to Consolidated Vacuum Corp. Ultra high vacuum pump for laboratories or the like. 195,154, 4-30-63, Cl. D65-1.
- Hamilton Cosco, Inc.: See—
- Hamilton, Earl F. 194,686.
- Hamilton, Earl F., and Lay. 194,669.
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- Hamilton, Earl F., and Lay. 195,672.
- Hamilton, Earl F., to Hamilton Cosco, Inc. Cart. 194,686, 2-26-63, Cl. D33-14.
- Hamilton, Earl F., and R. B. Lay, to Hamilton Cosco, Inc. Infant's chair. 194,669, 2-26-63, Cl. D15-1.
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- Hamilton, Earl F., and R. B. Lay, to Hamilton Cosco, Inc. Infant's chair. 194,671, 2-26-63, Cl. D15-1.
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- Hammer, Hlema C. Illuminable sign. 197,206, 12-31-63, Cl. D1-12.
- Hammes, Josef J., to B. W. Lowell. Cover plate for a combination loud speaker, ventilator, and lighting fixture. 196,618, 10-15-63, Cl. D62-4.
- Hammes, Josef J., and D. F. Loscalzo, to Lowell Mfg. Co. Loud speaker baffle. 196,587, 10-15-63, Cl. D26-14.
- Hammond, John M.: See—
- Gerd, Donald A., and Hammond. 196,233.
- Hammond Machinery Builders, Inc.: See—
- Robischung, Phillip J. 196,126.
- Hamp, Jan, and Z. Sekora, to Meopta Národní Podnik. Motion picture camera with reversible body. 196,758, 10-29-63, Cl. D61-1.
- Hampton, John T. Prefabricated fence panel. 194,396, 1-15-63, Cl. D28-1.
- Hampton, John T. Prefabricated fence panel. 195,130, 4-30-63, Cl. D28-1.
- Handley Industries, Inc.: See—
- Whitman, Robert L. 194,434.
- Hanger, Randolph T. Fireplace stove. 194,964, 4-2-63, Cl. D81-7.
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- Duedtke, Eugene R. 195,914.
- Hanna, Robert L. Pedal driven toy vehicle. 196,125, 8-27-63, Cl. D34-15.
- Hannan, Robert F., to Mohawk Brush Co. Brush. 196,706, 10-29-63, Cl. D9-2.
- Hannon, William J., Jr., to The Macbick Co. Combined cabinet and work table for packaging surgical gloves. 195,947, 8-13-63, Cl. D16-2.
- Hannula, Leslie A., M. B. Schaffer, and E. S. Ertl, to Acoustics Development Corp. Telephone booth. 196,497, 10-8-63, Cl. D13-1.
- Hansen, Christie L. Fishing float. 195,776, 7-30-63, Cl. D31-4.
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- Quinn, Peter T., and Hansen. 194,958.
- Hansen, David E., to Eastman Kodak Co. Motion picture camera. 194,957, 4-2-63, Cl. D61-1.
- Hansen, David E., to Eastman Kodak Co. Flash holder. 196,083, 8-20-63, Cl. D61-1.
- Hansen, Douglas B. Can holder or the like. 194,364, 1-8-63, Cl. D44-21.
- Hansmann, Arthur J. Breezeway wall unit. 195,671, 7-16-63, Cl. D13-1.
- Hanson, Arnold E. Combined tissue dispenser and litter container. 194,563, 2-12-63, Cl. D58-17.
- Hanson, Arnold E. Combined tissue dispenser and litter container. 196,331, 9-17-63, Cl. D58-17.
- Hanson, Arnold E. Combined tissue dispenser and litter container. 196,333, 9-17-63, Cl. D58-17.
- Hanson, Roy W. Heater grill. 196,768, 10-29-63, Cl. D81-21.
- Harbers, Henry C., to Western Unit Corp. Fifth wheel unit. 196,572, 10-15-63, Cl. D14-6.
- Hardaker, John C. K., to The General Electric Co. Ltd. Electric toaster. 197,160, 12-17-63, Cl. D81-10.
- Hargus, Arthur C. Fishing hook dislodger. 196,179, 9-3-63, Cl. D31-4.
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- Harman, Emil I., to Philco Corp. Television receiver. 194,763, 3-5-63, Cl. D56-4.
- Harman, Emil I., to Philco Corp. Television receiver. 194,955, 4-2-63, Cl. D56-4.
- Harmsen, William D., to Jolly Rancher Sales Co. Combined luggage carrier and boat. 194,532, 2-12-63, Cl. D14-27.
- Harned, Malcolm S., and K. B. Amer, to Hughes Tool Co. Rotary-winged aircraft. 194,892, 3-26-63, Cl. D71-1.
- Harned, Malcolm S., and K. B. Amer, to Hughes Tool Co. Rotary-winged aircraft. 197,039, 12-3-63, Cl. D71-1.
- Harper, David. Hat rack cabinet. 195,726, 7-23-63, Cl. D33-19.
- Harris, Arthur H., and A. H. Watson, to Redland Tiles Ltd. Roofing tile. 195,919, 8-6-63, Cl. D68-1.
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- Harris, Joseph M. Combined portable seat and camera support. 194,593, 2-19-63, Cl. D15-8.
- Harris, William C., to S. C. Johnson & Son, Inc. Spreader for pulverulent material. 197,077, 12-10-63, Cl. D35-2.
- Harrison, Dwight A. Drive-in retail building. 195,765, 7-30-63, Cl. D13-1.
- Harrison, Mark. Blade for an aerator tool or the like. 195,042, 4-16-63, Cl. D35-2.
- Harrison, Paul H., and N. E. Roe, to Robertshaw Controls Co. Thermostat control case. 196,383, 9-24-63, Cl. D52-6.
- Harrison, Paul H., and N. E. Roe, to Robertshaw Controls Co. Thermostat control case. 197,250, 12-31-63, Cl. D52-6.
- Hart, Richard T., to Midwestern Instruments, Inc. Instrument panel for an oscillograph. 195,210, 5-14-63, Cl. D26-14.
- Hartley, Newell D. Bank. 196,659, 10-22-63, Cl. D34-11.
- Hartman, John H., to Texagon Mills Inc. Lace. 196,742, 10-29-63, Cl. D47-6.
- Hartman, Thomas A. Aircraft fuselage. 197,156, 12-17-63, Cl. D71-1.
- Harty, Millard F., Jr., and S. E. Thorwaldsen, to Weyerhaeuser Co. Brief case. 194,338, 1-1-63, Cl. D87-5.
- Harty, Millard F., Jr., and S. E. Thorwaldsen, to Weyerhaeuser Co. Luggage case or similar article. 194,339, 1-1-63, Cl. D87-5.
- Harwell, William E. Combined can punch and bottle opener. 196,061, 8-20-63, Cl. D44-29.
- Hattenhauer, Albert W., to Standard Fire Hose Co. Combined frame and door for a recessed fire extinguisher cabinet. 195,332, 6-4-63, Cl. D16-2.
- Haubert, Wayne, to The Mexico Forge, Inc. Playground climber. 195,633, 7-9-63, Cl. D34-5.
- Hauer, Erwin F. Architectural wall. 194,583, 2-19-63, Cl. D13-1.
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- Hawes, Richard S., III, and F. L. Hawes. Paneling for lighting fixtures. 195,427, 6-11-63, Cl. D48-16.
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- Hill, Edward J. Tube adapter for nasal intubation. 194,729, 2-26-63, Cl. D83-1.
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- Hill, Edward J. Urinal unit for incontinent females. 196-473, 10-1-63, Cl. D83-1.
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- Hines, Thomas F., to Brucof Co. Tray for beverage ingredient dispensing machine. 196,376, 9-24-63, Cl. D44-10.
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- Hirashiki, James, to Universe Products Co. Foldable traversing screen. 195,055, 4-16-63, Cl. D54-2.
- Hirashiki, James, to Universe Products Co. Foldable traversing screen. 195,056, 4-16-63, Cl. D54-2.
- Hirashiki, James, to Universe Products Co. Foldable traversing screen. 195,057, 4-16-63, Cl. D54-2.
- Hirashiki, James, to Universe Products Co. Foldable traversing screen. 195,058, 4-16-63, Cl. D54-2.
- Hirashiki, James, to Universe Products Co. Foldable traversing screen. 195,059, 4-16-63, Cl. D54-2.
- Hirashiki, James, to Universe Products Co. Foldable traversing screen. 195,060, 4-16-63, Cl. D54-2.
- Hirashiki, James, to Universe Products Co. Foldable traversing screen. 195,646, 7-9-63, Cl. D54-2.
- Hirt, Edwin R., to Food Systems, Inc. Tool for handling eggs and similar articles. 196,607, 10-15-63, Cl. D54-13.
- His Lordship Products Co.: *See*—  
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- Hisky, Rudolph E., to American Electric Mfg. Corp. Street luminaire. 194,991, 4-9-63, Cl. D48-31.
- Hisky, Rudolph E., to American Electric Mfg. Corp. Street luminaire. 195,094, 4-23-63, Cl. D48-31.
- Hittle, Francis F. Brake drum gage. 194,371, 1-8-63, Cl. D52-6.
- Hobart Mfg. Co., The: *See*—  
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- Hockery, John C.: *See*—  
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- Hockery, John C., % Rival Mfg. Co.: *See*—  
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- Hockett, William L.: *See*—  
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- Hodgman, Clare E., to General Aniline & Film Corp. Photographic projector. 194,442, 1-22-63, Cl. D61-1.
- Hodgman, Clare E., to The Coca-Cola Co. Beverage dispenser. 195,810, 8-6-63, Cl. D2-3.
- Hodgman, Clare E., to The Coca-Cola Co. Beverage dispenser. 195,811, 8-6-63, Cl. D2-3.
- Hodgman, Clare E., to General Aniline & Film Corp. Motion picture camera. 196,009, 8-13-63, Cl. D61-1.
- Hoff, Harry W., to Ametek, Inc. Pressure gauge. 196,808, 11-5-63, Cl. D52-6.
- Hoffenberg, Abe: *See*—  
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- Hoffinger, Martin. Water filter unit for swimming pools or the like. 194,861, 3-19-63, Cl. D91-1.
- Hoffman, John E.: *See*—  
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- Hoffman, Marvin. Coin bank. 195,858, 8-6-63, Cl. D34-11.
- Hoffman, Norman E., to AMP Inc. Electrical connector housing. 197,009, 12-3-63, Cl. D26-1.
- Hoffman, Otis E., to Brandt Automatic Cashier Co. Coin dispensing machine or similar article. 195,277, 5-21-63, Cl. D52-4.
- Hoffmann, Barbara J.: *See*—  
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- Hoffmann, Philip D. and B. J. Wall hanging lamp. 195,987, 8-13-63, Cl. D48-4.
- Hogberg, John R. Burial vault cover. 194,676, 2-26-63, Cl. D19-1.
- Hoge, Ralph O., to Hydro-Coil, Inc. Gun stock. 196,304, 9-17-63, Cl. D30-1.
- Hogendobler, Richard S.: *See*—  
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- Hohmann, Albert, to American Electronics, Inc. Combined weighing and computing machine for airline baggage. 196,320, 9-17-63, Cl. D52-10.
- Holbek, Gert, and J. Dahlerup, to Georg Jensens Solvsmedie A/S. Table knife. 196,110, 8-27-63, Cl. D22-3.
- Holbek, Gert, and J. Dahlerup, to Georg Jensens Solvsmedie A/S. Tablespoon. 196,141, 8-27-63, Cl. D54-12.
- Hollaender, Peter R. Bus stop shelter. 196,039, 8-20-63, Cl. D13-1.
- Hollaender, Peter R. Bus stop shelter. 196,716, 10-29-63, Cl. D13-1.
- Hollaender, Peter R. Bus stop shelter. 197,004, 12-3-63, Cl. D13-1.



- Holland, Kelley M. Ball game apparatus. 195,630, 7-9-63, Cl. D34-5.
- Hollerith, Richard, Jr., to Monroe Calculating Machine Co. Calculating machine. 196,281, 9-10-63, Cl. D64-11.
- Hollerith, Richard, Jr., and D. R. Jensen, to Monroe Calculating Machine Co. Cabinet for a control panel or similar article. 194,502, 2-5-63, Cl. D26-5.
- Holloway, Gladys W., to Modern Living, Inc. Pair of spectacles for eye make-up. 196,680, 10-22-63, Cl. D57-1.
- Holls, David R., to General Motors Corp. Wheel cover. 194,666, 2-26-63, Cl. D14-30.
- Holls, David R., to General Motors Corp. Wheel cover. 196,718, 10-29-63, Cl. D14-30.
- Holls, David R., to General Motors Corp. Wheel cover. 196,784, 11-5-63, Cl. D14-30.
- Holls, David R., to General Motors Corp. Wheel cover. 196,790, 11-5-63, Cl. D14-30.
- Holman, Daniel V. Clamp. 195,363, 6-4-63, Cl. D54-13.
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- Holmes, Romayne E., Jr., to Kelsey-Hayes Co. Wheel. 195,506, 6-25-63, Cl. D14-30.
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- Holt, Betty J. Game board. 196,054, 8-20-63, Cl. D34-5.
- Holt, Edward B., to Amerock Corp. Door stop. 194,452, 1-29-63, Cl. D10-7.
- Holt, Wendell R., to Hughes Aircraft Co. Monocular head-mounted cathode-ray tube viewer. 195,365, 6-4-63, Cl. D57-1.
- Holtgrieve, Robert E., and G. R. Funk, to Waukesha Foundry Co. Metering pump. 194,379, 1-8-63, Cl. D65-1.
- Holtzman, Samuel J. Luggage case or similar article. 196,478, 10-1-63, Cl. D87-5.
- Holzwarth, Henry A., C. L. Metsler, and J. D. Wark, to American Can Co. Napkin dispenser. 195,881, 8-6-63, Cl. D52-2.
- Homola, Jerome P. Charcoal fire extinguisher. 195,493, 6-18-63, Cl. D81-10.
- Hood, Sylvia H. Plaque. 195,625, 7-9-63, Cl. D29-23.
- Hood, Sylvia H. Plaque. 195,626, 7-9-63, Cl. D29-23.
- Hoogesteger, Paul A., to Bausch & Lomb Inc. Telescope. 196,531, 10-8-63, Cl. D57-1.
- Hoogesteger, Paul A., and R. L. Pitchford, to Bausch & Lomb Inc. Hand magnifier. 194,995, 4-9-63, Cl. D57-1.
- Hoogesteger, Paul A., and J. W. Patla, to Bausch & Lomb Inc. Slide projector. 196,155, 8-27-63, Cl. D61-1.
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- Hopkins, Arthur W., to The Flintkote Co. Ceiling tile. 195,673, 7-16-63, Cl. D18-2.
- Hopkins, Arthur W., to The Flintkote Co. Ceiling tile. 195,674, 7-16-63, Cl. D18-2.
- Horgan, William J., Jr., to Pittsburgh Plate Glass Co. Stile for a sliding glass door. 196,295, 9-17-63, Cl. D13-6.
- Hori, Tsuneo. Necktie. 195,938, 8-13-63, Cl. D3-16.
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- Horvath, John F., to Vamco Corp. Combination automatic clothes washer and drier. 195,585, 7-2-63, Cl. D49-1.
- Hose, Robert H., to Fairchild Camera and Instrument Corp. Printing press. 195,441, 6-11-63, Cl. D64-11.
- Hotkins, Ralph, and C. Shankman, to Capitol Projector Corp. Amusement driving device. 195,029, 4-16-63, Cl. D25-1.
- Houghton, Neal, to Celanese Corp. of America. Jug. 194,997, 4-9-63, Cl. D58-5.
- Houghton, Neal D., to Kerr Glass Mfg. Corp. Jug. 194,332, 1-1-63, Cl. D58-5.
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- Howard, George J., Jr., and D. B. MacMillan, to United Aircraft Corp. Helicopter. 197,036, 12-3-63, Cl. D71-1.
- Howard, George J., Jr., and D. B. MacMillan, to United Aircraft Corp. Helicopter. 197,037, 12-3-63, Cl. D71-1.
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- Hughet, Roger E., to General Motors Corp. Wheel cover. 195,769, 7-30-63, Cl. D14-30.
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- Huling, James K., to The Clayton Corp. of Delaware. Dispensing closure for pressurized containers. 196,819, 11-5-63, Cl. D58-26.
- Huller, Alfred, and R. Squire, to Huller, Inc. Desk. 196,733, 10-29-63, Cl. D33-7.
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- Humphries, Walter, to Dunlop Tire and Rubber Corp. Tire. 195,077, 4-16-63, Cl. D90-20.
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- Jodai, Kazunori: *See*—  
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- Johannes, Henry R., to Caloric Corp. Sheet material dispenser. 195,140, 4-30-63, Cl. D52-2.
- Johansen, Ned H. Dwelling. 195,119, 4-30-63, Cl. D13-1.
- Johanson, Ralph A. W.: *See*—  
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- Johanson, Ralph A. W., to Electrolux Corp. Rug washer or similar article. 195,717, 7-23-63, Cl. D9-2.
- Johns-Manville Corp.: See—
- Lausa, James L. 194,819.
- Lausa, James L. 194,820.
- Johnson, Adela M. Combined necktie rack and jewelry holder. 194,466, 1-29-63, Cl. D33-8.
- Johnson, Carl A., to American Gage & Machine Co. Battery cell tester. 196,238, 9-10-63, Cl. D26-1.
- Johnson, Carl D.: See—
- Riordan, Hugh D., and Johnson. 194,398.
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- Judson, William V., and Johnson. 196,927.
- Johnson, Carl N., and W. V. Judson, to General Electric Co. Clock or similar article. 196,525, 10-8-63, Cl. D42-7.
- Johnson-Carper Furniture Co., Inc.: See—
- Spence, Edmond J. 195,562.
- Johnson, Clyde C. Wire-stripping tool. 196,677, 10-22-63, Cl. D54-13.
- Johnson, Damon B., to Little Giant Corp. Miniature centrifugal pump and the like. 194,570, 2-12-63, Cl. D65-1.
- Johnson, Harold D., to Aero-Dyne Corp. Portable sprayer. 194,567, 2-12-63, Cl. D62-2.
- Johnson, Jerry. Armchair. 195,401, 6-11-63, Cl. D15-1.
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- Johnson, Jerry. Armchair. 196,429, 10-1-63, Cl. D15-1.
- Johnson, Jerry. Armchair. 196,719, 10-29-63, Cl. D15-1.
- Johnson, Jerry. Armchair. 196,720, 10-29-63, Cl. D15-1.
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- Johnson, Jesse R. Heater. 196,286, 9-10-63, Cl. D81-10.
- Johnson, Louis I., III: See—
- Dobbins, Walter R., and Johnson. 197,262.
- Johnson, Marshall B.: See—
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- Johnson, Marshall B., to The Black and Decker Mfg. Co. Hedge trimmer or similar article. 195,043, 4-16-63, Cl. D40-1.
- Johnson, Marvin E.: See—
- Spackman, Robert R., Jr., and Johnson. 197,076.
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- Johnson, Melvin M., Jr., to Advanced Developments, Inc. Firearm or the like. 197,132, 12-17-63, Cl. D30-2.
- Johnson, Orris H.: See—
- Wyman, Charles G., and Johnson. 195,661.
- Wyman, Charles G., and Johnson. 195,662.
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- Johnson, S. C., & Son Inc.: See—
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- Jones, Frank B., to Dunlop Tire and Rubber Corp. Tire. 194,771, 3-5-63, Cl. D90-20.
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- Jones, James E.: See—
- Nelson, James J., and Jones. 197,159.
- Jones, James E., and W. E. Moore, to National Reflectors, Inc. Currency changer. 195,694, 7-16-63, Cl. D52-4.
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- Josai Electric Co., Ltd.: See—
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- Judson, William V.: See—
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- Judson, William V., and C. N. Johnson, to General Electric Co. Clock or similar article. 196,927, 11-19-63, Cl. D42-7.
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- Jurutka, Peter J., to Countess Mara, Inc. Combined bottle and stopper therefor. 194,813, 3-12-63, Cl. D58-9.
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- Kagan, Arthur. Housing for holding deodorizing medium. 196,579, 10-15-63, Cl. D16-2.
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- Kalish, Jerome B., to Chemical Sundries Co. Package of bubble-blowing fluid or the like. 196,541, 10-8-63, Cl. D58-26.
- Kamb, Karl W., to Beemak, Inc. Combined door knob and escutcheon plate. 196,195, 9-3-63, Cl. D50-3.
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- Kampf, Sidney S., and A. Hoffenberg, to Western Mfg. Jewellers. Cross. 194,369, 1-8-63, Cl. D45-16.
- Kampfe, Kenneth E., to Paul A. Willis Co. Wall display frame for a tassel. 196,995, 11-26-63, Cl. D80-10.
- Kandarian, Belle A. Preformed necktie. 195,190, 5-14-63, Cl. D3-16.
- Kane, Eugene J., and E. R. McEwan, to Thomas J. Lipton Inc. Flexible package for condiments or the like. 196,143, 8-27-63, Cl. D58-2.
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- Katz, Israel. Hypodermic syringe for filling a root canal of a tooth or the like. 196,505, 10-8-63, Cl. D24-1.
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- Kaufman, Samuel J. Combined telephone dialer and call timer. 194,606, 2-19-63, Cl. D26-14.
- Kaufman, Vernon R., to Jacobsen Mfg. Co. Golf cart. 196,501, 10-8-63, Cl. D14-3.
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- Keller, Joseph R., to AMP Inc. Electrical connector. 196,506, 10-8-63, Cl. D26-1.
- Keller, Louis J. and C. N., and C. E. Melroe, to Melroe Mfg. Co. Self-propelled loader. 195,254, 5-21-63, Cl. D14-3.
- Keller, Robert R. Curtain wall panel or similar article. 196,778, 10-5-63, Cl. D13-1.
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- Kelly, Burton, to Sunbeam Corp. Plastic sheet material. 196,477, 10-1-63, Cl. D87-3.
- Kelly, Burton, and J. E. Reed, to Sunbeam Corp. Combined steam and spray iron. 196,746, 10-29-63, Cl. D49-6.



- Kelly, Edward, to Wolff Appliance Corp. Revolvable bath-room chest and hamper combination. 194,775, 3-12-63, Cl. D4—3.
- Kelly, William E., to The Thomas & Betts Co. Offset nipple. 195,242, 5-14-63, Cl. D91—3.
- Kelly, William E., to The Thomas & Betts Co. Offset nipple. 195,243, 5-14-63, Cl. D91—3.
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- Kemplin, Richard M.: *See*—
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- Kendall, William D., to Dynapower Systems Corp. Pulsed high frequency electrotherapeutic unit. 195,537, 6-25-63, Cl. D83—1.
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- Kennedy, Richard T., and R. S. Latham, to Ekco Products Co. Garment hanger support. 195,751, 7-23-63, Cl. D80—8.
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- Kermes, Constantine J., E. F. Glass, and L. M. Bumm, to Sperry Rand Corp. Hay crushing implement. 194,361, 1-8-63, Cl. D40—1.
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- Kessler, Meathe, & Associates, Inc.: *See*—
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- King, William A., Jr. to R. H. Wood, Jr. Recessed shower tub. 196,290, 9-17-69, Cl. D4—4.
- Kinnear, Harold L., and R. C. Ankrum, to The Standard Oil Co. Outdoor lighting fixture. 196,670, 10-22-63, Cl. D48—31.
- Kinsella, Anthony J. Tooth cleaner. 196,635, 10-22-63, Cl. D9—2.
- Kinsley, Felix P. Set of ornamental initials for jewelry. 195,871, 8-6-63, Cl. D45—1.
- Kinsley, John P., to Celanese Corp. of America. Jug. 196,145, 8-27-63, Cl. D58—5.
- Kirk, Fred B., to Roberts Electronics, Inc. Reel adapter for a magnetic tape recorder. 196,116, 8-27-63, Cl. D26—14.
- Kirk Optical Lens Co., Inc.: *See*—
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- Kirk, Stanley, to Kirk Optical Lens Co., Inc. Ophthalmic lens hardening apparatus. 196,139, 8-27-63, Cl. D54—8.
- Kirkeby, Eivind. Base for and adjustable lamps or similar article. 196,743, 10-29-63, Cl. D48—20.
- Kirsh Co.: *See*—
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- Klein, Max S., to Max Klein, Inc. Trellis. 195,484, 6-18-63, Cl. D54—2.
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- Knapp, Robert S., to Knapp-Monarch Co. Support base for electric fan or the like. 196,397, 9-24-63, Cl. D62—4.
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- Knight, James O., to L. R. Nelson Mfg. Co., Inc. Hose fitting. 195,540, 6-25-63, Cl. D91—3.
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- Knight, Leland W., to General Motors Corp. Wheel cover. 196,791, 11-5-63, Cl. D14—30.
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- Knomark, Inc.: *See*—
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- Knowles, Alvis R., to Eldon Industries, Inc. Electric soldering iron. 194,818, 1-1-63, Cl. D26—1.
- Kobler, Richard, and C. L. Otto, to McGraw-Edison Co. Automatic repertory dialing machine. 196,434, 10-1-63, Cl. D26—5.
- Kocab, Albert J. Mai Kai, Inc. Bottle. 195,902, 8-6-63, Cl. D58—9.
- Koch, Roderic M. Valet stand. 195,212, 5-14-63, Cl. D33—8.
- Koch, Samuel J. Adjustable table lamp or similar article. 196,871, 11-12-63, Cl. D48—20.
- Koch, Walter L., to Automatic Canteen Co. of America. Vending machine panel. 196,873, 11-12-63, Cl. D52—3.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 195,368, 6-4-63, Cl. D58—6.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 195,369, 6-4-63, Cl. D58—6.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 195,650, 7-9-63, Cl. D58—6.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 195,651, 7-9-63, Cl. D58—6.
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- Koenigsberg, Victor, to Colgate-Palmolive Co. Jug or similar article. 196,002, 8-13-63, Cl. D58—5.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Bottle or similar article. 196,453, 10-1-63, Cl. D58—8.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Dispensing container for cleansing powder or the like. 196,539, 10-8-63, Cl. D58—17.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Jug or similar article. 196,750, 10-29-63, Cl. D58—5.
- Koenigsberg, Victor, to Colgate-Palmolive Co. Jug or similar article. 196,752, 10-29-63, Cl. D58—5.
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- Kolbeck, Charles H., to Vue Optical Products, Inc. Combined guide and holder for facilitating the placement of contact lens on the cornea of the eye. 196,610, 10-15-63, Cl. D57—1.
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- Konigslow, Otto, Mfg. Co., The: *See*—
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- Koons, Paul M., to The National Cash Register Co. Adding machine or similar article. 196,400, 9-24-63, Cl. D64—11.
- Kopf, George, to Porta Aluminum, Inc. Sliding latch or similar article. 196,747, 10-29-63, Cl. D50—5.
- Kopp, Joseph. Burette unit for the elution of chemical substances from paper. 195,458, 6-18-63, Cl. D16—1.



- Kopp, Philip E., to Malvern Flue Lining, Inc. Wall block. 195,950, 8-13-63, Cl. D18-2.
- Korboš, George R., to Lakeside Industries, Inc. Drawing stand. 196,974, 11-26-63, Cl. D25-1.
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- Kortick, Morris, to Troy, Inc. Holder for a golf ball marker. 195,949, 8-13-63, Cl. D17-3.
- Kostanecki, Andrew T.: See—
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- Kostanecki, Andrew T., to General Electric Co. Combination electric meter and pushbutton panel. 196,511, 10-8-63, Cl. D26-13.
- Kostich, Helen S.: See—
- Kostich, John P. 196,912.
- Kostich, John P., deceased (by H. S. Kostich, administratrix), to Northrop Corp. Electrical connector plug with retractable pin shield. 196,912, 11-19-63, Cl. D26-1.
- Kosugi, Kiro, to Janome Sewing Machine Co. Ltd. Control plate for sewing machine or the like. 195,290, 5-21-63, Cl. D70-2.
- Kovac, Esther R. Toy animal figure. 194,427, 1-22-63, Cl. D34-2.
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- Kratch, William, Jr. Water jug or the like. 194,806, 3-12-63, Cl. D58-5.
- Kraines, Maurice H., and R. L. Unkrich, said Unkrich assor. to said Kraines. Shower mat. 194,449, 1-29-63, Cl. D9-6.
- Kraines, Maurice H., and R. L. Unkrich, said Unkrich assor. to said Kraines. Bath mat. 194,450, 1-29-63, Cl. D9-6.
- Kraines, Maurice H., and R. L. Unkrich; said Unkrich assor. to said Kraines. Drainboard mat. 194,862, 3-26-63, Cl. D9-6.
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- Kramer, Irvin S., to The Barr Corp. Quilted plastic sheet material. 195,187, 5-7-63, Cl. D87-3.
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- Losh, Warren E. Combined screwdriver and wire stripper. 196,289, 9-10-63, Cl. D93-4.
- Louchheim, William S., and D. A. Gerds, to Bobrick Mfg. Corp. Recessed soap dispenser unit. 196,033, 8-20-63, Cl. D4-3.
- Louis, Norman D. Drawer nob. 195,824, 8-6-63, Cl. D10-8.
- Louis, Norman D., to Ajax Hardware Mfg. Corp. Drawer pull. 196,036, 8-20-63, Cl. D10-8.
- Lovald, Arthur J. Display rack for articles of clothing. 196,550, 10-8-63, Cl. D80-10.
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- Luedtke, Eugene R., to Hanksraft Co. Humidifier. 195,914, 8-6-63, Cl. D62-2.
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- Luger, Ormond L., R. J. Luger, Jr., and J. Gale; said Gale assor. to said O. L. Luger, and said R. J. Luger, Jr. Boat. 195,156, 4-30-63, Cl. D71-1.
- Luger, Ormond L., R. J. Luger, Jr., and J. Gale; said Gale assor. to said O. L. Luger, and said R. J. Luger, Jr. Boat. 195,157, 4-30-63, Cl. D71-1.
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- Lyman, Raphael. Branding iron. 195,929, 8-6-63, Cl. D81-10.
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- Lynch, John R., to The Dow Chemical Co. Container for dairy products or the like. 196,332, 9-17-63, Cl. D58-17.
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- MacHutchin, John G., and W. F. Buck, to United States Radium Corp. Railway signal lantern. 196,744, 10-29-63, Cl. D48-24.
- Mackay, Frederick G., to Ultra-Violet Products, Inc. Ultra-violet lamp or similar article. 196,137, 8-27-63, Cl. D48-20.
- MacKinnon Instruments Inc.: *See*—  
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- MacMinn, Strother C., to W. H. Joyce, Jr. Golf cart. 195,767, 7-30-63, Cl. D14-3.
- MacVicar, Frederick H., to Callaway Mills Co. Floor covering display cabinet. 194,575, 2-12-63, Cl. D80-11.
- MacWherter, George W., to The B. F. Goodrich Co. Tire. 196,897, 11-12-63, Cl. D90-20.



- MacWherter, George W., to The B. F. Goodrich Co. Tire. 196,898, 11-12-63, Cl. D90-20.
- MacWherter, George W., to The B. F. Goodrich Co. Tire. 197,166, 12-17-63, Cl. D90-20.
- Maddux, Duane C., and L. H. Leonard. Machine for cleaning shoes. 195,718, 7-23-63, Cl. D9-2.
- Madeira, William T., to K-D Mfg. Co. Pliers. 196,937, 11-19-63, Cl. D54-13.
- Madl, Alfred W., to John Oster Mfg. Co. Juicer and pulp ejector attachment for power driven appliance. 194,899, 3-26-63, Cl. D89-1.
- Madl, Alfred W., to John Oster Mfg. Co. Solder gun. 196,047, 8-20-63, Cl. D26-1.
- Madl, Alfred W., to John Oster Mfg. Co. Housing for a portable hair dryer. 196,475, 10-1-63, Cl. D86-10.
- Maffei, Leo J., to The American Hardware Corp. Pull handle. 196,711, 10-29-63, Cl. D10-8.
- Maffei, Leo J., to The American Hardware Corp. Pull handle. 196,712, 10-29-63, Cl. D10-8.
- Mager, Robert, Associates, Inc.: See—
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- Magnus, Finn H. Two piece adjustable spectacle temple. 196,880, 11-12-63, Cl. D57-1.
- Magnus, Finn H. Pair of sun glasses or the like. 196,881, 11-12-63, Cl. D57-1.
- Magoon, Kenneth W., to Buckeye Bait Corp. Fish lure. 194,877, 3-26-63, Cl. D31-4.
- Maguire, John, to Duo-Bed Corp. Combined twin sofa bed and table unit. 194,660, 2-26-63, Cl. D5-4.
- Maguire, Paul R., to D. P. Busknehl. Rifle scope. 197,068, 12-10-63, Cl. D30-1.
- Maguire, Paul R., to D. P. Busknehl. Rifle scope. 197,069, 12-10-63, Cl. D30-1.
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- Maiden, Douglas E., and W. H. Dickerman. Combined electrical fuse puller and inserter. 195,890, 8-6-63, Cl. D54-13.
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- Makin, Charles C. 15% to C. T. Windham. Game board. 194,615, 2-19-63, Cl. D34-3.
- Malanco Plastics, Inc.: See—
- Malmgren, George V., Jr. 194,375.
- Malcolm, Robert J. Decorative disc for knobs. 196,671, 10-22-63, Cl. D50-3.
- Malcolm, Robert J. Decorative disc for knobs. 196,903, 11-19-63, Cl. D10-8.
- Malk, David J., to Beckman Instruments, Inc. Fluorometer. 196,044, 8-20-63, Cl. D16-2.
- Mallard, James B. Insulative roller bearing pillow block. 195,531, 6-25-63, Cl. D55-1.
- Malleable Iron Range Co.: See—
- Maier, Michael W. 195,110.
- Malmgren, George V., Jr., to Malanco Plastics, Inc. Packaging tray for bakery products. 194,375, 1-8-63, Cl. D58-13.
- Malsed, Helen H. Bakery truck pull toy. 196,524, 10-8-63, Cl. D34-15.
- Malvern Flue Lining, Inc.: See—
- Kopp, Philip E. 195,950.
- Malzahn, Gus E. Excavating machine. 196,297, 9-17-63, Cl. D14-3.
- Manderfield, Ellen B., to Oneida Ltd. Spoon or similar article. 195,360, 6-4-63, Cl. D54-12.
- Manderfield, Ellen B., to Oneida Ltd. Spoon or similar article. 195,361, 6-4-63, Cl. D54-12.
- Manderfield, Ellen B., to Oneida Ltd. Spoon or similar article. 195,588, 7-2-63, Cl. D54-12.
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- Landvater, John H., and Maness. 196,070.
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- De La Marter, Louis J., Perl, and Mango. 194,494.
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- Marchant, Paul A., to Consolidated Thermoplastics Co. Combined bottle and snap-type closure. 195,148, 4-30-63, Cl. D58-6.
- Marchant, Paul A., and J. B. Swett, to Rexall Drug and Chemical Co. Dispensing container. 196,817, 11-5-63, Cl. D58-17.
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- Marcus, William, to Merrymaid Plastics Corp. Pitcher. 195,047, 4-16-63, Cl. D44-21.
- Marcus, William, to Merrymaid Plastics Corp. Measuring scoop. 197,025, 12-3-63, Cl. D44-29.
- Marean, Browning E., Jr., to E.I.C. Inc. Satellite locator. 196,196, 9-3-63, Cl. D52-6.
- Marrett, Frederick A. Mounting bracket for silk screen stretching clamps. 194,759, 3-5-63, Cl. D54-13.
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- Margulis, Joseph M. Hanger for packages or the like. 195,299, 5-28-63, Cl. D17-12.
- Margulis, Joseph M. Hanger for packages or the like. 195,300, 5-28-63, Cl. D17-12.
- Margulis, Joseph M. Mirror and picture hanger. 196,581, 10-15-63, Cl. D17-12.
- Marin, Mario J., to Sperry Rand Corp. Summary punch. 196,649, 10-22-63, Cl. D26-5.
- Markham, Bill, to Lakeside Industries, Inc. Toy barn. 194,617, 2-19-63, Cl. D34-15.
- Markham, Bill, to Lakeside Industries, Inc. Amusement game board. 194,691, 2-26-63, Cl. D34-5.
- Markham, Bill, to Lakeside Industries, Inc. Amusement game board. 194,692, 2-26-63, Cl. D34-5.
- Markham, Bill, to Lakeside Industries, Inc. Toy figure device. 194,752, 3-5-63, Cl. D34-15.
- Markham, Bill, to Lakeside Industries, Inc. Toy sheep. 194,911, 4-2-63, Cl. D34-2.
- Markham, Bill, to Lakeside Industries, Inc. Toy pig. 194,912, 4-2-63, Cl. D34-2.
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- Markham, Bill, to Lakeside Industries, Inc. Toy cow. 194,914, 4-2-63, Cl. D34-2.
- Markham, Bill, to Lakeside Industries, Inc. Toy turkey. 194,915, 4-2-63, Cl. D34-2.
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- Markham, Bill, to Lakeside Industries, Inc. Toy hen. 194,917, 4-2-63, Cl. D34-2.
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- Markham, Bill, to Lakeside Industries, Inc. Toy goat. 194,919, 4-2-63, Cl. D34-2.
- Markham, Bill, to Lakeside Industries, Inc. Three-dimensional game board. 195,416, 6-11-63, Cl. D34-5.
- Markham, Bill, to Lakeside Industries, Inc. Toy poultry coop. 196,245, 9-10-63, Cl. D34-15.
- Markham, Bill, to Lakeside Industries, Inc. Three dimensional game board. 197,134, 12-17-63, Cl. D34-5.
- Markham, Bill, to Lakeside Industries, Inc. Toy pirate ship. 197,181, 12-24-63, Cl. D34-15.
- Marks, Sheldon, to Jules Berman & Associates, Inc. Bottle. 197,193, 12-24-63, Cl. D58-9.
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- Schmidt, Fredrick W. 194,858.
- Marler, Arnold H. Dispensing cap for jars or the like. 194,890, 3-26-63, Cl. D58-26.
- Marsh, Robert E., to Engineered Plastics Container Co., Inc. Container lid. 195,151, 4-30-63, Cl. D58-26.
- Marsh, Robert E., to Engineered Plastics Container Co., Inc. Trash container. 196,079, 8-20-63, Cl. D58-17.
- Marsh, Robert E., to Engineered Plastics Container Co., Inc. Trash receptacle. 196,080, 8-20-63, Cl. D58-17.
- Marsh, Robert E., to Union Carbide Corp. Trash receptacle. 197,150, 12-17-63, Cl. D58-17.
- Marshall, George L., and I. M. Leven, to The Central Tool Co. Brake drum wear limit gage. 195,644, 7-9-63, Cl. D52-6.
- Martin, Howard L. Infant bottle holder. 195,660, 7-9-63, Cl. D83-8.
- Martin, William B. Combined buffet table and screen for patios or the like. 194,543, 2-12-63, Cl. D33-1.
- Martin, Wilson, to Wed Enterprises, Inc. Amusement ride arena. 195,760, 7-30-63, Cl. D13-1.
- Martinez, Eugene, 1/2 to M. Kapilow, and 1/2 to R. H. Reibel. Motion picture film editor or similar article. 195,912, 8-6-63, Cl. D61-1.
- Martinez, Eugene, and M. Kapilow, to Reelco Inc. Motion picture reel or similar article. 194,719, 2-26-63, Cl. D61-1.
- Martinez, Eugene, and M. Kapilow, to Reelco Inc. Reel covering ring or similar article. 195,909, 8-6-63, Cl. D61-1.
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- Marvid, Ethel M. Elbow or knee protecting pad. 195,191, 5-14-63, Cl. D3-26.
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- Marzendorfer, Jean P., to Howe Richardson Scale Co. Balance indicator for a weighing machine or the like. 195,885, 8-6-63, Cl. D52-10.
- Mashigan, Charles, to Chrysler Corp. Automobile wheel cover. 194,496, 2-5-63, Cl. D14-30.
- Maslow, Louis. Adjustable furniture leg or similar article. 195,851, 8-6-63, Cl. D33-1.
- Mason, Hollis N., and T. J. Lunsford. Foldable canine canteen. 195,166, 5-7-63, Cl. D12-2.
- Mason, Stanley L., A. Ehliis, and J. B. Mosby, to Hunt Foods and Industries, Inc. Bottle. 196,389, 9-24-63, Cl. D58-8.
- Massen, Richard C. Pull for drawers, doors, and the like. 196,494, 10-8-63, Cl. D10-8.
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- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 194,926, 4-2-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 194,927, 4-2-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 194,928, 4-2-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 194,929, 4-2-63, Cl. D44-15.
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- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 196,857, 11-12-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 196,858, 11-12-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 196,859, 11-12-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 196,860, 11-12-63, Cl. D44-15.
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- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 196,863, 11-12-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 196,864, 11-12-63, Cl. D44-15.
- Masuda, Shigeru, to Noritake Co., Inc. Plate or similar article. 196,865, 11-12-63, Cl. D44-15.
- Mathison, Robert V. Shoe polish kit. 195,819, 8-6-63, Cl. D9-2.
- Matush, Gregory, to Morningstar Corp. Container for tape reel. 196,987, 11-26-63, Cl. D58-11.
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- Mattar, Paul F., and H. C. Valle. Butter spreader for corn on the cob. 194,883, 3-26-63, Cl. D44-29.
- Matthe, Charles F., to Bell Telephone Laboratories, Inc. Desk telephone. 195,086, 4-23-63, Cl. D26-14.
- Matthe, Charles F., to Bell Telephone Laboratories, Inc. Telephone handset. 196,653, 10-22-63, Cl. D26-14.
- Matthe, Charles F., to Bell Telephone Laboratories, Inc. Telephone handset. 196,921, 11-19-63, Cl. D26-14.
- Maurer, John F., to AMP Inc. Multi contact electrical connector. 194,501, 2-5-63, Cl. D26-1.
- Maxant, Richard C., to Chandler Machine Co. Cutting machine. 196,387, 9-24-63, Cl. D55-1.
- Maxwell, Joseph A., Jr.: *See*—  
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- Maxwell, Richard L.: *See*—  
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- May, Jim. Motor scooter. 195,075, 4-16-63, Cl. D90-8.
- Mayer, Alan H. Barbecue grill. 196,019, 8-13-63, Cl. D81-10.
- Mayer, Alan H. Barbecue grill. 196,552, 10-8-63, Cl. D81-10.
- Mayer, Alan H. Barbecue grill. 196,553, 10-8-63, Cl. D81-10.
- Maynard, Wheeler D., to General Railway Signal Co. Relay. 195,206, 5-14-63, Cl. D26-13.
- Mazza, Charles N., to Elliott Industries, Inc. Addressing machine. 194,335, 1-1-63, Cl. D64-11.
- McAdams, James A. Ash tray. 195,239, 5-14-63, Cl. D85-2.
- McAdams, Paul F.: *See*—  
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- McAuley, Robert J., to Parker Metal Goods Co. Ultra high frequency television and radio indoor antenna. 195,261, 5-21-63, Cl. D26-14.
- McBride, Charles E.: *See*—  
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- McCabe, Matthew J., to The Superior Electric Co. Electrical connector. 195,508, 6-25-63, Cl. D26-1.
- McCain, Jess L. Novelty spoon. 196,878, 11-12-63, Cl. D54-12.
- McCarthy, Michael J. Holder for mops, brooms, or the like. 196,291, 9-17-63, Cl. D9-2.
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- McClelland, Clarence S. Film viewer. 196,156, 8-27-63, Cl. D61-1.
- McClelland, John I., to Universal Form Clamp Co. Hanger for supporting articles of clothing and the like. 195,018, 4-9-63, Cl. D80-8.
- McClenahan, William F. Comfort station. 196,498, 10-8-63, Cl. D13-1.
- McCollum, James R., to Thatcher Glass Mfg. Co., Inc. Jug. 194,805, 3-12-63, Cl. D58-5.
- McCollum, James R., to Glass Containers Corp. Bottle. 195,312, 5-28-63, Cl. D58-9.
- McCord, Goldwin C. Combined table and beverage cabinet. 194,850, 3-19-63, Cl. D33-19.
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- McCormick, Samuel J., to Texas Instruments Inc. Lipstick case or similar article. 196,413, 9-24-63, Cl. D86-10.
- McCormick, Walter S., Jr., and A. E. Thompson, to International Business Machines Corp. Serial card reader. 194,844, 3-19-63, Cl. D26-5.
- McCoy, Richard E., to Milton Roy Co. Controlled volume diaphragm pump. 196,992, 11-26-63, Cl. D65-1.
- McDermott, Francis R., to The Stephan Co. Bottle. 196,390, 9-24-63, Cl. D58-8.
- McElroy, David C. Fishing rod handle. 195,724, 7-23-63, Cl. D31-4.
- McEntire, Marshall W.: *See*—  
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- McEwan, Ethel R.: *See*—  
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- McFadyen, Richard J., to Aqua Meter Instrument Corp. Unit for a modular instrument panel for a boat or the like. 195,357, 6-4-63, Cl. D52-6.
- McFadyen, Richard J., to Aqua Meter Instrument Corp. Modular instrument panel for a boat or the like. 196,068, 8-20-63, Cl. D52-6.
- McFadyen, Richard, to Ketcham and McDougall, Inc. Lamp. 197,080, 12-10-63, Cl. D48-20.
- McGee, Joseph S., G. J. Miron, and M. E. A. Pitt, to Modenco Ltd. Canopied service booth or similar article. 194,969, 4-9-63, Cl. D13-1.
- McGee, Joseph S., G. J. Miron, and M. E. A. Pitt, to Modenco Ltd. Canopied service booth or similar article. 194,970, 4-9-63, Cl. D13-1.
- McGee, Joseph S., G. J. Miron, and M. E. A. Pitt, to Modenco Ltd. Canopied service booth or similar article. 195,024, 4-16-63, Cl. D13-1.
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- McIntosh, James A. Coach for pick-up trucks. 194,455, 1-29-63, Cl. D14-3.
- McIntosh, James A. Coach for pick-up trucks. 194,456, 1-29-63, Cl. D14-3.
- McKay, Nicholas D., to Helmac Products Corp. Lint remover. 196,356, 9-24-63, Cl. D9-2.



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- McKinney, Eldon O. Ash tray or similar article. 196,219, 9-3-63, Cl. D85-2.
- McLennan, James C. Ash tray. 196,554, 10-8-63, Cl. D85-2.
- McLeod, Charles A., to Sunbeam Corp. Clock. 197,078, 12-10-63, Cl. D42-7.
- McLeod, Charles A., to Sunbeam Corp. Clock. 197,183, 12-24-63, Cl. D42-7.
- McLeod, Charles A., to Sunbeam Corp. Clock. 197,184, 12-24-63, Cl. D42-7.
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- McManus, Julian W. Monkey wrench. 195,784, 7-30-63, Cl. D54-16.
- McManus, Julian W. Pole holder. 196,024, 8-13-63, Cl. D88-3.
- McMullen, Christopher S. Combined table and high fidelity cabinet. 196,451, 10-1-63, Cl. D56-4.
- McNaney, Edward T. Game board. 195,979, 8-13-63, Cl. D34-5.
- McNeill, Albert G., to Bachmann Bros., Inc. Pair of spectacles. 195,311, 5-28-63, Cl. D57-1.
- McNeill, Albert G., to Bachmann Bros., Inc. Pair of spectacles. 196,000, 8-13-63, Cl. D57-1.
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- McRae, Duncan, to Chamberlin Metal Products Co. Golf car. 195,551, 7-2-63, Cl. D14-3.
- McVicar, Thomas H., and H. L. Vardiman, to Butler Mfg. Co. Grain storage building. 195,761, 7-30-63, Cl. D13-1.
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- Mihalyi, Richard F., to Mixing Equipment Co., Inc. Mixer for liquids or the like. 194,761, 3-5-63, Cl. D55-1.
- Mihalyi, Richard F., to Mixing Equipment Co., Inc. Mixer for liquids or the like. 194,762, 3-5-63, Cl. D55-1.
- Mihalyi, Richard F., to Mixing Equipment Co., Inc. Mixer for liquids or the like. 194,804, 3-12-63, Cl. D55-1.
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- Mullin, Lawrence J., to Cordem Corp. Power winch. 196,373, 9-24-63, Cl. D41-1.
- Multi Molds International, Inc.: *See*—  
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- Multitone Electronics Ltd.: *See*—  
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- Munn, John W., and A. D. McKenzie. Combined outdoor recreational pavilion, barbecue grill, and patio. 195,500, 6-25-63, Cl. D13-1.
- Munson, Austin H., to Ekco Products Co. Handle for tea kettles or the like. 195,092, 4-23-63, Cl. D44-29.
- Munson, Austin H., to Ekco Products Co. Handle for kitchen tools or similar articles. 195,271, 5-21-63, Cl. D44-29.
- Munson, Austin H., to Ekco Products Co. Handle for kitchen tools or similar articles. 195,272, 5-21-63, Cl. D44-29.
- Munson, Austin H., to Ekco Products Co. Handle for kitchen tools or similar articles. 197,023, 12-3-63, Cl. D44-29.
- Munson, Austin H., to Ekco Products Co. Handle for kitchen tools or similar articles. 197,024, 12-3-63, Cl. D44-29.
- Munz, Robert E., to General Electric Co. Refrigerator cabinet or similar article. 194,380, 1-8-63, Cl. D67-3.
- Murdock, Robert H. Railing. 194,313, 1-1-63, Cl. D13-7.
- Murphy, Francis A., to The W. S. Tyler Co. Woven panel for ceilings, walls, and the like. 196,266, 9-10-63, Cl. D54-2.
- Murphy, Hugh, to The Prestige Group Ltd. Mounting plate for mop heads. 197,047, 12-10-63, Cl. D9-2.
- Murray Mfg. Corp.: *See*—  
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- Murray Ohio Mfg. Co., The: *See*—  
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- Murray, Wallace J., Jr., and P. C. Calabro, to Universal Optical Co., Inc. Spectacle frame. 195,228, 5-14-63, Cl. D57-1.
- Muscattello, Ralph A., to The Gillette Co. Display case for safety razor and blades. 195,788, 7-30-63, Cl. D58-12.
- Musichuk, Alexander B., to The Hoover Co. Suction cleaner. 195,719, 7-23-63, Cl. D9-2.
- Musichuk, Alexander B., to The Hoover Co. Suction cleaner. 196,831, 11-12-63, Cl. D9-2.
- Mustacchio, John W., Jr. Tray. 196,664, 10-22-63, Cl. D44-10.
- Mutual Engineering & Mfg. Co.: *See*—  
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- Myers, Charles S., and W. P. Wahl, to Wahl Clipper Corp. Electric vibrator. 196,471, 10-1-63, Cl. D83-1.
- Myers, Earl D., to Ohaus Scale Corp. Casing for storing and mounting a knock-down weighing scale. 196,876, 11-12-63, Cl. D52-10.
- N.F.C. Engineering Co.: *See*—  
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- N.J. Thermex Co., Inc.: *See*—  
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- Nagelkirk, Preston, to Herman Miller, Inc. Filing shelf. 196,159, 8-27-63, Cl. D74-9.
- Nagy, Arpad. Jewel. 196,868, 11-12-63, Cl. D45-1.
- Nagy, Wendell J. Toy rickshaw. 194,694, 2-26-63, Cl. D34-15.
- Nakada, Tozaburo. Ball pen point. 195,708, 7-16-63, Cl. D74-17.
- Nakfoor, Emil A., M. A. Kramer, and E. O. Sodich, to Gulf Kramer Corp. Transmission. 196,824, 11-5-63, Cl. D77-1.
- Natale, Gerald F., and R. L. Maxwell, to J. L. Prescott Co. Jug. 197,190, 12-24-63, Cl. D58-5.
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- National Blank Book Co.: *See*—  
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- National Cash Register Co., The: *See*—  
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- Nawman, Rolfe B., and R. L., to Benner-Nawman, Inc. Telephone booth. 194,529, 2-12-63, Cl. D13-1.
- Naylor, Thurman F., and P. Hollingsworth, to Standard Thomson Corp. Automotive mirror base. 195,552, 7-2-63, Cl. D14-6.
- Neal, Ned H., and J. C. Lower, to Lehn & Fink Products Corp. Combined measuring cup and closure. 196,275, 9-10-63, Cl. D58-26.
- Neece, William M. Riding ski. 195,707, 7-16-63, Cl. D71-1.
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- Nelligan, James H., and H. R. Landis. Return top. 197,239, 12-31-63, Cl. D34-15.
- Nelson, Edward J., to Ballantyne Instruments and Electronics, Inc. Counter pressure cooker. 196,161, 8-27-63, Cl. D81-10.
- Nelson, James J., and J. E. Jones, to The Ohio Plate Glass Co. Display screen for rug samples or the like. 197,159, 12-17-63, Cl. D80-9.
- Nelson, L. R., Mfg. Co., Inc.: *See*—  
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- Nelson, Walter K., to National Casket Co. Burial casket. 196,236, 9-10-63, Cl. D19-1.
- Nelson, Walter K., to National Casket Co. Burial casket. 196,237, 9-10-63, Cl. D19-1.
- Nemer, Harold: *See*—  
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- Nerwin, Hubert, to Eastman Kodak Co. Film magazine. 195,746, 7-23-63, Cl. D61-1.
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- Neubert, Richard A., to Continental Assurance Co. Type font. 195,317, 5-28-63, Cl. D64-12.
- Neuhardt, Melvin H., and M. B. Johnson, to The Black and Decker Mfg. Co. Charger for battery packs. 194,790, 3-12-63, Cl. D26-15.
- Neuman, David, to Lever Bros. Co. Bottle. 194,487, 1-29-63, Cl. D58-8.
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- Newman, Barney, to Coro, Inc. Finger ring. 196,870, 11-12-63, Cl. D45-10.
- Newman, Stanley H. Cigarette lighter. 196,064, 8-20-63, Cl. D48-27.
- Newman, Stanley H. Cigarette lighter. 197,084, 12-10-63, Cl. D48-27.
- Neyman, Ray O., to Consolidated Thermoplastics Co. Bottle. 195,600, 7-2-63, Cl. D58-6.
- Niamtu, Joseph, Jr. Golf putting device. 196,846, 11-12-63, Cl. D34-5.
- Nibot Corp.: *See*—  
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- Nicholson, Lewis F. Tray. 196,854, 11-12-63, Cl. D44-10.
- Nielsen, Robert R. Desk tray. 196,548, 10-8-63, Cl. D74-1.
- Niemand, Samuel. Television table. 194,878, 3-26-63, Cl. D33-14.
- Nikolich, Daniel R., to Edward Hines Lumber Co. Hardboard paneling or the like. 195,252, 5-21-63, Cl. D13-1.
- Nikolich, Daniel R., to Edward Hines Lumber Co. Hardboard paneling or the like. 195,499, 6-25-63, Cl. D13-1.
- Nilsson, Stig G. N. R. Hook assembly element. 197,065, 12-10-63, Cl. D26-10.
- Nolte, Robert K., to Metalwash Machinery Co. Pan and utensil washer. 195,992, 8-13-63, Cl. D49-1.
- Noorlander, Daniel O., to Dairy Equipment Co. Air flow meter or the like. 194,481, 1-29-63, Cl. D52-6.
- Nordson Corp.: *See*—  
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- Norenberg, Knute B. Shutter or similar article. 196,495, 10-8-63, Cl. D13-1.



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- Norman, James M., and J. A. Webb, Sr., to Lockheed Aircraft Corp. Airplane. 196,343, 9-17-63, Cl. D71-1.
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- Nyborg, Meredith M., to Hughes Aircraft Co. Miniature electronic welding head. 195,337, 6-4-63, Cl. D26-1.
- Oakley, Daniel C., and R. T. Jacobsen, to The Electric Storage Battery Co. Flashlight. 197,082, 12-10-63, Cl. D48-24.
- Oblinger, Edwin F., to Parker Sweeper Co. Vacuum cleaner. 195,248, 5-21-63, Cl. D9-2.
- Obst, Harry, and R. J. De Veau; said De Veau assor. to said Obst. Set of playing cards. 194,791, 3-12-63, Cl. D34-13.
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- Oehlerking, Dean, and T. E. Trethewey, to Ideal Industries, Inc. Voltage tester housing. 196,507, 10-8-63, Cl. D26-1.
- Ogden, Bruce R., to Claude R. Ogden & Co. Pty. Ltd. Combined ferrule and foot for furniture. 195,852, 8-6-63, Cl. D33-1.
- Ogden, Bruce R., to Claude R. Ogden & Co. Pty. Ltd. Combined ferrule and foot for furniture. 195,853, 8-6-63, Cl. D33-1.
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- Ogg, James H., to Zoo-Piks. Stirring rod. 195,986, 8-13-63, Cl. D44-29.
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- Ogilvie, Bruce A., 1/2 to J. L. Rodgers. Drinking water dispenser for pets. 195,251, 5-21-63, Cl. D12-2.
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- Olson, Richard J., and F. A. Zagara, to Eastman Kodak Co. Combined camera and flash gun. 195,286, 5-21-63, Cl. D61-1.
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- O'Reilly, Joseph E. Hand fin. 196,689, 10-22-63, Cl. D71-1.
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- Osburn, Robert K., and W. E. Kumba; said Kumba, assignor, to said Osburn. Coach body for pick-up trucks. 197,121, 12-17-63, Cl. D14-3.
- O'Shea, Donald T., to The Burdett Oxygen Co. of Cleveland, Inc. Pair of welding goggles. 196,879, 11-12-63, Cl. D57-1.
- Oster, John, Mfg. Co.: *See*—  
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- Ostier, Marianne. Jeweled necklace. 195,873, 8-6-63, Cl. D45-16.
- Ostrowsky, Efrem M., to Nibot Corp. Food chopper for onions or the like. 195,933, 8-6-63, Cl. D89-1.
- Ostrowsky, Efrem M., to Nibot Corp. Chopper for nuts or the like. 196,093, 8-20-63, Cl. D89-1.
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- Otto, Charles W., and J. E. Hennessy, to General Electric Co. Dynamoelectric machine. 196,113, 8-27-63, Cl. D26-5.
- Otto, Charles W., and J. E. Hennessy, to General Electric Co. Dynamoelectric machine. 196,114, 8-27-63, Cl. D26-5.
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- Pachmayr, Frank A., and L. L. Huskey, to Firearm Accessories, Inc. Gun recoil pad. 194,681, 2-26-63, Cl. D30-1.



- Pachmayr, Frank A., and L. L. Huskey, to Firearm Accessories, Inc. Gun recoil cushion. 194,682, 2-26-63, Cl. D30-1.
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- Papoutsy, Theodore. Shoe sole. 196,489, 10-8-63, Cl. D7-5.
- Papoutsy, Theodore. Shoe sole. 196,490, 10-8-63, Cl. D7-5.
- Papoutsy, Theodore. Shoe sole. 196,491, 10-8-63, Cl. D7-5.
- Park, Malcolm S., to The Singer Mfg. Co. Sewing machine. 195,013, 4-9-63, Cl. D70-1.
- Parker, Carol. Box. 197,148, 12-17-63, Cl. D58-12.6.
- Parker, David V., to United States Borax & Chemical Corp. Combined stand and dispenser for powdered material. 194,344, 1-8-63, Cl. D4-3.
- Parker, Donald R., G. K. Petritz, and R. A. Westphal, to Chamberlin Metal Products Co. Golf cart handle. 194-834, 3-19-63, Cl. D10-8.
- Parker, James P., to Goly & Co., Inc. Portable gas tank. 195,709, 7-16-63, Cl. D81-2.
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- Parkison, Donald E. Tray. 195,391, 6-4-63, Cl. D83-1.
- Parkison, Donald E. Tray. 195,392, 6-4-63, Cl. D83-1.
- Parks, Robert R. Bracket for supporting a shelf and hanger bar. 196,676, 10-22-63, Cl. D54-1.
- Parmet, Albert, to Par-Metal Products Corp. Cabinet. 194-470, 1-29-63, Cl. D33-19.
- Par-Metal Products Corp.: *See*—  
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- Parry, Robert D. Hummingbird feeder. 194,846, 3-19-63, Cl. D31-2.
- Parry, Robert D. Egg separator. 195,426, 6-11-63, Cl. D44-29.
- Parsell, Kendrick T., to Stein Bros. Mfg. Co. Luggage case. 196,955, 11-19-63, Cl. D87-5.
- Parsons, Thomas J., and P. Frisch. Combined room heater and cooking stove for ice fishing houses and the like. 196,551, 10-8-63, Cl. D81-1.
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- Passman, Nathan E. Floodlight housing or similar article. 196,600, 10-15-63, Cl. D48-20.
- Paster, Irving D. Portable folding shelter for use as a chapel or the like. 195,829, 8-6-63, Cl. D13-1.
- Pastor, Sheldon L., and R. L. Deschamps, to Revere Camera Co. Tape recorder. 194,680, 2-26-63, Cl. D26-14.
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- Patents Management Corp.: *See*—  
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- Patterson, Lawrence W. Combined merchandizing and display stand. 196,160, 8-27-63, Cl. D80-9.
- Patterson, Philip C., and W. R. Smith, to Thorpe Insulation Co., d.b.a. Thorpe Products Co. Grillwork or similar article. 194,952, 4-2-63, Cl. D54-2.
- Patterson, Thomas R. Outdoor shelter. 196,171, 9-3-63, Cl. D13-1.
- Patton, George, Jr., to Haveg Industries, Inc. Divided dish. 195,523, 6-25-63, Cl. D44-15.
- Patton, George, Jr., to Haveg Industries Inc. Pie dish. 195,524, 6-25-63, Cl. D44-15.
- Patton, George, Jr., to Haveg Industries, Inc. Dish. 195-525, 6-25-63, Cl. D44-15.
- Pawsey, Harold O. Bracket hook. 196,322, 9-17-63, Cl. D54-1.
- Paxhia, Vincent B., and E. W. Stevens, to Bell Aerospace Corp. Aircraft. 194,817, 3-12-63, Cl. D71-1.
- Paxhia, Vincent B., E. N. Y. Sing, and E. W. Stevens, to Bell Aerospace Corp. Aircraft. 196,213, 9-3-63, Cl. D71-1.
- Pearson, Jack W., and T. H. Davis. Golf tee. 197,016, 12-3-63, Cl. D34-5.
- Pearson, Maxwell E., to Knoll Associates, Inc. Chair or the like. 194,458, 1-29-63, Cl. D15-1.
- Pedersen, Dane H., to Dymo Industries, Inc. Hand operated tape embossing tool. 196,398, 9-24-63, Cl. D64-10.
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- Pelzman, Lee H., to The Unilite Corp. Cigarette lighter. 194,755, 3-5-63, Cl. D48-27.
- Pendleton Tool Industries, Inc.: *See*—  
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- Penkoff, Theodore. Air nozzle. 195,486, 6-18-63, Cl. D62-2.
- Penney, William H. Combined cigarette package and match book dispenser. 195,882, 8-6-63, Cl. D52-2.
- Pennwood Numechron Co.: *See*—  
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- Penny, John D. Sun shade. 196,416, 9-24-63, Cl. D88-3.
- Peras, Lucien, to Regie Nationale des Usines Renault. Bump-er. 196,105, 8-27-63, Cl. D14-6.
- Perfection Mfg. Co., The: *See*—  
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- Perl, Frederick W., and L. J. De La Marter, to Westinghouse Electric Corp. Portable electric greenhouse or the like. 194,793, 3-12-63, Cl. D35-3.
- Perlmutter, Robert. Ball-point pen or similar article. 195-924, 8-6-63, Cl. D74-17.
- Perper, Edward: *See*—  
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- Peters, Arnis E., to The Microcard Reader Corp. Microphoto-graph reader. 196,340, 9-17-63, Cl. D61-1.
- Peters, Richard M., to Dix, Inc. Cable stripper or similar article. 195,302, 5-28-63, Cl. D22-3.
- Peters, Richard M., and R. T. Wipson, to Dix, Inc. Cylinder carrier or similar article. 196,008, 8-13-63, Cl. D58-26.
- Peters, Robert R., to Patents Management Corp. Cabinet or similar article. 195,517, 6-25-63, Cl. D33-19.
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- Peterson, David G. Van type vehicle. 197,224, 12-31-63, Cl. D14-3.
- Peterson, Gerold R., and J. E. Reed, to Sunbeam Corp. Electric shaver. 196,972, 11-26-63, Cl. D22-3.
- Peterson, Jack B., to Hyster Co. Pneumatic roller. 194,350, 1-8-63, Cl. D14-3.
- Peterson, Jerold R., to Sunbeam Corp. Electric shaver. 196,911, 11-19-63, Cl. D22-3.
- Peterson, Kail R., and N. E. Vogt, to General Electric Co. Card reader cabinet. 195,204, 5-14-63, Cl. D26-5.
- Peterson, William C. Toy gun. 196,850, 11-12-63, Cl. D34-15.
- Petitto, Albert C., to Foster Grant Co., Inc. Sunglass front or the like. 194,557, 2-12-63, Cl. D57-1.
- Petitto, Albert C., to Foster Grant Co., Inc. Sunglass front or the like. 194,558, 2-12-63, Cl. D57-1.
- Petitto, Albert C., and V. Marchi, to Foster Grant Co., Inc. Sunglass frame or the like. 195,894, 8-6-63, Cl. D57-1.
- Petric, Edward J., to Bretteford Mfg., Inc. Fuel container basket for use in an outdoor grill and oven combination. 194,824, 3-12-63, Cl. D81-10.



- Petrick, Edward J. Combined oven and grill for outdoor use. 195,926, 8-6-63, Cl. D81-10.  
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 Pettengill, Myron F., to General Electric Co. Luminaire. 195,990, 8-13-63, Cl. D48-31.  
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- Rylander, John G. Combined beverage can holder and cover. 194,989, 4-9-63, Cl. D44—21.
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- Sabatino, Pompeo P., to Seyfert Potato Chip Co. Doll. 196,845, 11-12-63, Cl. D34—2.
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- Sachs, Charles M., to Sarong, Inc. Textile fabric. 196,481, 10-1-63, Cl. D92—1.
- Sacko, John J., Jr. Nail clipper. 195,614, 7-2-63, Cl. D86—10.
- Sadler, Harry J., to Hypro Engineering, Inc. Transmission housing for centrifugal pumps. 195,488, 6-18-63, Cl. D65—1.
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- Saffert, Edward L., to Harley-Davidson Motor Co. Golf car. 195,505, 6-25-63, Cl. D14—3.
- Safford, Julian V. Phonograph record holder. 194,397, 1-15-63, Cl. D33—3.
- Safano, Albert, to The Gillette Co. Hair comb. 195,393, 6-4-63, Cl. D86—8.
- Safano, Albert. Hair treating applicator. 197,043, 12-3-63, Cl. D86—10.
- Saftlas, Samuel. Knitted fabric. 194,623, 2-19-63, Cl. D47—2.
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- Sagarin, Philip H., to Valve Corp. of America. Combined closure and dispenser for a pressure packed can or similar article. 195,285, 5-21-63, Cl. D58—26.
- Sagarin, Philip H., to Valve Corp. of America. Combined closure and dispenser for a pressure packed can or similar article. 195,436, 6-11-63, Cl. D58—26.
- St. Pierre, Jeanette M. Fall-out shelter. 195,670, 7-16-63, Cl. D13—1.
- Saito, Tadashi: *See*—  
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- Sakaley, John A., Jr.: *See*—  
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- Salcer, William Z., to B. & S. Plastic Art, Inc. Plastic curtain. 195,188, 5-7-63, Cl. D92—26.
- Salcer, William Z., to B. & S. Plastic Art, Inc. Plastic tablecloth. 195,808, 7-30-63, Cl. D92—26.
- Salcer, William Z., to B. & S. Plastic Art, Inc. Plastic tablecloth. 195,809, 7-30-63, Cl. D92—26.
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- Salcer, William Z., to B. & S. Plastic Art, Inc. Plastic tablecloth. 197,268, 12-31-63, Cl. D92—26.
- Salisbury, William F. Baseball training bat or similar article. 197,180, 12-24-63, Cl. D34—5.
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- Salter, James K. Combined lift plug, pick-up sub and thread protector for rotary drill collars. 194,437, 1-22-63, Cl. D54—4.
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- Sanders, Norman T., to Needle Industries Ltd. Shaver. 195,952, 8-13-63, Cl. D22—3.
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- Sandin, Ray C., and J. F. Morgan, to General Electric Co. Door handle. 197,105, 12-10-63, Cl. D81—25.
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- Sandler, William. Gauge unit for measuring and regulating gases under high pressure or similar article. 195,994, 8-13-63, Cl. D52—6.
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- Saphier, Michael, to Lincoln Metal Products Corp. Refuse receptacle. 194,562, 2-12-63, Cl. D58—17.
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- Sautter, Alton F., to Water Saver Faucet Co. Utility control, supply and service unit for laboratory tables. 196,580, 10-15-63, Cl. D16—2.
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- Saxe, Walter A., to Saxe Brothers, Inc. Combined flower and candle holder or the like. 194,507, 2-5-63, Cl. D35—3.
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- Schafroth, Werner. Stapling machine. 196,466, 10-1-63, Cl. D74—1.
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- Schmidt, Fredrick W., to Markwell Mfg. Co., Inc. Desk-type stapling machine. 194,858, 3-19-63, Cl. D74—1.
- Schmidt, Gerald W., to International Rectifier Corp. Test equipment console for an electrical educational kit. 196,509, 10-8-63, Cl. D26—5.
- Schneider, John J., to Vanguard Air & Marine Corp. Vertical take-off airplane. 196,688, 10-22-63, Cl. D71—1.
- Schnering, Philip B., and H. B. Weeks, Jr., to McCormick & Co., Inc. Combined bottle and closure. 196,985, 11-26-63, Cl. D58—9.
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- Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Juvenile vehicle. 194,324, 1-1-63, Cl. D34—15.
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- Schreckengost, Viktor, to The Murray Ohio Mfg. Co. Velocipede. 196,523, 10-8-63, Cl. D34—15.
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- Sieber, Peter, and A. Schürer, to Olympia Werke AG. Casing for a portable typewriter. 196,399, 9-24-63, Cl. D64-11.
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- Sundberg, Carl W., to American Metal Products Co. Expandable vehicle. 195,766, 7-30-63, Cl. D14-3.
- Sundberg, Carl W., and J. A. Maxwell, Jr., to Whirlpool Corp. Air conditioner front panel. 195,108, 4-23-63, Cl. D62-4.
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- Sundberg, Carl W., and M. Ferar, to Sperry Rand Corp. Calculator. 195,916, 8-6-63, Cl. D64-11.
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- Sundberg, Carl W., and M. Ferar, to American Seating Co. Chair. 196,574, 10-15-63, Cl. D15-1.
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Kulow, Howard H. 195,435.  
Kulow, Howard H. 195,740-45.
- Wilson, Robert G. Combined rotisserie oven and food warming cabinet. 195,928, 8-6-63, Cl. D81-10.
- Wilson's, William M., Sons, Inc.: *See*—  
Gould, Glenn E. 194,643.
- Windham, Clyde T.: *See*—  
Makin, Charles C. 194,615.
- Wing, John J., to Avco Corp. Plasma sprayer. 195,438, 6-11-63, Cl. D62-2.
- Wing, John V. Test tube rack. 195,622, 7-9-63, Cl. D16-1.
- Wing, Wilson G.: *See*—  
Ashbrook, Clifford L., and Wing. 195,627.
- Winslow, Roger C., and A. S. Bloom, to Consolidated Diesel Electric Corp. Motor generator unit. 194,490, 1-29-63, Cl. D77-1.
- Winston Pipe & Tobacco, Inc.: *See*—  
Garraffa, Jerome. 196,952.
- Winterbottom, William B., to Borg-Erickson Corp. Platform scale. 194,436, 1-22-63, Cl. D52-10.
- Winterbottom, William B., to Automatic Electric Laboratories Inc. Telephone answering and message recording machine. 195,846, 8-6-63, Cl. D26-14.
- Wipson, Richard T.: *See*—  
Peters, Richard M., and Wipson. 196,008.
- Wirch, Leon S.: *See*—  
Genin, Robert I., and Wirch. 195,040.  
Genin, Robert I., and Wirch. 195,041.  
Genin, Robert I., and Wirch. 195,676.  
Genin, Robert I., and Wirch. 195,679.  
Genin, Robert I., and Wirch. 195,980.
- Wirch, Leon S., to Telectronic Corp. Portable tape recorder. 194,679, 2-26-63, Cl. D26-14.
- Witco Chemical Co., Inc.: *See*—  
Lilling, Henry. 196,942.
- Witmer, Clarence L. R., to American Can Co. Plate. 195,684, 7-16-63, Cl. D44-15.
- Witz, Sidney R. Therapeutic container for ice water and the like. 195,185, 5-7-63, Cl. D83-1.
- Woleen, Norman B., to Erie Mop and Wringer Co. Mop squeezer plate. 195,940, 8-13-63, Cl. D9-2.
- Wolf, Donald A., to The Huffman Mfg. Co. Kickstand. 196,627, 10-15-63, Cl. D90-18.
- Wolf, Morris A. Display manikin. 194,961, 4-2-63, Cl. D80-8.
- Wolf Appliance Corp.: *See*—  
Kelly, Edward. 194,775.
- Wolverine Shoe and Tanning Corp.: *See*—  
Laitner, Robert F. 196,293.
- Wooce, Delvin H., and P. E. Suhre, to Clary Corp. Vehicle. 194,530, 2-12-63, Cl. D14-3.
- Wood Conversion Co.: *See*—  
Alaspa, Toivo W., and Norsted. 195,301.  
Anderson, David B., Brody, and Rahr. 195,170.  
Brody, Philip M., and Rahr. 194,462.  
Brody, Philip M., and Rahr. 194,598.
- Wood, Donald H., Jr., to General Motors Corp. Wheel cover. 196,787, 11-5-63, Cl. D14-30.
- Wood, John, Co.: *See*—  
Chaffee, Walter C. 194,433.  
Chaffee, Walter C. 197,248.
- Wood, Morris E., to Higbie Mfg. Co. Fishing reel support and actuator combination. 196,305, 9-17-63, Cl. D31-4.
- Wood, Morris E., to Bronson Specialties, Inc. Combined roll and handle unit. 197,133, 12-17-63, Cl. D31-4.
- Wood, Royden H., Jr.: *See*—  
King, William A. 196,290.
- Woods, Charles H., Jr., to Accurate Products, Inc. Vehicle gage unit. 195,783, 7-30-63, Cl. D52-6.
- Woods, George L., to S. M. Howes, Inc. Wood carrier. 194,416, 1-15-63, Cl. D81-18.
- Woodward, Hobart. Ceiling tile. 196,046, 8-20-63, Cl. D18-2.
- Woolley, Norman H. Portable bar. 197,073, 12-10-63, Cl. D33-19.
- Wooten, Mamie L. Handbag or similar article. 194,523, 2-5-63, Cl. D87-3.
- Worrell, Roger A., to The Electric Storage Battery Co. Storage battery. 196,798, 11-5-63, Cl. D26-6.
- Worsley, Guy: *See*—  
Carlton, Alvar G., Tiedeman, Walker, and Worsley. 196,823.
- Worsley, William, to Wicanders (Great Britain) Ltd. Closure for bottles or the like. 195,372, 6-4-63, Cl. D58-10.
- Worth, Henry, to Dorchester Products, Inc. Casing for a deodorizer or the like. 194,317, 1-1-63, Cl. D16-2.
- Worthington, George W., to Owens-Illinois Glass Co. Jug. 194,630, 2-19-63, Cl. D58-5.
- Worthington, George W., to Owens-Illinois Glass Co. Bottle. 194,811, 3-12-63, Cl. D58-8.
- Worthington, George W., to Owens-Illinois Glass Co. Bottle. 195,739, 7-23-63, Cl. D58-8.
- Wright, Fred T. Portable traction unit for orthopedic patients. 194,730, 2-26-63, Cl. 83-1.
- Wright, Jerry E. Electric hot plate or similar article. 196,951, 11-19-63, Cl. D81-10.
- Wright & McGill Co.: *See*—  
Yeada, Victor. 194,321.
- Wright, Paul C.: *See*—  
Emmons, Paul C., and Wright. 196,088.
- Wurman, Morris L., to Bayuk Cigars Inc. Display stand. 194,382, 1-8-63, Cl. D80-10.
- Wurman, Morris L., to Bayuk Cigars Inc. Display stand. 194,383, 1-8-63, Cl. D80-10.
- Wyandotte Chemicals Corp.: *See*—  
Stalley, Harry C., Jr. 196,318.
- Wyman, Charles G., and O. H. Johnson, to Lee Rubber & Tire Corp. Vehicle tire. 195,661, 7-9-63, Cl. D90-20.
- Wyman, Charles G., and O. H. Johnson, to Lee Rubber & Tire Corp. Vehicle tire. 195,662, 7-9-63, Cl. D90-20.
- Wyman, Charles G., and W. B. Dunlap, Jr., to Lee Rubber & Tire Corp. Vehicle tire. 195,934, 8-6-63, Cl. D90-20.



- Yager, Harry L. Fireplace stove. 196,217, 9-3-63, Cl. D81-7.
- Yamamoto, Kozo, K. Jodai, S. Taniguchi, N. Kitamura, T. Saito, and A. Shibasaki, to Sony Corp. Television receiver, or similar article. 194,628, 2-19-63, Cl. D56-4.
- Yamasaki, Kim: *See*—
- Chapman, Dave. 195,725.
- Chapman, Dave, and Yamasaki. 195,620.
- Yankee Plastics, Inc.: *See*—
- Warmath, John G. 195,445.
- Warmath, John G. 196,623.
- Warmath, John G., III. 194,767.
- Warmath, John G., III. 195,158.
- Warmath, John G., III. 195,386.
- Warmath, John G., III. 196,214.
- Warmath, John G., III. 197,198.
- Zuckerman, Jack M. 195,069.
- Yeadra, Victor, to Wright & McGill Co. Fishing reel. 194,321, 1-1-63, Cl. D31-4.
- Yeager, Joseph T., Sr. Hydroplane. 197,035, 12-3-63, Cl. D71-1.
- Yokota, Shingo: *See*—
- Yokota, Hidekuni and S. 195,534.
- Young, Leslie E., deceased; by M. Y. Imfeld, administratrix. Fishing line sinker. 195,678, 7-16-63, Cl. D31-4.
- Young, Marion. Garbage can holder. 194,483, 1-29-63, Cl. D58-26.
- Young, Stephen A. Faucet handle. 196,095, 8-20-63, Cl. D91-3.
- Zacks, Florence B., to R. G. Barry Corp. Slipper. 195,497, 6-25-63, Cl. D7-7.
- Zacks, Florence B., to R. G. Barry Corp. Slipper. 195,543, 7-2-63, Cl. D7-7.
- Zacks, Florence B., to R. G. Barry Corp. Slipper. 195,667, 7-16-63, Cl. D7-7.
- Zacks, Florence B., to R. G. Barry Corp. Slipper. 195,716, 7-23-63, Cl. D7-7.
- Zagara, Frank A.: *See*—
- Olson, Richard J., and Zagara. 195,286.
- Olson, Richard J., and Zagara. 195,910.
- Zagara, Frank A., to Eastman Kodak Co. Photographic camera. 196,084, 8-20-63, Cl. D61-1.
- Zagara, Frank A., to Eastman Kodak Co. Photographic camera. 196,085, 8-20-63, Cl. D61-1.
- Zagara, Frank A., to Eastman Kodak Co. Photographic camera. 196,203, 9-3-63, Cl. D61-1.
- Zagel, Samuel J., to Compeco Corp. Outdoor lighting fixture. 195,310, 5-28-63, Cl. D48-31.
- Zahn, Hermann. Cigarette lighter or similar article. 197,083, 12-10-63, Cl. D48-27.
- Zale, Al N. (also known as A. N. Zalewski). Mobile diner. 194,662, 2-26-63, Cl. D14-3.
- Zaleski, Walter, to Hyspec Container Corp. Jug. 196,001, 8-13-63, Cl. D58-5.
- Zalewski, Al N.: *See*—
- Zale, Al N. 194,662.
- Zeiler, Philip. Tray or similar article. 197,020, 12-3-63, Cl. D44-10.
- Zeitler, Richard J., to Waltham Precision Instrument Co., Inc. Television projector. 196,885, 11-12-63, Cl. D61-1.
- Zeltvogel, Melvin C., to California Neon Products. Sign. 194,737, 3-5-63, Cl. D1-12.
- Zelnick, Charles, to The Lufkin Rule Co. Belt attachment for carrying a tape measure or the like. 196,542, 10-8-63, Cl. D58-26.
- Zeman, Marshall. Plastic tile. 196,909, 11-19-63, Cl. D18-2.
- Zenith Radio Corp.: *See*—
- Boldt, Melvin H. 196,117.
- Boldt, Melvin H. 196,647.
- Zenner, Walter J.: *See*—
- Genaro, Donald M., Sokolowski, and Zenner. 194,641.
- Zeo-Ran Co., The: *See*—
- Chapman, David. 194,735.
- Zevas, Peter: *See*—
- Shortway, Harry A., and Zevas. 195,323.
- Zierhut, Clarence D., to Paper Mate Mfg. Co. Ball point pen. 197,158, 12-17-63, Cl. D74-17.
- Zilk, Carl S. Dispenser head. 194,343, 1-8-63, Cl. D2-3.
- Zimmerman, Edward C. Combined lighting and heating fixture. 195,878, 8-6-63, Cl. D48-23.
- Zimmerman, Harold L. Adapter bar for outboard motors. 197,098, 12-10-63, Cl. D71-1.
- Zimmerman, Jack. Nail brush. 197,173, 12-24-63, Cl. D9-2.
- Zimmers, Mildred G., to Parway Mfg. Co., Inc. Tray attachment for a golf cart. 195,472, 6-18-63, Cl. D34-5.
- Ziskin, Manuel S., and H. O. Wagner, to Kromex Corp. Tray. 196,377, 9-24-63, Cl. D44-10.
- Ziskin, Manuel S., and H. O. Wagner, to Kromex Corp. Hostess tray or the like. 196,378, 9-24-63, Cl. D44-10.
- Ziskin, Manuel S., and H. O. Wagner, to Kromex Corp. Caserole. 196,379, 9-24-63, Cl. D44-15.
- Ziskin, Manuel S., and H. O. Wagner, to Kromex Corp. Creamer. 196,380, 9-24-63, Cl. D44-21.
- Zola, Colman. Paneling material or the like. 195,502, 6-25-63, Cl. D13-1.
- Zola, Colman. Paneling material or the like. 195,942, 8-13-63, Cl. D13-1.
- Zola, Colman. Knob or the like. 196,294, 9-17-63, Cl. D10-8.
- Zola, Colman. Paneling material. 196,565, 10-15-63, Cl. D13-1.
- Zoo-Piks: *See*—
- Drucker, Jerold P. 195,730.
- Ogg, James H. 195,689.
- Ogg, James H. 195,870.
- Ogg, James H. 195,986.
- Ogg, James H. 197,138.
- Zorack, John L. Military campaign pennant or other similar article. 194,424, 1-22-63, Cl. D29-17.
- Zotos, Lazaros A.: *See*—
- Panopoulos, Kosta E., and Zotos. 197,049.
- Zuckerman, Jack M., to Yankee Plastics, Inc. Garment hanger. 195,069, 4-16-63, Cl. D80-8.
- Zukina, Warren B. Golf game board. 195,089, 4-23-63, Cl. D34-5.
- Zunino Altman, Inc.: *See*—
- Chang, Kung P. 196,922.
- Zuzelo, Edward A. Grinding wheel. 196,447, 10-1-63, Cl. D37-1.







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## LIST OF PLANT PATENTEES

- Aldridge Nursery: *See*—  
 Ross, Earl W. 2,211.
- Aldridge, R. C., Sr.: *See*—  
 Ross, Earl W. 2,211.
- Anderson, Frederic W., to Kim Bros., d.b.a. Reedley Nursery.  
 Almond tree. 2,208, 1-8-63, Cl. 47-62.
- Anderson, Frederic W., to L. E. Cooke Co. Nectarine tree.  
 2,325, 12-3-63, Cl. 40.
- Apkarian, Vahan. Grape vine. 2,217, 1-15-63, Cl. 47-62.
- Armstrong, David L., to Armstrong Nurseries, Inc. Peach  
 tree. 2,213, 1-8-63, Cl. 47-62.
- Armstrong, David L., and H. C. Swim, to Armstrong  
 Nurseries, Inc. Rose plant. 2,332, 12-24-63, Cl. 18.
- Armstrong Nurseries, Inc.: *See*—  
 Armstrong, David L. 2,213.  
 Armstrong, David L., and Swim. 2,332.  
 Swim, Herbert C., and Weeks. 2,225.
- Aspeslagh, Albert, and A. Van Speybroeck, to Horticulture  
 Flandria Societe Anonyme. Ficus plant. 2,220, 1-15-63,  
 Cl. 47-59.
- Auvil, Grady, to Sundale Orchards, Inc. Apple tree. 2,334,  
 12-24-63, Cl. 35.
- Ball, George J., Inc.: *See*—  
 Dunham, Orville O. 2,274.  
 Thomson, William P. 2,227.
- Block, Louis H. Strawberry plant. 2,230, 2-26-63, Cl.  
 47-62.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,223, 1-29-63, Cl. 47-61.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,237, 3-12-63, Cl. 47-61.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,238, 3-12-63, Cl. 47-61.
- Boerner, Eugene S., to Jackson & Perkins Co. Chrysanthemum  
 plant. 2,270, 7-30-63, Cl. 81.
- Boerner, Eugene S., to Jackson & Perkins Co. Chrysanthemum  
 plant. 2,273, 8-6-63, Cl. 82.
- Boerner, Eugene S., to Jackson & Perkins Co. Chrysanthemum  
 plant. 2,279, 9-3-63, Cl. 82.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,293, 10-29-63, Cl. 25.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,294, 10-29-63, Cl. 18.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,299, 11-12-63, Cl. 23.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,300, 11-12-63, Cl. 11.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,302, 11-12-63, Cl. 18.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,303, 11-12-63, Cl. 15.
- Boerner, Eugene S., to Jackson & Perkins Co. Rose plant.  
 2,321, 11-26-63, Cl. 22.
- Brixey, Homer R. Cherry tree. 2,314, 11-26-63, Cl. 37.
- Brooks, Lenard L. Azalea plant. 2,224, 2-12-63, Cl. 47-  
 60.
- Brownell, Herbert C. Rose plant. 2,304, 11-12-63, Cl. 28.
- Carlton Rose Nurseries: *See*—  
 Morgan, William P. 2,331.  
 Moro, Luciano. 2,333.
- Cartwright, Albert D., Sr., to Cartwright Nurseries. Ilex  
 cornuta plant (Chinese holly). 2,228, 2-19-63, Cl. 47-59.
- Cartwright, Albert D., Sr., to Cartwright Nurseries. Ilex  
 cornuta plant (Chinese holly). 2,229, 2-19-63, Cl. 47-59.
- Cartwright, Albert D., Sr., to Cartwright Nurseries. Ilex  
 cornuta plant (Chinese holly). 2,290, 10-22-63, Cl. 65.
- Cartwright Nurseries: *See*—  
 Cartwright, Albert D., Sr. 2,228.  
 Cartwright, Albert D., Sr. 2,229.  
 Cartwright, Albert D., Sr. 2,290.
- Cayeux, Louis F., to R. Talbot. Hydrangea plant. 2,265,  
 6-25-63, Cl. 47-60.
- Cayeux, Louis F., to R. Talbot. Hydrangea plant. 2,266,  
 6-25-63, Cl. 47-60.
- Cayeux, Louis F., to R. Talbot. Hydrangea plant. 2,267,  
 6-25-63, Cl. 47-60.
- Cobley, Alfred, to Jackson & Perkins Co. Rose plant. 2,319,  
 11-26-63, Cl. 22.
- Cole, Norman H., Sr. Ilex (holly) plant. 2,272, 8-6-63,  
 Cl. 65.
- Conard-Pyle Co., The: *See*—  
 McCummings, Edward. 2,278.  
 Meilland, Alain. 2,283.  
 Shamburger, Paul. 2,329.
- Cooke, L. E., Co.: *See*—  
 Anderson, Frederic W. 2,325.
- Corliss Bros., Inc.: *See*—  
 Corliss, Clifford D. 2,231.
- Corliss, Clifford D., to Corliss Bros., Inc. Euonymus plant.  
 2,231, 2-26-63, Cl. 47-59.
- Dunham, Orville O., to George J. Ball, Inc. Chrysanthemum  
 plant. 2,274, 8-13-63, Cl. 78.
- Dunham, Orville O. Chrysanthemum plant. 2,297, 11-12-  
 63, Cl. 77.
- Dunham, Orville O. Chrysanthemum plant. 2,298, 11-12-  
 63, Cl. 82.
- Ecke, Paul. Poinsettia plant. 2,243, 3-26-63, Cl. 47-60.
- Ecke, Paul. Poinsettia plant. 2,259, 5-21-63, Cl. 47-60.
- Ecke, Paul. Poinsettia plant. 2,260, 5-21-63, Cl. 47-60.
- Ecke, Paul. Poinsettia plant. 2,261, 5-21-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,215, 1-8-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,216, 1-8-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,233, 3-12-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,234, 3-12-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,235, 3-12-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,236, 3-12-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,251, 4-16-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,252, 4-16-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,253, 4-16-63, Cl. 47-60.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,316, 11-26-63, Cl. 85.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,317, 11-26-63, Cl. 85.
- Fischer, Carl, to Imperial Flowers Ltd. Gladiolus plant.  
 2,318, 11-26-63, Cl. 85.
- Fischer, Carl H., to Selected Glads, Inc. Gladiolus plant.  
 2,262, 6-11-63, Cl. Plants-85.
- Fischer, Carl H., to Selected Glads, Inc. Gladiolus plant.  
 2,263, 6-11-63, Cl. Plants-85.
- Fischer, Carl H., to Selected Glads, Inc. Gladiolus plant.  
 2,264, 6-11-63, Cl. Plants-85.
- Folmar, Henry, Jr. Grapevine. 2,335, 12-24-63, Cl. 47.
- Frijimoto, Raymond S.: *See*—  
 Kubo, George. 2,271.
- Frijimoto, Samuel R.: *See*—  
 Kubo, George. 2,271.
- Garabedian, John M., to Peach & Willow Farms, Inc. Ner-  
 tarine tree. 2,323, 11-26-63, Cl. 41.
- Garabedian, John M., to Peach & Willow Farms, Inc. Plum  
 tree. 2,324, 12-3-63, Cl. 38.
- Gavello, Louis E. Hebe hybrid. 2,296, 11-12-63, Cl. 54.
- Gold Cup Azaleas: *See*—  
 Mossholder, Joseph L., and Portwood. 2,315.
- Golie, Lu Verne P. Climbing rose plant. 2,291, 10-22-63,  
 Cl. 5.
- Gould, Edwin, to E. W. and H. W. Miller. Apple tree. 2,285,  
 9-24-63, Cl. 35.
- Hemet Wholesale: *See*—  
 Lindquist, Robert V. 2,214.  
 Lindquist, Robert V. 2,269.
- Henderson, Donald E., and R. E. White, to Selected Glads,  
 Inc. Gladiolus plant. 2,221, 1-29-63, Cl. 47-60.
- Henry, Mary G., to Styer's Nurseries. Barberry plant. 2,212,  
 1-8-63, Cl. 47-59.
- Hevener, John L. Apple tree. 2,288, 10-8-63, Cl. 34.
- Horticulture Flandria Societe Anonyme: *See*—  
 Aspeslagh, Albert, and Van Speybroeck. 2,220.
- Howard, Paul J. Rose plant. 2,281, 9-10-63, Cl. 19.
- Igenfritz Nurseries, Inc.: *See*—  
 Kriloff, Michel. 2,258.
- Imperial Flowers Ltd.: *See*—  
 Fischer, Carl. 2,215.  
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 Fischer, Carl. 2,233.  
 Fischer, Carl. 2,234.  
 Fischer, Carl. 2,235.  
 Fischer, Carl. 2,236.  
 Fischer, Carl. 2,251.  
 Fischer, Carl. 2,252.  
 Fischer, Carl. 2,253.  
 Fischer, Carl. 2,316.  
 Fischer, Carl. 2,317.  
 Fischer, Carl. 2,318.
- Jackson & Perkins Co.: *See*—  
 Boerner, Eugene S. 2,223.  
 Boerner, Eugene S. 2,237.  
 Boerner, Eugene S. 2,238.  
 Boerner, Eugene S. 2,270.  
 Boerner, Eugene S. 2,273.  
 Boerner, Eugene S. 2,279.  
 Boerner, Eugene S. 2,293.



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- Boerner, Eugene S. 2,294.  
 Boerner, Eugene S. 2,299.  
 Boerner, Eugene S. 2,300.  
 Boerner, Eugene S. 2,302.  
 Boerner, Eugene S. 2,303.  
 Boerner, Eugene S. 2,321.  
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 McGredy, Samuel D. 2,327.  
 Morey, Dennison H., Jr. 2,292.  
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 Moro, Luciano. 2,301.  
 Zombory, William and S. B. 2,320.
- Kemple, William H., to J. H. van Barneveld. Rose plant. 2,219, 1-15-63, Cl. 47-61.
- Kim Bros.: *See*—  
 Anderson, Frederic W. 2,208.
- Kittle, Wilfred F., to Lincoln Nursery Co. Climbing rose plant. 2,275, 8-27-63, Cl. 5.  
 Krilloff, Michel, to Igenfritz Nurseries, Inc. Rose plant. 2,258, 5-7-63, Cl. 47-61.
- Kubo, George, to S. R. and R. S. Frijimoto. Verbena peruviana plant. 2,271, 8-6-63, Cl. 87.
- Kyle, Thomas B., to Spring Hill Nurseries Co. Ash tree. 2,286, 9-24-63, Cl. 51.
- Larus, Charles T. and J. R., to Selected Glads, Inc. Gladiolus plant. 2,222, 1-29-63, Cl. 47-60.
- Larus, John R.: *See*—  
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- Le Grice, Edward B. Rosa floribunda plant. 2,209, 1-8-63, Cl. 47-61.
- Le Grice, Edward B. Rosa floribunda plant. 2,210, 1-8-63, Cl. 47-61.
- Lewis, Helen H.: *See*—  
 Lewis, Hubert B. and H. H. 2,305-12.
- Lewis, Hubert B. and H. H. Azalea plant. 2,305, 11-19-63, Cl. 56.
- Lewis, Hubert B. and H. H. Azalea plant. 2,306, 11-19-63, Cl. 55.
- Lewis, Hubert B. and H. H. Azalea plant. 2,307, 11-19-63, Cl. 56.
- Lewis, Hubert B. and H. H. Azalea plant. 2,308, 11-19-63, Cl. 57.
- Lewis, Hubert B. and H. H. Azalea plant. 2,309, 11-19-63, Cl. 55.
- Lewis, Hubert B. and H. H. Azalea plant. 2,310, 11-19-63, Cl. 56.
- Lewis, Hubert B. and H. H. Azalea plant. 2,311, 11-19-63, Cl. 56.
- Lewis, Hubert B. and H. H. Azalea plant. 2,312, 11-19-63, Cl. 57.
- Limpert, Anthony S.: *See*—  
 Schmalz, Charles E., and Limpert. 2,268.
- Lincoln Nursery Co.: *See*—  
 Kittle, Wilfred F. 2,275.
- Lindquist, Robert V., to Hemet Wholesale. Rose plant. 2,214, 1-8-63, Cl. 47-61.
- Lindquist, Robert V., to Hemet Wholesale. Rose plant. 2,269, 7-16-63, Cl. 47-61.
- Lothrop, Grover C. Rose plant. 2,241, 3-12-63, Cl. 47-61.
- Mance, Rudolph M., to Stark Bro's Nurseries & Orchards Co. Apple tree. 2,313, 11-19-63, Cl. 34.
- McCummings, Edward, to The Conard-Pyle Co. Rose plant. 2,278, 9-3-63, Cl. 13.
- McGredy, Samuel D., to Jackson & Perkins Co. Rose plant. 2,327, 12-17-63, Cl. 28.
- Meiland, Alain, to The Conard-Pyle Co. Rose plant. 2,283, 9-10-63, Cl. 11.
- Melk, George J., and George J. Melk, Jr. Gladiolus plant. 2,218, 1-15-63, Cl. 47-60.
- Melk, George J., Jr.: *See*—  
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- Merrill, Grant. Peach tree. 2,239, 3-12-63, Cl. 47-62.
- Merrill, Grant. Nectarine tree. 2,240, 3-12-63, Cl. 47-62.
- Merrill, Grant. Peach tree. 2,295, 11-12-63, Cl. 43.
- Mikkelsen, James C. Poinsettia plant. 2,328, 12-17-63, Cl. 86.
- Miller, Edward W.: *See*—  
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- Miller, Henry W.: *See*—  
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- Monrovia Nursery Co.: *See*—  
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- Wallner, John and M. 2,250.
- Moody, Glen A. Peach tree. 2,336, 12-31-63, Cl. 43.
- Moore, Ralph S. Miniature rose plant. 2,287, 10-8-63, Cl. 7.
- Moore, Robert D., to Monrovia Nursery Co. Camellia japonica plant. 2,257, 4-30-63, Cl. 47-60.
- Morey, Dennison H., Jr., to Jackson & Perkins Co. Rose plant. 2,292, 10-29-63, Cl. 9.
- Morey, Dennison H., Jr., to Jackson & Perkins Co. Rose plant. 2,322, 11-26-63, Cl. 2.
- Morgan, William P., to Carlton Rose Nurseries. Rose plant. 2,331, 12-24-63, Cl. 22.
- Moro, Luciano, to Jackson & Perkins Co. Rose plant. 2,301, 11-12-63, Cl. 15.
- Moro, Luciano, to Carlton Rose Nurseries. Rose plant. 2,333, 12-24-63, Cl. 21.
- Mossholder, Joseph L., and M. W. Portwood, to Gold Cup Azaleas. Azalea plant. 2,315, 11-26-63, Cl. 57.
- Pacific Coast Nursery: *See*—  
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- Paxman, Edna L. Almond tree. 2,276, 8-27-63, Cl. 30.
- Peach & Willow Farms, Inc.: *See*—  
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- Portwood, Milford W.: *See*—  
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- Reedley Nursery: *See*—  
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- Rich, Marion C., to Selected Glads, Inc. Gladiolus plant. 2,289, 10-15-63, Cl. 85.
- Rodgers, Vincent B. Almond tree. 2,330, 12-24-63, Cl. 30.
- Ross, Earl W., to R. C. Aldridge, Sr., d.b.a. Aldridge Nursery. Pecan tree. 2,211, 1-8-63, Cl. 47-62.
- Saratoga Horticultural Foundation: *See*—  
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- Selected Glads, Inc.: *See*—  
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- Schmalz, Charles E., and A. S. Limpert; said Limpert assor. to said Schmalz. Rose plant. 2,268, 6-25-63, Cl. 47-61.
- Shamburger, Paul, to The Conard-Pyle Co. Rose plant. 2,329, 12-17-63, Cl. 6.
- Spandikow, William L. Rose plant. 2,232, 3-5-63, Cl. 47-61.
- Spring Hill Nurseries Co.: *See*—  
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- Stark Bro's Nurseries & Orchards Co.: *See*—  
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- Styer's Nurseries: *See*—  
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- Sundale Orchards, Inc.: *See*—  
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- Swim, Herbert C.: *See*—  
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- Swim, Herbert C., and O. L. Weeks, to Armstrong Nurseries, Inc. Rose plant. 2,225, 2-12-63, Cl. 47-61.
- Swim, Herbert C., and O. L. Weeks, to Weeks Wholesale Rose Grower. Rose plant. 2,226, 2-12-63, Cl. 47-61.
- Swim, Herbert C., and O. L. Weeks. Rose plant. 2,282, 9-10-63, Cl. 26.
- Swim, Herbert C., and O. L. Weeks, to Weeks Wholesale Rose Grower. Rose plant. 2,326, 12-17-63, Cl. 21.
- Talbot, Roger: *See*—  
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- Thomson, William P., to George J. Ball, Inc. Carnation plant. 2,227, 2-19-63, Cl. 47-60.
- Van Barneveld, J. H.: *See*—  
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- Van Rensselaer, Maunsell, to Saratoga Horticultural Foundation. Pistacia chinensis tree. 2,277, 9-3-63, Cl. 30.
- Van Speybroeck, August: *See*—  
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- Von Abrams, Gordon J. Rose plant. 2,242, 3-12-63, Cl. 47-61.
- Von Abrams, Gordon J. Rose plant. 2,244, 4-2-63, Cl. 47-61.
- Von Abrams, Gordon J. Rose plant. 2,245, 4-2-63, Cl. 47-61.
- Von Abrams, Gordon J. Rose plant. 2,246, 4-2-63, Cl. 47-61.
- Von Abrams, Gordon J. Rose plant. 2,280, 9-10-63, Cl. 11.
- Wallner, John and M., to Monrovia Nursery Co. Magnolia tree. 2,250, 4-9-63, Cl. 47-60.
- Wallner, Mary: *See*—  
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- Weeks, O. L.: *See*—  
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- Weeks Wholesale Rose Grower: *See*—  
 Swim, Herbert C., and Weeks. 2,226.  
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- White, Robert E.: *See*—  
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- Williams, Edgar E., to Pacific Coast Nursery. Apricot tree. 2,254, 4-30-63, Cl. 47-62.
- Williams, Edgar E., to Pacific Coast Nursery. Apricot tree. 2,255, 4-30-63, Cl. 47-62.
- Williams, Edgar E., to Pacific Coast Nursery. Apricot tree. 2,256, 4-30-63, Cl. 47-62.
- Yuge, Kanji K.: *See*—  
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- Yuge, Takeo and K. K. Azalea plant. 2,247, 4-9-63, Cl. 47-60.
- Yuge, Takeo and K. K. Azalea plant. 2,248, 4-9-63, Cl. 47-60.
- Yuge, Takeo and K. K. Azalea plant. 2,249, 4-9-63, Cl. 47-60.
- Zampini, Philip P. Climbing white rose plant. 2,284, 9-10-63, Cl. 3.
- Zombory, Sophia B.: *See*—  
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- Zombory, William and S. B., to Jackson & Perkins Co. Dianthus plant. 2,320, 11-26-63, Cl. 71.



## LIST OF DISCLAIMERS AND DEDICATIONS

- Allen, Chester S., Warren, Pa. Dedication filed Apr. 30, 1963, by the assignee, Owens-Illinois Glass Company. No. 2,660,355; v. 791; p. 605.
- Allen, Howard G., Stonington, Conn. and Edward I. Fisher, Westerly, R. I. Disclaimer filed Jan. 7, 1963, by the assignee, Bostitch, Inc. No. 2,857,596; v. 787; p. 701.
- Allison, Donald K., Albuquerque, N. Mex. Disclaimer filed Aug. 20, 1963, by the assignee, Cool Fin Electronics Corporation. No. 3,023,264; v. 795; p. 261.
- Andrews, David B., Neenah, and George L. Meyers, Menasha, Wis. Disclaimer filed June 17, 1963, by the assignee, American Can Company. No. 3,037,684; v. 794; p. 263.
- Bailey, Francis M., Scotia, N.Y., and Eugene B. Canfield, Pittsfield, Mass. Disclaimer filed Aug. 2, 1963, by the assignee, General Electric Company. No. 3,019,711; v. 795; p. 761.
- Baker, Clyde E., and Romeo Bongie, Muskegon Heights, Mich., and Florence B. Anderson, Village of Winnetka, Ill. Disclaimer filed June 14, 1963, by the assignee, Borg-Warner Corporation. No. 2,962,876; v. 795; p. 261.
- Ball, Thomas M., Bloomfield Hills, Mich. Disclaimer filed Nov. 26, 1962, by the inventor and the assignee, Chrysler Corporation. No. 2,957,467; v. 786; p. 2.
- Berg, Quentin, New Cumberland, Pa. Disclaimer filed Jan. 14, 1963, by the inventor. No. 3,020,520; v. 787; p. 701.
- Bischoff, Waldemar O., Holyoke, Mass. Disclaimer filed Jan. 7, 1963, by the assignee, American Bosch Arma Corporation. No. 2,922,370; v. 787; p. 435.
- Black, James B., Rockford, Robert W. Meyer, Pecatonica, and Wilbur F. Shurts, Winnebago, Ill. Disclaimer filed July 15, 1963, by the assignee, Twin Disc Clutch Company. No. 2,969,131; v. 795; p. 261.
- Bochan, John, Louisville, Ky. Disclaimer filed July 12, 1963, by the assignee, General Electric Company. No. 2,883,843; v. 794; p. 749.
- Bonner, Tom W., Houston, and Richard L. Caldwell, Dallas, Tex. Disclaimer filed Feb. 26, 1963, by the assignee, Socony Mobil Oil Company, Inc. No. 2,905,826; v. 789; p. 861.
- Brennan, Joseph B., Cleveland, Ohio. Disclaimer filed Apr. 5, 1963, by the assignee, Armour Research Foundation of Illinois Institute of Technology. No. 2,903,787; v. 791; p. 605.
- Breuers, Theo Pierre Chrétien, and Henricus Meyer, Venlo, Netherlands. Disclaimer filed Apr. 29, 1963, by the assignee, Chemische Fabriek L. van der Grinten, N.V. No. 2,947,539; v. 794; p. 263.
- Bridges, John B., Houston, Tex. Disclaimer filed July 15, 1963, by the inventor and the assignee, Cameron Iron Works, Inc. No. 3,003,865; v. 794; p. 749.
- Butler, John P., Appleton, Wis. Disclaimer filed Feb. 7, 1963, by the assignee, American Can Company. No. 3,025,167; v. 788; p. 833.
- Chapman, James E., Los Angeles, and Lloyd D. Bevan, Van Nuys, Calif. Disclaimer filed Oct. 3, 1963, by the assignee, The Garrett Corporation. No. 2,658,407; v. 797; p. 731.
- Chayne, Charles A., Bloomfield Township, and John Dolza, Ponton, Mich. Disclaimer filed July 17, 1963, by the assignee, General Motors Corporation. No. 2,916,027; v. 795; p. 261.
- Christensen, Norman B., North Olmsted, Ohio. Disclaimer filed Sept. 9, 1963, by the inventor and the assignees, one-half to Republic Manufacturing Co. and one-half to The Firestone Tire & Rubber Company. No. 2,970,614; v. 795; p. 261.
- Clark, Earnest H., Jr., Downey, and Julian D. Keithahn, Anaheim, Calif. Disclaimer filed Oct. 15, 1963, by the assignee, Baker Oil Tools, Inc. No. 3,008,523; v. 797; p. 971.
- Coley, John R., Gary, and Robert J. Hengstebeck, Valparaiso, Ind. Disclaimer filed Oct. 1, 1963, by the assignee, Standard Oil Company. No. 2,892,770; v. 797; p. 971.
- Cooper, Jack, Summit, and Windheuser, John Joseph, Milton, N.J. Dedication filed Jan. 3, 1963, by the assignee, Smith Kline & French Laboratories. No. 2,887,438; v. 787; p. 1.
- Dean, John G., Wilton, Conn. Disclaimer filed Mar. 14, 1963, by the assignee, United States of American as represented by the Administrator, General Services Administration. No. 2,913,336; v. 790; p. 1.
- Dieter, Norman H., Jr., Pleasantville, N.Y. Disclaimer filed May 17, 1963, by the assignee, Sonotone Corporation. No. 2,934,610; v. 793; p. 171.
- Downing, Francis P., Philadelphia, Pa. Dedication filed July 3, 1963, by the assignee, The Sharples Corporation. No. 3,078,287; v. 794; p. 498.
- Drucker, Arnold, Stamford, and John H. Daniel, Jr., Old Greenwich, Conn. Disclaimer filed Aug. 13, 1963, by the inventors, the assignee, American Cyanamid Company, assenting. No. 2,917,501; v. 795; p. 1065.
- Eans, Marvin C., Jr., and Junius B. Neale, Owensboro, Ky. Disclaimer filed July 22, 1963, by the assignee, General Electric Company. No. 3,001,556; v. 794; p. 263.
- Eastes, John W., Ridley Park, Pa., and Theodore F. Cooke, Martinsville, N.J. Disclaimer filed Apr. 8, 1963, by the inventors and the assignee, American Cyanamid Company. No. 2,789,919; v. 791; p. 605.
- Einhorn, Sidney N., Philadelphia, and George G. Hoberg, Berwyn, Pa., John O. Paivinen, Menlo Park, Calif. and Richard C. Weise, Philadelphia, Pa. Disclaimer filed Mar. 7, 1963, by the inventors and the assignee, Burroughs Corporation. No. 2,932,011; v. 789; p. 1140.
- Epstein, Herman, West Chester, and Frank T. Innes, Malvern, Pa. Disclaimer filed Dec. 6, 1962, by the inventors and the assignee, Burroughs Corporation. No. 3,012,839; v. 786; p. 2.
- Espenlaub, Walter C., Syosset, N.Y. Disclaimer filed Mar. 11, 1963, by the inventor, the assignee, Hazeltine Research, Inc., assenting. No. 3,056,853; v. 790; p. 1.
- Evans, Robert P., Kenmore, N.Y. Dedication filed May 6, 1963, by the assignee, Sterilon Corporation. No. 2,883,985; v. 791; p. 873.
- Feinberg, Albert E., Chicago, Ill. Disclaimer filed May 24, 1963, by the assignee, Advance Transformer Co. No. 2,900,577; v. 793; p. 586.
- Förster, Hans J. M., Harthausen a.F., Kreis Esslingen am Neckar, Germany. Disclaimer filed Oct. 18, 1962, by the assignee, Daimler-Benz Aktiengesellschaft. No. 2,807,968; v. 786; p. 289.
- Getaz, James L., New York. Dedications filed Mar. 25, 1963, by the assignee, Frank D. De Long, Jr. Re. No. 24,971; v. 790; p. 578.
- Getaz, James L., New York, N.Y. Dedications filed Mar. 25, 1963, by the assignee, Frank D. De Long, Jr. No. 2,904,171; v. 790; p. 578.
- Gibson, Joseph Whitton, Jr., Penns Grove, N.J. Dedication filed July 29, 1963, by the assignee, E. I. du Pont de Nemours and Company. No. 2,663,612; v. 795; p. 761.
- Gibson, Joseph Whitton, Jr., Penns Grove, N.J. Dedication filed July 29, 1963, by the assignee, E. I. du Pont de Nemours and Company. No. 2,663,613; v. 795; p. 762.
- Glauber, Marvin H., Medfield, and Robert C. Kelner, Concord, Mass. Disclaimer filed July 11, 1963, by the assignee, Laboratory for Electronics, Inc. No. 2,947,971; v. 795; p. 1065.
- Grad, Adolf R., Milwaukee, Wis. Disclaimer filed Oct. 3, 1963, by the inventor, the assignee, The Oilgear Company, assenting. No. 2,973,012; v. 795; p. 1065.
- Gray, Robert L. Broomall, and David A. Starr, Jr., Berwyn, Pa. Disclaimer filed July 8, 1963, by the assignee, Burroughs Corporation. No. 2,992,393; v. 795; p. 1.
- Green, Milton W., Menlo Park, Calif. Disclaimer filed Jan. 29, 1963, by the assignee, Radio Corporation of America. No. 2,983,889; v. 788; p. 549.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. Des. No. 161,833; v. 787; p. 435.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. Des. No. 181,049; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,594,157; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,611,659; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,611,660; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,611,661; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,611,662; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,685,482; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,692,772; v. 787; p. 436.
- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,775,444; v. 787; p. 436.

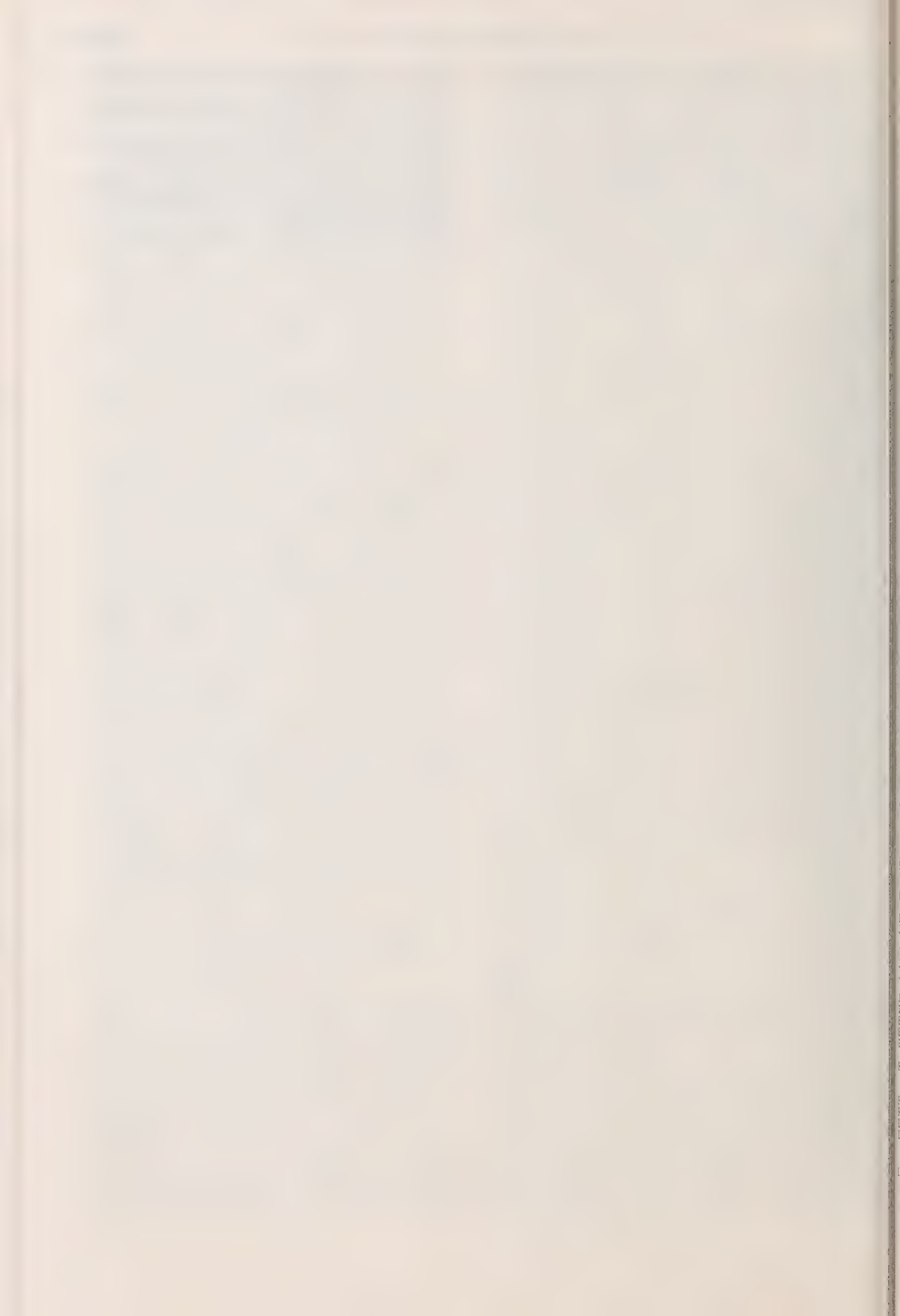


- Hadley, Harlan A., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,818,245; v. 787; p. 436.
- Hadley, Harlan A., and Lester D. Singleton, Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,839,288; v. 787; p. 436.
- Hadley, Harlan A., Burlington, and Lester D. Singleton, Winoski, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,857,049; v. 787; p. 436.
- Hals, Per Jahrmann, Oslo, Norway. Disclaimer filed June 27, 1963, by the assignee, the United States of America as represented by the Secretary of the Air Force. No. 2,908,774; v. 797; p. 971.
- Herbert, John M., Horton, and Anthony W. Simpson, Radcliffe-on-Trent, England. Disclaimer filed July 1, 1963, by the assignee, The Plessey Company Limited. No. 2,825,046; v. 793; p. 380.
- Hobson, Lloyd L., Elmore, Ind. Disclaimer filed Mar. 28, 1963, by the inventor. No. 3,023,919; v. 790; p. 577.
- Holt, Harold P., Burlington, Vt. Disclaimer and dedication filed Jan. 2, 1963, by the assignee, Toledo Scale Corporation. No. 2,692,771; v. 787; p. 436.
- Hosmer, Ellsworth A., Kenwood, Calif. Dedication filed July 5, 1963, by the assignee, Lenkurt Electric Co., Inc. No. 2,744,958; v. 793; p. 586.
- Inoue, Kiyoshi, Tokyo, Japan. Disclaimer filed Nov. 12, 1963, by the inventor. No. 3,087,044; v. 797; p. 247.
- Jackson, Robert L., Jr., Charlestown, Ind. Disclaimer filed Mar. 7, 1963, by the assignee, American Air Filter Company, Inc. No. 2,798,531; v. 790; p. 1.
- Jaffe, Hans, Cleveland Heights, Ohio. Disclaimer filed Feb. 19, 1963, by the assignee, Cleveite Corporation. No. 2,490,216; v. 789; p. 294.
- Jennings, Jo Emmett, San Jose, Calif. Disclaimer filed Apr. 15, 1963, by the assignee, Jennings Radio Manufacturing Corporation, the inventor approving. No. 3,079,481; v. 791; p. 1.
- Jones, Eric Harding, Bramhall, England. Disclaimer filed June 24, 1963, by the assignee, The Cotton Silk Manufactured Fibres Research Association. No. 2,981,638; v. 794; p. 497.
- Kalmus, Henry P., Washington, D.C., and Max L. Libman, Fairfax County, Va. Disclaimer filed Sept. 3, 1963, by the inventors. No. 3,042,868; v. 795; p. 1065.
- Kaplan, Martin, Collingswood, N.J. Disclaimer filed Nov. 8, 1962, by the assignee, Radio Corporation of America. No. 2,819,412; v. 786; p. 613.
- Kjellman, Thomas K., Timonium, and Louvan E. Wood, Glen Arm, Md. Disclaimer filed Jan. 9, 1963, by the assignee, The Bendix Corporation. No. 2,897,304; v. 787; p. 701.
- Kneissler, Walter, Elizabeth, N.J. Disclaimer filed July 24, 1963, by the assignee, The L. S. Starrett Company. No. 2,541,821; v. 795; p. 261.
- Krieger, Larry L., Dover, Del. Disclaimer filed Feb. 14, 1963, by the assignee, International Latex Corporation. No. 2,988,087; v. 789; p. 1.
- Lesser, David K., Wilmington, Del. Disclaimer filed Mar. 25, 1963, by the inventor. No. 2,978,354; v. 790; p. 302.
- Littwin, Arthur K., Lincolnwood, Ill. Disclaimer filed July 29, 1963, by the assignees, Robert L. Littwin, Arthur K. Littwin and Horace A. Young, Trustees of Littwin Family Trust No. 1. No. 2,825,854; v. 795; p. 761.
- Lynch, Donald W., Louisville, Ky. Disclaimer filed Feb. 25, 1963, by the assignee, General Electric Company. No. 3,034,223; v. 790; p. 874.
- Lynn, John W., Charleston, W. Va. Disclaimer filed Sept. 12, 1963, by the assignee, Union Carbide Corporation. No. 3,010,925; v. 796; p. 856.
- Lytton, Kenneth G., Charles W. Barnes, and Cecil S. Wise, Gastonia, N.C. Disclaimer filed July 30, 1963, by the assignee, Fiber Controls Corporation. No. 3,071,202; v. 794; p. 497.
- MacDonald, Robert Neal, Wilmington, Del. Dedication filed July 30, 1963, by the assignee, E. I. du Pont de Nemours and Company. No. 2,768,994; v. 795; p. 1065.
- Maier, Alfred E., Colonia, N.J. Disclaimer filed Dec. 12, 1962, by the assignee, Federal Pacific Electric Company. No. 3,002,068; v. 786; p. 956.
- Marshall, John, Jr., Los Alamos, N. Mex. Disclaimer filed Dec. 12, 1962, by the inventor and the assignee, the United States of America as represented by the United States Atomic Energy Commission. No. 2,961,559; v. 787; p. 2.
- Matsch, Ladislav C., Kenmore, and Arthur W. Francis, Dobbs Ferry, N.Y. Disclaimer filed Aug. 30, 1963, by the assignee, Union Carbide Corporation. No. 2,967,152; v. 795; p. 761.
- McQueen, Malcolm M., Hollywood, Calif. Disclaimer filed Apr. 19, 1963, by the assignee, Telecomputing Corporation. No. 2,871,873; v. 791; p. 605.
- Meyer, Franklin, Franklin Square, N.Y. Disclaimer filed Dec. 28, 1962, by the assignee, Servomechanisms, Inc. No. 2,948,152; v. 786; p. 1277.
- Moody, Robert J., Franklin, N.H. Disclaimer filed Feb. 25, 1963, by the assignee, Scott & Williams, Incorporated. No. 3,066,512; v. 790; p. 577.
- Mullin, John T., San Francisco, Calif. Disclaimer and dedication, filed Sept. 30, 1963, by the assignee, Dukane Corporation. No. 2,529,097; v. 796; p. 2.
- Murray, Norris N., San Rafael, Calif. Disclaimer filed Mar. 7, 1963, by the assignee, United States of America as represented by the Secretary of the Air Force. No. 2,853,263; v. 790; p. 1.
- Nicolaisen, Bernard H., Kenmore, N.Y. Disclaimer filed Apr. 15, 1963, by the assignee, Olin Mathieson Chemical Corporation. No. 2,876,173; v. 791; p. 605.
- O'Grady, Joseph V., Middletown Township, Monmouth County, and Donald T. Moyihan, Westfield, N.J. Disclaimer filed Sept. 19, 1963, by the assignee, Montgomery Elevator Company. No. 2,938,604; v. 796; p. 856.
- O'Mara, Joseph B., Hastings-on-Hudson, N.Y. Disclaimer filed Oct. 11, 1963, by the assignee, Anaconda Wire and Cable Company. No. 3,042,353; v. 796; p. 567.
- Osten, Fred C., Sr., Detroit, Mich. Dedication filed Mar. 4, 1963, by the inventor. No. 2,911,688; v. 789; p. 861.
- Petersen, Henry F., and Edward I. Fisher, Westerly, R.I. Disclaimer filed Jan. 7, 1963, by the assignee, Bostitch, Inc. No. 2,888,679; v. 787; p. 701.
- Phillips, Bernard C., Toledo, Ohio. Disclaimer filed Nov. 23, 1962, by the assignee, The Tillotson Manufacturing Company. No. 2,796,838; v. 786; p. 2.
- Phillips, Bernard C., Toledo, Ohio. Disclaimer filed Nov. 23, 1962, by the assignee, The Tillotson Manufacturing Company. No. 2,841,372; v. 786; p. 2.
- Pollock, Herbert C., Schenectady, N.Y. Disclaimer filed Mar. 8, 1963, by the assignee, General Electric Company. No. 2,867,728; v. 790; p. 577.
- Preist, Donald H., Mill Valley, Paul D. Williams, Menlo Park, and James L. Hall, Palo Alto, Calif. Disclaimer filed Aug. 19, 1963, by the assignee, Eitel-McCullough, Inc. No. 2,903,614; v. 795; p. 1.
- Putman, John Laban, Abingdon, England. Disclaimer filed Dec. 3, 1962, by the assignee, the United States of America as represented by the United States Atomic Energy Commission. No. 2,922,886; v. 786; p. 289.
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# CLASSIFICATION OF PATENTS

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# THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY

JOHN BURNET

OF THE UNIVERSITY OF OXFORD

IN TWO VOLUMES

VOLUME THE FIRST

LONDON

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## NOTES CONCERNING USE OF THE CLASSIFICATION OF PATENTS LISTING AND RELATED REFERENCE PUBLICATIONS

In the index which follows, the subject of invention of each patent issued during 1963 is identified by the class and subclass numbers of the official U.S. Patent Office classification in which the patent was classified at the time of issue. The Index is arranged in numerical order by class numbers, which appear as bold-face entries centered in the columns, and thereunder, in similar order, by subclasses which appear in the numerals in the left hand half of the columns. There are 45,876 patent and reissue patent numbers listed in the Index. A similar listing appears for design patents and plant patents which are separately shown under their respective classifications.

In order to find patent numbers in the Index pertaining to a particular subject, the user must first know the class and subclass in which the Patent Office assigns inventions relating to that subject. In some instances a number of classes and subclasses may be pertinent. The process of finding this information is relatively simple although it requires the coordinated use of several other Patent Office publications. They may be found in collections which contain the *Index of Patents*. Each of them is considered below.

*Manual of Classification:* This publication is the source of the needed information as it contains the entire classification schedule showing the number and descriptive title of every class and subclass. It is, also, the key aid in the finding system as it provides a number of features aimed at assisting the user to identify his search problem and to use its content in locating the specific classification representing the subject matter of concern to him. These features include (1) listings of the class titles in alphabetical order; (2) description of the plan of the Manual; (3) discussion of the basis of classification, the scope of the classes, and the schematic arrangement of subclasses; (4) instructions on reading subclass titles and definitions; and, (5) suggestions on procedure for finding pertinent classification.

*Index to Classification:* This publication contains more than 300 pages of subject matter headings showing for each heading the class and subclass to which it pertains. They are arranged in alphabetical order in main heading and subheading categories, the latter being indented under the main headings and sometimes further subdivided. The headings include key words and significant phrases taken from the class and subclass titles, but they are neither limited to this source nor include all of them. Many technical as well as common terms of reference to objects, arts, processes, compositions of matter, etc., not found in the classification schedule are included in the index headings so as to offer a practical and convenient aid to finding patented subject matter.

*Classification Bulletins:* This is a series of numbered publications which supplements the *Manual of Classification* by giving detailed definitions and illustration of the kind of subject matter that can be found in each class and subclass, describing the lines of distinction among them, and containing references to other classes and subclasses having related subject matter. There is a separate Bulletin for each major classification, which is identified in the heading to each class in the Manual.

### Use of Reference Publications

As a first step, the searcher should look in the *Index to Classification* for the term which to him best represents the subject matter of interest. If a match is not



found, he should look for terms of approximately the same meaning, for terms of either broader or narrower scope, or for terms which represent a different approach to the subject (e.g., the essential *function* or the *effect* of use or application of the art or object of concern). This requires that the user interact with the content of the Index, exercising judgment and imagination to consider alternatives or to find in the listed items some aspect of pertinency to his subject.

On finding the identifying numbers of possibly pertinent classes and subclasses in the Index, the user should refer to the *Manual of Classification* and ascertain from among the existing choices, the precise classification identity of his subject interest. Having thus determined the appropriate class and subclass, the searcher is ready to turn to the "Classification of Patents" listings to look for the corresponding numbers in its columns. The patent numbers found listed under the relevant classification provide the information needed to gain access to the patents themselves or to the extracts from them which are printed in the Official Gazette. In the latter connection, the user will find on the last page of this section a table entitled "List of Patent, Design, Plant Patent, and Reissue Numbers Appearing in the Official Gazette for 1963" which will guide him to the issue of the Official Gazette containing any specific patent number. He will find listed elsewhere in this section the 22 libraries which receive all U.S. patents and maintain them for public use in numerical order and the more than 300 depository libraries which receive the Official Gazette.

When the class and subclass which the searcher has determined to represent his interest does not appear in the "Classification of Patents" listing, he may assume that no patents were issued in that classification during the year. The possibility of this being the case is indicated by the fact that patents issued in less than one-third of the total number of subclasses in the classification.

If, after following the above-described procedure in using the *Index to Classification*, the searcher fails to find a pertinent classification, he should turn to the listings which appear at the front of the *Manual of Classification*. He should consider, particularly, the listing of groups of related subjects and the listing of classes arranged in alphabetical order which, in different ways, lay the entire framework of the classification in broad focus before him. He should scan the titles which appear on these sheets and note those which would appear to contain the subject matter sought.

Whichever of these approaches is taken, the searcher is guided to the classification schedules. He should inspect them carefully, proceeding from one major coordinate subclass to another until finding one which seems most nearly pertinent. The minor subclasses therein should then be scanned to find the title which indicates inclusion of the subject matter in question. Where doubt exists as to choice among several subclasses, the user should consult the Classification Bulletin containing the definitions of the class under study. Its content will help differentiate the basis of classification and save time and effort in identifying the proper one.



# 1 9 6 3

## CLASSIFICATION OF PATENTS

<b>Class 1</b>	349 : 3,110,899	94 : 3,105,241	243 : 3,085,254	100 : 3,115,643	187 : 3,080,569	81 : 3,115,646
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4 : 3,099,011	12 : 3,093,829	13 : 3,098,235	312 : 3,112,496	149 : 3,074,077	237 : 3,072,925	112 : 3,110,912
4 : 3,099,837	13 : 3,093,829	14 : 3,098,235	335 : 3,096,525	151 : 3,077,609	240 : 3,080,572	113 : 3,111,687
4 : 3,101,476	14 : 3,093,829	15 : 3,098,235	338 : 3,078,469	158 : 3,091,776	242 : 3,102,276	114 : 3,097,368
5 : 3,072,912	15 : 3,093,829	16 : 3,098,235	<b>Class 3</b>	159 : 3,078,471	249 : 3,095,582	119 : 3,080,575
5 : 3,072,912	16 : 3,093,829	17 : 3,098,235	1 : 3,093,831	161 : 3,115,645	252 : 3,078,477	131 : 3,072,927
5 : 3,074,070	17 : 3,093,829	18 : 3,098,235	4 : 3,070,807	164 : 3,092,843	254 : 3,090,051	136 : 3,097,369
5 : 3,075,195	18 : 3,093,829	19 : 3,098,235	7 : 3,098,239	166 : 3,090,050	256 : 3,109,178	149 : 3,089,151
5 : 3,095,572	19 : 3,093,829	20 : 3,098,235	12.2 : 3,107,358	170 : 3,101,486	257 : 3,105,975	176 : 3,114,917
5 : 3,095,573	20 : 3,093,829	21 : 3,098,235	7 : 3,074,075	171 : 3,078,472	286 : 3,071,781	202 : 3,076,978
5 : 3,103,013	21 : 3,093,829	22 : 3,098,235	7 : 3,090,049	172 : 3,078,472	287 : 3,096,527	207 : 3,075,206
5 : 3,104,396	22 : 3,093,829	23 : 3,098,235	13 : 3,070,808	177 : 3,099,018	295 : 3,104,400	246 : 3,076,979
5 : 3,105,238	23 : 3,093,829	24 : 3,098,235	15 : 3,090,964	178 : 3,078,472	295 : 3,094,712	247 : 3,085,259
5 : 3,110,032	24 : 3,093,829	25 : 3,098,235	21 : 3,111,683	179 : 3,078,472	295 : 3,102,277	248 : 3,098,244
5 : 3,111,673	25 : 3,093,829	26 : 3,098,235	27 : 3,110,906	180 : 3,078,472	<b>Class 5</b>	252 : 3,078,480
5 : 3,112,487	26 : 3,093,829	27 : 3,098,235	36 : 3,099,839	181 : 3,078,472	2 : 3,080,573	254 : 3,101,487
5 : 3,115,636	27 : 3,093,829	28 : 3,098,235	<b>Class 4</b>	182 : 3,078,472	3 : 3,080,573	256 : 3,076,203
5 : 3,115,637	28 : 3,093,829	29 : 3,098,235	1 : 3,071,778	183 : 3,078,472	4 : 3,080,573	259 : 3,082,436
46 : 3,101,477	29 : 3,093,829	30 : 3,098,235	4 : 3,070,807	184 : 3,078,472	5 : 3,080,573	260 : 3,088,132
3 : 3,112,488	30 : 3,093,829	31 : 3,098,235	7 : 3,098,239	185 : 3,078,472	6 : 3,080,573	264 : 3,114,918
49 : 3,087,160	31 : 3,093,829	32 : 3,098,235	12.2 : 3,107,358	186 : 3,078,472	7 : 3,080,573	284 : 3,100,900
3 : 3,095,574	32 : 3,093,829	33 : 3,098,235	7 : 3,074,075	187 : 3,078,472	8 : 3,106,724	285 : 3,105,976
3 : 3,099,012	33 : 3,093,829	34 : 3,098,235	7 : 3,090,049	188 : 3,078,472	9 : 3,107,813	296 : 3,109,180
3 : 3,110,898	34 : 3,093,829	35 : 3,098,235	13 : 3,070,808	189 : 3,078,472	10 : 3,110,909	317 : 3,076,980
3 : 3,113,317	35 : 3,093,829	36 : 3,098,235	15 : 3,090,964	190 : 3,078,472	11 : 3,079,613	320 : 3,092,848
50 : 3,078,465	36 : 3,093,829	37 : 3,098,235	21 : 3,111,683	191 : 3,078,472	12 : 3,110,910	327 : 3,086,225
3 : 3,080,564	37 : 3,093,829	38 : 3,098,235	27 : 3,110,906	192 : 3,078,472	13 : 3,110,910	331 : 3,080,572
56 : 3,082,425	38 : 3,093,829	39 : 3,098,235	36 : 3,099,839	193 : 3,078,472	14 : 3,110,910	332 : 3,080,572
3 : 3,083,369	39 : 3,093,829	40 : 3,098,235	<b>Class 5</b>	194 : 3,078,472	15 : 3,110,910	333 : 3,080,572
3 : 3,086,208	40 : 3,093,829	41 : 3,098,235	1 : 3,071,778	195 : 3,078,472	16 : 3,110,910	334 : 3,080,572
3 : 3,097,360	41 : 3,093,829	42 : 3,098,235	4 : 3,070,807	196 : 3,078,472	17 : 3,110,910	335 : 3,080,572
60 : 3,086,209	42 : 3,093,829	43 : 3,098,235	7 : 3,098,239	197 : 3,078,472	18 : 3,110,910	336 : 3,080,572
3 : 3,100,301	43 : 3,093,829	44 : 3,098,235	12.2 : 3,107,358	198 : 3,078,472	19 : 3,110,910	337 : 3,080,572
3 : 3,105,239	44 : 3,093,829	45 : 3,098,235	7 : 3,074,075	199 : 3,078,472	20 : 3,110,910	338 : 3,080,572
62 : 3,077,602	45 : 3,093,829	46 : 3,098,235	7 : 3,090,049	200 : 3,078,472	21 : 3,110,910	339 : 3,080,572
66 : 3,091,769	46 : 3,093,829	47 : 3,098,235	13 : 3,070,808	201 : 3,078,472	22 : 3,110,910	340 : 3,080,572
3 : 3,114,151	47 : 3,093,829	48 : 3,098,235	15 : 3,090,964	202 : 3,078,472	23 : 3,110,910	341 : 3,080,572
95 : 3,075,196	48 : 3,093,829	49 : 3,098,235	21 : 3,111,683	203 : 3,078,472	24 : 3,110,910	342 : 3,080,572
97 : 3,094,701	49 : 3,093,829	50 : 3,098,235	27 : 3,110,906	204 : 3,078,472	25 : 3,110,910	343 : 3,080,572
102 : 3,072,913	50 : 3,093,829	51 : 3,098,235	36 : 3,099,839	205 : 3,078,472	26 : 3,110,910	344 : 3,080,572
106 : 3,075,197	51 : 3,093,829	52 : 3,098,235	<b>Class 6</b>	206 : 3,078,472	27 : 3,110,910	345 : 3,080,572
3 : 3,076,970	52 : 3,093,829	53 : 3,098,235	1 : 3,071,778	207 : 3,078,472	28 : 3,110,910	346 : 3,080,572
3 : 3,087,161	53 : 3,093,829	54 : 3,098,235	4 : 3,070,807	208 : 3,078,472	29 : 3,110,910	347 : 3,080,572
3 : 3,107,355	54 : 3,093,829	55 : 3,098,235	7 : 3,098,239	209 : 3,078,472	30 : 3,110,910	348 : 3,080,572
3 : 3,110,033	55 : 3,093,829	56 : 3,098,235	12.2 : 3,107,358	210 : 3,078,472	31 : 3,110,910	349 : 3,080,572
3 : 3,112,489	56 : 3,093,829	57 : 3,098,235	7 : 3,074,075	211 : 3,078,472	32 : 3,110,910	350 : 3,080,572
111 : 3,088,114	57 : 3,093,829	58 : 3,098,235	7 : 3,090,049	212 : 3,078,472	33 : 3,110,910	351 : 3,080,572
120 : 3,079,606	58 : 3,093,829	59 : 3,098,235	13 : 3,070,808	213 : 3,078,472	34 : 3,110,910	352 : 3,080,572
3 : 3,101,478	59 : 3,093,829	60 : 3,098,235	15 : 3,090,964	214 : 3,078,472	35 : 3,110,910	353 : 3,080,572
121 : 3,084,344	60 : 3,093,829	61 : 3,098,235	21 : 3,111,683	215 : 3,078,472	36 : 3,110,910	354 : 3,080,572
125 : 3,080,565	61 : 3,093,829	62 : 3,098,235	27 : 3,110,906	216 : 3,078,472	37 : 3,110,910	355 : 3,080,572
3 : 3,101,479	62 : 3,093,829	63 : 3,098,235	36 : 3,099,839	217 : 3,078,472	38 : 3,110,910	356 : 3,080,572
138 : 3,071,777	63 : 3,093,829	64 : 3,098,235	<b>Class 7</b>	218 : 3,078,472	39 : 3,110,910	357 : 3,080,572
149 : 3,079,605	64 : 3,093,829	65 : 3,098,235	1 : 3,071,778	219 : 3,078,472	40 : 3,110,910	358 : 3,080,572
3 : 3,086,210	65 : 3,093,829	66 : 3,098,235	4 : 3,070,807	220 : 3,078,472	41 : 3,110,910	359 : 3,080,572
151 : 3,090,961	66 : 3,093,829	67 : 3,098,235	7 : 3,098,239	221 : 3,078,472	42 : 3,110,910	360 : 3,080,572
177 : 3,084,345	67 : 3,093,829	68 : 3,098,235	12.2 : 3,107,358	222 : 3,078,472	43 : 3,110,910	361 : 3,080,572
187 : 3,075,198	68 : 3,093,829	69 : 3,098,235	7 : 3,074,075	223 : 3,078,472	44 : 3,110,910	362 : 3,080,572
3 : 3,079,606	69 : 3,093,829	70 : 3,098,235	7 : 3,090,049	224 : 3,078,472	45 : 3,110,910	363 : 3,080,572
220 : 3,091,770	70 : 3,093,829	71 : 3,098,235	13 : 3,070,808	225 : 3,078,472	46 : 3,110,910	364 : 3,080,572
3 : 3,094,702	71 : 3,093,829	72 : 3,098,235	15 : 3,090,964	226 : 3,078,472	47 : 3,110,910	365 : 3,080,572
260 : 3,070,801	72 : 3,093,829	73 : 3,098,235	21 : 3,111,683	227 : 3,078,472	48 : 3,110,910	366 : 3,080,572
301 : 3,103,666	73 : 3,093,829	74 : 3,098,235	27 : 3,110,906	228 : 3,078,472	49 : 3,110,910	367 : 3,080,572
322 : 3,099,838	74 : 3,093,829	75 : 3,098,235	36 : 3,099,839	229 : 3,078,472	50 : 3,110,910	368 : 3,080,572
323 : 3,078,466	75 : 3,093,829	76 : 3,098,235	<b>Class 8</b>	230 : 3,078,472	51 : 3,110,910	369 : 3,080,572
335 : 3,101,480	76 : 3,093,829	77 : 3,098,235	1 : 3,071,778	231 : 3,078,472	52 : 3,110,910	370 : 3,080,572
342 : 3,101,481	77 : 3,093,829	78 : 3,098,235	4 : 3,070,807	232 : 3,078,472	53 : 3,110,910	371 : 3,080,572
343 : 3,087,162	78 : 3,093,829	79 : 3,098,235	7 : 3,098,239	233 : 3,078,472	54 : 3,110,910	372 : 3,080,572
349 : 3,075,199	79 : 3,093,829	80 : 3,098,235	12.2 : 3,107,358	234 : 3,078,472	55 : 3,110,910	373 : 3,080,572
3 : 3,082,426	80 : 3,093,829	81 : 3,098,235	7 : 3,074,075	235 : 3,078,472	56 : 3,110,910	374 : 3,080,572
3 : 3,098,232	81 : 3,093,829	82 : 3,098,235	7 : 3,090,049	236 : 3,078,472	57 : 3,110,910	375 : 3,080,572



## Class 5—Con.

347 : 3,107,368  
348 : 3,089,153  
3 : 3,108,293  
3 : 3,112,502  
351 : 3,076,981  
3 : 3,089,154  
3 : 3,092,849  
3 : 3,093,840  
3 : 3,099,843  
3 : 3,110,043  
3 : 3,111,690  
352 : 3,090,972  
353 : 3,080,578  
3 : 3,082,438  
3 : 3,099,021  
354 : 3,070,814  
3 : 3,080,579  
3 : 3,085,260  
3 : 3,087,171  
3 : 3,099,844  
360 : 3,087,172  
361 : 3,080,580  
3 : 3,088,133

## Class 6

1 : 3,088,134  
2 : 3,110,044  
2 : 3,105,977  
4 : 3,108,294  
9 : 3,071,784  
3 : 3,074,081  
10 : 3,088,135  
11 : 3,105,978  
12 : 3,091,780  
3 : 3,095,584

## Class 7

5.4 : 3,070,815  
14.1 : 3,094,717  
3 : 3,115,648

## Class 8

1 : 3,100,131  
4 : 3,081,140  
3 : 3,092,435  
3 : 3,112,981  
8 : 3,079,209  
3 : 3,092,836  
10 : 3,075,821  
14 : 3,102,771  
18 : 3,116,103  
21 : 3,085,848  
3 : 3,093,437  
3 : 3,096,139  
3 : 3,098,690  
3 : 3,104,150  
3 : 3,105,732  
22 : 3,071,427  
3 : 3,097,908  
3 : 3,100,673  
23 : 3,075,822  
34 : 3,077,370  
3 : 3,110,541  
3 : 3,112,982  
35 : 3,083,068  
37 : 3,108,846  
3 : 3,113,824  
39 : 3,084,015  
3 : 3,087,773  
3 : 3,087,775  
3 : 3,097,909  
3 : 3,099,513  
3 : 3,100,132  
3 : 3,106,438  
41 : 3,084,988  
3 : 3,096,140  
3 : 3,101,988  
42 : 3,071,428  
3 : 3,086,831  
3 : 3,097,039  
44 : 3,101,235  
45 : 3,081,141  
3 : 3,088,789  
54 : 3,083,069  
3 : 3,086,832  
3 : 3,097,040  
3 : 3,097,041  
3 : 3,104,931  
3 : 3,112,983  
2 : 3,072,454  
2 : 3,073,662  
2 : 3,076,687  
2 : 3,078,136  
2 : 3,082,052  
2 : 3,084,016  
2 : 3,084,017  
2 : 3,085,849  
2 : 3,088,790  
2 : 3,097,442  
2 : 3,097,910

54.2 : 3,113,825  
55 : 3,073,663  
3 : 3,079,210  
3 : 3,097,043  
3 : 3,097,044  
3 : 3,098,691  
3 : 3,098,692  
3 : 3,100,133  
3 : 3,100,134  
3 : 3,101,989  
3 : 3,103,403  
3 : 3,104,932  
3 : 3,107,968  
3 : 3,111,357  
57 : 3,072,455  
3 : 3,078,137  
3 : 3,116,104  
59 : 3,101,236  
63 : 3,096,141  
64 : 3,103,404  
65 : 3,094,369  
3 : 3,097,045  
3 : 3,097,911  
66 : 3,099,514  
69 : 3,074,774  
70 : 3,095,256  
79 : 3,073,664  
3 : 3,086,833  
82 : 3,099,515  
85 : 3,096,142  
3 : 3,104,933  
88 : 3,097,046  
92 : 3,093,438  
93 : 3,114,588  
94 : 3,097,047  
18 : 3,073,665  
19 : 3,081,142  
11 : 3,093,439  
11 : 3,093,440  
16 : 3,097,912  
21 : 3,079,211  
26 : 3,080,206  
26 : 3,092,436  
21 : 3,094,370  
25 : 3,096,143  
21 : 3,101,237  
23 : 3,101,238  
27 : 3,102,772  
32 : 3,086,834  
33 : 3,104,151  
33 : 3,114,589  
100 : 3,082,053  
102 : 3,097,048  
3 : 3,103,405  
107 : 3,077,371  
108 : 3,076,688  
3 : 3,097,049  
3 : 3,111,358  
109 : 3,077,372  
111 : 3,073,666  
3 : 3,104,152  
114.5 : 3,079,212  
5 : 3,089,747  
115.5 : 3,071,429  
5 : 3,073,667  
5 : 3,075,823  
5 : 3,079,213  
5 : 3,080,207  
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5 : 3,088,791  
5 : 3,089,748  
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5 : 3,111,363  
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6 : 3,112,154  
6 : 3,112,985  
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3 : 3,081,144  
3 : 3,087,775  
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2 : 3,094,371  
2 : 3,104,935  
2 : 3,112,155  
2 : 3,115,383  
3 : 3,072,456  
3 : 3,090,665  
3 : 3,102,773  
3 : 3,112,156  
4 : 3,071,430  
4 : 3,094,372  
4 : 3,097,050  
4 : 3,109,695  
4 : 3,113,826  
119 : 3,076,689  
3 : 3,108,847

120 : 3,077,373  
3 : 3,079,214  
3 : 3,097,051  
125 : 3,090,666  
127.6 : 3,098,693  
6 : 3,100,674  
128 : 3,071,431  
3 : 3,076,690  
3 : 3,078,138  
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3 : 3,079,217  
3 : 3,080,208  
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3 : 3,084,019  
3 : 3,093,441  
3 : 3,097,052  
3 : 3,097,913  
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3 : 3,106,440  
3 : 3,107,969  
3 : 3,110,542  
3 : 3,110,543  
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129 : 3,084,990  
130.1 : 3,083,071  
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1 : 3,088,792  
1 : 3,091,507  
131 : 3,086,835  
137 : 3,094,373  
3 : 3,110,544  
138 : 3,083,072  
142 : 3,091,508  
3 : 3,093,442  
3 : 3,101,239  
3 : 3,101,240  
3 : 3,114,936  
147 : 3,114,919  
149.3 : 3,083,073  
151.2 : 3,074,775  
2 : 3,100,306  
2 : 3,102,278  
155 : 3,094,718  
1 : 3,106,725  
156 : 3,104,153  
158 : 3,086,836  
3 : 3,093,841  
3 : 3,099,022  
3 : 3,110,045  
159 : 3,071,432  
3 : 3,073,668  
3 : 3,083,074  
3 : 3,087,776  
3 : 3,093,842

## Class 9

1 : 3,079,616  
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3 : 3,090,974  
3 : 3,090,975  
3 : 3,093,843  
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3 : 3,093,845  
3 : 3,093,846  
3 : 3,095,585  
3 : 3,097,371  
3 : 3,097,372  
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2 : 3,107,816  
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3 : 3,071,786  
3 : 3,072,928  
3 : 3,075,207  
3 : 3,080,582  
3 : 3,081,465  
3 : 3,083,382  
3 : 3,085,262  
3 : 3,090,053  
3 : 3,099,024  
3 : 3,105,248  
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3 : 3,111,691  
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6 : 3,070,817  
3 : 3,072,929  
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3 : 3,092,850  
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3 : 3,093,847  
3 : 3,103,018  
3 : 3,103,019  
8 : 3,071,787  
3 : 3,074,082  
3 : 3,074,083  
3 : 3,076,205  
3 : 3,076,982

8 : 3,077,614  
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3 : 3,080,583  
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3 : 3,092,853  
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3 : 3,111,693  
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9 : 3,085,263  
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3 : 3,089,156  
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11 : 3,072,930  
3 : 3,080,584  
3 : 3,082,441  
3 : 3,092,854  
3 : 3,097,374  
3 : 3,103,021  
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3 : 3,114,157  
14 : 3,093,849  
3 : 3,106,727  
24 : 3,091,781  
3 : 3,092,855  
3 : 3,099,184  
30 : 3,072,931  
33 : 3,075,208  
34 : 3,109,185  
36 : 3,086,227  
39 : 3,092,856  
45 : 3,094,720  
303 : 3,107,371  
304 : 3,084,355  
306 : 3,081,467  
307 : 3,097,375  
309 : 3,111,694  
3 : 3,072,932  
3 : 3,078,482  
3 : 3,082,442  
3 : 3,107,372  
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3 : 3,077,617  
3 : 3,079,617  
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3 : 3,105,981  
3 : 3,113,327  
318 : 3,090,979  
322 : 3,104,403  
327 : 3,084,357  
330 : 3,076,206  
334 : 3,094,722  
335 : 3,098,248

337 : 3,077,618  
3 : 3,084,358  
3 : 3,094,723  
338 : 3,076,207  
3 : 3,094,724  
3 : 3,103,022  
3 : 3,103,674  
339 : 3,101,492  
340 : Re.25,398  
3 : 3,094,725  
3 : 3,095,586  
3 : 3,111,696  
342 : 3,095,587  
347 : 3,074,084  
3 : 3,088,139  
3 : 3,114,158  
348 : 3,092,858  
3 : 3,102,280  
400 : 3,113,328

## Class 10

2 : 3,085,264  
6 : 3,103,675  
6 : 3,111,697  
10 : 3,076,208  
3 : 3,080,587  
21 : 3,097,378  
27 : 3,097,933  
3 : 3,088,140  
3 : 3,089,159  
3 : 3,114,921  
43 : 3,095,588  
3 : 3,109,187  
72 : 3,084,359  
3 : 3,108,297  
73 : 3,086,228  
89 : 3,103,676  
95 : 3,086,229  
101 : 3,088,141  
3 : 3,089,160  
3 : 3,106,727  
105 : 3,082,445  
111 : 3,093,850  
120 : 3,107,374  
5 : 3,082,446  
129 : 3,092,859  
3 : 3,105,982  
3 : 3,113,329  
135 : 3,114,159  
141 : 3,113,330  
152 : 3,087,174  
3 : 3,089,161  
155 : 3,100,307  
3 : 3,103,023

## Class 11

1 : 3,085,265  
3 : 3,088,142  
3 : 3,107,375  
4 : 3,101,493

## Class 12

1 : 3,076,984  
3 : 3,077,619  
3 : 3,086,230  
3 : 3,088,143  
3 : 3,094,578  
3 : 3,102,281  
3 : 3,107,376  
4.1 : 3,094,726  
4 : 3,101,494  
7.1 : 3,082,447  
1 : 3,091,783  
8.2 : 3,091,784  
8 : 3,071,789  
8 : 3,076,209  
8 : 3,076,210  
10.1 : 3,089,163  
1 : 3,097,379  
1 : 3,099,846  
1 : 3,105,983  
2 : 3,082,448  
2 : 3,096,531  
5 : 3,087,175  
5 : 3,102,282  
11.2 : 3,102,283  
12 : 3,082,449  
3 : 3,091,785  
2 : 3,083,383  
4 : 3,070,819  
4 : 3,091,786  
4 : 3,101,495  
5 : 3,083,384  
5 : 3,087,176  
5 : 3,090,980  
14.4 : 3,102,284  
4 : 3,115,649  
15.1 : 3,091,787  
1 : 3,107,354  
16.2 : 3,081,468  
2 : 3,092,860

16.4 : 3,075,209  
4 : 3,081,469  
5 : 3,090,055  
17 : 3,070,820  
2 : 3,075,210  
2 : 3,076,211  
21 : 3,102,285  
32.1 : 3,075,211  
33 : 3,095,589  
2 : 3,086,231  
2 : 3,102,286  
35.5 : 3,076,985  
37 : 3,078,483  
38 : 3,090,056  
40 : 3,089,164  
50.5 : 3,083,385  
53.5 : 3,080,588  
5 : 3,089,165  
54.3 : 3,105,250  
55.1 : 3,088,144  
59.5 : 3,076,212  
5 : 3,102,287  
7 : 3,102,288  
67 : 3,077,620  
86.6 : 3,088,145  
87 : 3,088,146  
88 : 3,085,266  
107 : 3,097,380  
114.2 : 3,100,901  
117.4 : 3,076,986  
120.5 : 3,074,085  
123.3 : 3,105,984  
128 : 3,077,621  
133 : 3,076,213  
136 : 3,106,728  
140 : 3,088,147  
141 : 3,104,404  
3 : 3,089,166  
3 : 3,095,590  
3 : 3,110,915  
142 : Re.25,411  
3 : 3,072,934  
3 : 3,075,212  
3 : 3,079,618  
3 : 3,092,861  
3 : 3,097,381  
3 : 3,099,026  
3 : 3,101,496  
3 : 3,105,985  
3 : 3,106,729  
3 : 3,106,730  
3 : 3,114,160  
3 : 3,115,650  
145 : 3,076,214  
3 : 3,082,450  
3 : 3,087,177  
146 : 3,076,215  
3 : 3,076,987  
3 : 3,080,589  
3 : 3,083,386  
3 : 3,100,902  
3 : 3,103,024  
3 : 3,110,916  
3 : 3,115,651

1 : 3,105,251  
13 : 3,103,026  
16 : 3,105,252  
18 : 3,114,161  
23 : 3,086,232  
71 : 3,071,790  
3 : 3,075,213  
3 : 3,081,470  
3 : 3,087,178  
3 : 3,093,851  
3 : 3,099,847  
3 : 3,110,048  
72 : 3,095,591  
73 : 3,110,049

Class 15  
1 : 3,079,619  
5 : 3,071,791  
5 : 3,074,086  
5 : 3,096,532  
7 : 3,074,087  
7 : 3,080,590  
7 : 3,085,267  
7 : 3,102,289  
7 : 3,108,298  
3 : 3,109,188  
11 : 3,075,214  
13 : 3,097,382  
14 : 3,099,848  
17 : 3,102,290  
19 : 3,105,253  
13 : 3,106,731  
13 : 3,114,162  
4 : 3,072,935  
3 : 3,077,622  
3 : 3,082,451  
3 : 3,084,360  
3 : 3,089,167  
3 : 3,090,057  
3 : 3,091,788  
3 : 3,094,727  
3 : 3,098,249  
21 : Re.25,462  
3 : 3,070,821  
3 : 3,072,936  
3 : 3,077,623  
3 : 3,078,484  
3 : 3,081,471  
3 : 3,085,268  
3 : 3,085,269  
3 : 3,086,233  
3 : 3,090,981  
3 : 3,099,027  
3 : 3,099,849  
3 : 3,101,497  
3 : 3,102,291  
3 : 3,103,677  
3 : 3,104,406  
3 : 3,105,986  
3 : 3,108,299  
22 : 3,072,937  
3 : 3,072,938  
3 : 3,088,148  
3 : 3,104,405  
3 : 3,105,254  
24 : 3,108,300  
27 : 3,091,789  
28 : 3,106,732  
3 : 3,115,652  
29 : 3,074,088  
3 : 3,111,550  
9 : 3,078,325  
3 : 3,114,164  
3 : 3,079,450  
3 : 3,105,864  
3 : 3,106,595  
3 : 3,108,150  
10 : 3,102,154  
3 : 3,108,151  
13 : 3,097,252  
16 : 3,072,732  
3 : 3,107,267  
18 : 3,076,050  
3 : 3,106,596  
22 : 3,092,681  
23 : 3,105,865  
24 : 3,086,999  
26 : 3,100,237  
3 : 3,107,268  
27 : 3,079,451  
29 : 3,092,682  
3 : 3,098,887  
31 : 3,078,326  
33 : 3,085,124  
3 : 3,101,385  
34 : 3,079,452

Class 13  
1 : 3,076,049  
3 : 3,106,594  
6 : 3,094,578  
3 : 3,097,251  
3 : 3,098,111  
3 : 3,108,149  
3 : 3,109,045  
3 : 3,109,408  
3 : 3,111,550  
3 : 3,114,164  
3 : 3,079,450  
3 : 3,105,864  
3 : 3,106,595  
3 : 3,108,150  
10 : 3,102,154  
3 : 3,108,151  
13 : 3,097,252  
16 : 3,072,732  
3 : 3,107,267  
18 : 3,076,050  
3 : 3,106,596  
22 : 3,092,681  
23 : 3,105,865  
24 : 3,086,999  
26 : 3,100,237  
3 : 3,107,268  
27 : 3,079,451  
29 : 3,092,682  
3 : 3,098,887  
31 : 3,078,326  
33 : 3,085,124  
3 : 3,101,385  
34 : 3,079,452

Class 14  
1 : 3,103,025  
56 : 3,076,988  
71 : 3,104,407  
76 : 3,092,863



77	: 3,075,215	145	: 3,076,217	236	: 3,101,503	256.51	: 3,097,390	544	: 3,113,335	128	: 3,092,870	45	: 3,070,833
	: 3,077,625	147	: 3,082,456		: 3,110,054	.52	: 3,099,856	547	: 3,078,497		: 3,096,537		: 3,070,834
	: 3,093,852		: 3,085,271		: 3,110,919	.51	: 3,101,504		: 3,090,060	.1	: 3,113,339		: 3,074,103
	: 3,098,250	150	: 3,074,092		: 3,114,165	.52	: 3,108,309	551	: 3,099,033	129	: 3,101,507		: 3,076,224
	: 3,108,301		: 3,115,657	237	: 3,089,172	257.06	: 3,079,625	552	: 3,093,857		: 3,115,665		: 3,077,632
79	: 3,084,363	153	: 3,087,182		: 3,097,388	.06	: 3,091,793	554	: 3,070,824	136	: 3,087,193		: 3,084,379
	: 3,087,180	159	: 3,076,218		: 3,103,681	.06	: 3,100,313		: 3,070,825	137	: 3,075,234		: 3,087,196
	: 3,101,498		: 3,090,061	244	: 3,081,475	.01	: 3,110,921	555	: 3,070,827		: 3,104,415		: 3,092,872
	: 3,103,678		: 3,094,729		: 3,081,476	.1	: 3,085,278		: 3,103,033	138	: 3,111,704		: 3,097,393
82	: 3,071,793		: 3,110,053		: 3,085,276	258	: 3,078,495	558	: 3,100,315	140	: 3,104,416		: 3,099,039
	: 3,113,332		: 3,111,699		: 3,087,183		: 3,096,535	562	: 3,076,995	141	: 3,089,184		: 3,099,858
	: 3,114,923		: 3,112,508		: 3,090,985	262	: 3,074,097		: 3,099,034	142	: 3,083,401		: 3,101,508
83	: 3,089,169	160	: 3,079,621		: 3,096,534	264	: 3,076,994	563	: 3,080,600		: 3,091,796		: 3,103,697
	: 3,093,853		: 3,093,855		: 3,103,682	265	: 3,072,949		: 3,088,160		: 3,096,538		: 3,105,267
87	: 3,102,293		: 3,099,029		: 3,105,263	268	: 3,087,186		: 3,089,182		: 3,110,557		: 3,107,392
88	: 3,105,255	161	: 3,074,093	245	: 3,079,624		: 3,103,688		: 3,094,736	146	: 3,080,602		: 3,112,519
93	: 3,074,090	164	: 3,085,272		: 3,086,237	306	: 3,103,030		: 3,111,702	147	: 3,105,266		: 3,115,670
	: 3,075,216	167	: 3,072,944		: 3,089,173	308	: 3,090,060		: 3,113,336	152	: 3,107,390		: 3,115,671
	: 3,082,452		: 3,082,457		: 3,091,791		: 3,091,794	565	: 3,098,256	153	: 3,083,402		
	: 3,083,387		: 3,085,273	246	: 3,114,166		: 3,102,297		: 3,106,742	159	: 3,075,235		
	: 3,083,388		: 3,097,386	248	: 3,075,225	312	: 3,080,598	566	: 3,084,375	163	: 3,095,060		
	: 3,110,050		: 3,100,309	250.07	: 3,074,096		: 3,086,240		: 3,108,314		: 3,099,036		
	: 3,115,655		: 3,103,679	.02	: 3,076,220		: 3,089,176	567	: 3,070,826	166	: 3,083,403		
97	: 3,077,626		: 3,103,680	.02	: 3,078,492	314	: 3,074,098		: 3,079,628	167	: 3,082,474		
	: 3,083,389		: 3,105,260	.02	: 3,078,493	316	: 3,107,385	568	: 3,085,283	176	: 3,078,502		
	: 3,084,364		: 3,110,918	.02	: 3,080,595	317	: 3,084,373		: 3,114,928		: 3,096,539		
	: 3,099,853	169	: 3,108,305	.02	: 3,084,370		: 3,111,701	569	: 3,074,100	180	: 3,085,286		
	: 3,102,294	171	: 3,108,306	.02	: 3,084,371	319	: 3,083,396		: 3,099,035		: 3,088,162		
	: 3,104,408	176	: 3,075,221	.02	: 3,088,153	320	: 3,072,950	571	: 3,075,230		: 3,103,035		
	: 3,114,924	179	: 3,076,219	.02	: 3,094,732		: 3,079,626		: 3,095,598	190	: 3,103,693		
98	: 3,072,941		: 3,105,988	.02	: 3,094,733		: 3,101,505	572	: Re. 25,380		: 3,112,514		
	: 3,072,942		: 3,114,925	.01	: 3,095,595	323	: 3,085,279		: 3,088,161	191	: 3,080,603		
	: 3,105,987	180	: 3,074,094	.02	: 3,095,596		: 3,088,157		: 3,090,987	197	: 3,070,831		
99	: Re. 25,419		: 3,078,488	.02	: 3,100,906		: 3,088,157		: 3,103,691		: 3,077,631		
	: 3,090,982		: 3,082,458	.02	: 3,103,683		: 3,089,177		: 3,111,703		: 3,084,377		
	: 3,096,533		: 3,101,501	.02	: 3,103,684	327	: 3,081,478	574	: 3,083,397		: 3,087,194		
103.5	: 3,083,390		: 3,105,261	.02	: 3,103,685		: 3,082,465		: 3,100,908		: 3,091,797		
104	: Re. 25,435	181	: 3,084,367	.03	: 3,103,686		: 3,092,868	588	: 3,094,737				
	: 3,082,453		: 3,090,062	.03	: 3,104,411		: 3,110,922	589	: 3,085,284				
	: 3,105,256		: 3,106,737	.02	: 3,107,383	328	: 3,079,623	592	: 3,072,953				
.04	: 3,075,219		: 3,109,190	.02	: 3,112,510	340	: 3,087,187	595	: 3,090,071	1	: 3,075,236		
.02	: 3,078,485	182	: 3,107,381	.01	: 3,112,510	344	: 3,079,627	604	: 3,113,337		: 3,076,996		
.06	: 3,081,472		: 3,107,382	.02	: 3,114,167	345	: 3,107,386	609	: 3,087,191		: 3,080,604		
.09	: 3,087,181	183	: 3,085,274	.02	: 3,114,168	346	: 3,075,227				: 3,081,483		
.06	: 3,090,058	184	: 3,106,738	.02	: 3,115,661		: 3,078,496				: 3,084,378		
.06	: 3,100,308	192	: 3,076,989	.12	: 3,075,226	347	: 3,089,178				: 3,087,195		
.07	: 3,101,499	193	: 3,090,063	.17	: 3,078,494	350	: 3,112,511	1	: 3,113,338		: 3,088,163		
.07	: 3,104,409		: 3,100,310	.17	: 3,082,461	354	: 3,071,799	2	: 3,082,470		: 3,090,989		
.06	: 3,106,735		: 3,112,509	.14	: 3,083,394	356	: 3,108,310		: 3,091,795		: 3,092,871		
.06	: 3,107,379	198	: 3,071,795	.12	: 3,086,238	369	: 3,072,951	7	: 3,092,869		: 3,099,037		
.06	: 3,107,380		: 3,106,739	.17	: 3,090,068	371	: 3,089,179	18	: 3,075,231		: 3,099,857		
.01	: 3,110,051	201	: 3,086,235	.17	: 3,091,792	375	: 3,107,387		: 3,075,232		: 3,104,417	.5	
.01	: 3,112,506	202	: 3,072,945	.17	: 3,095,597	377	: 3,100,907		: 3,083,398		: 3,106,744	.5	
.19	: 3,078,487	203	: 3,086,236	.12	: 3,110,056	394	: 3,110,923	21	: 3,084,376		: 3,107,391	.5	
.1	: 3,082,454	209	: 3,075,222	.16	: 3,110,920	415	: 3,082,466	26	: 3,096,536		: 3,110,925	.6	
.1	: 3,090,983		: 3,078,489	.14	: 3,113,333	417	: 3,108,311	35	: 3,070,828		: 3,113,340	.6	
.19	: 3,100,904		: 3,084,368	.14	: 3,113,334	421	: 3,080,599		: 3,075,233		: 3,115,666	.6	
.16	: 3,108,302		: 3,090,064	.16	: 3,115,662	503	: 3,070,822		: 3,085,285	2	: 3,070,832	.7	
.3	: 3,071,794		: 3,090,065	.2	: 3,072,947		: 3,112,512		: 3,098,257		: 3,076,997	.7	
.3	: 3,075,217		: 3,097,387	.22	: 3,076,990	504	: 3,082,467	42	: 3,076,221		: 3,080,605	.7	
.3	: 3,075,218		: 3,099,854	.23	: 3,076,991		: 3,103,689		: 3,078,498		: 3,094,739	.7	
.3	: 3,078,486		: 3,100,311	.23	: 3,077,628	506	: 3,072,952		: 3,080,601		: 3,110,926	.7	
.3	: 3,083,391		: 3,105,989	.29	: 3,086,239		: 3,074,099	44	: 3,102,298	4	: 3,111,705	.7	
.3	: 3,086,234		: 3,109,191	.23	: 3,092,865		: 3,075,228	49	: 3,082,471	5	: 3,072,956	.7	
.3	: 3,093,854	210	: 3,071,796	.28	: 3,108,307		: 3,081,479		: 3,089,183		: 3,088,164	.7	
.3	: 3,095,592		: 3,075,223	.32	: 3,071,797		: 3,082,468		: 3,094,738		: 3,095,601	.7	
.3	: 3,098,251		: 3,080,594	.32	: 3,071,798		: 3,085,280		: 3,095,599	6	: 3,071,801	.7	
.3	: 3,106,734		: 3,088,151	.35	: 3,076,992		: 3,088,158	50	: 3,098,258	7	: 3,071,802	.7	
.8	: 3,104,410		: 3,094,730	.36	: 3,080,596		: 3,094,735	52	: 3,078,499	8	: 3,088,165	.7	
105	: 3,080,593		: 3,098,254	.3	: 3,081,477		: 3,098,252		: 3,078,500		: 3,093,859	.7	
	: 3,082,455		: 3,109,192	.3	: 3,082,462		: 3,103,031		: 3,079,629	11	: 3,076,998	.7	
	: 3,089,170	215	: 3,083,393	.32	: 3,082,463		: 3,115,663		: 3,110,924		: 3,078,503	.7	
	: 3,091,790		: 3,100,312	.36	: 3,084,372	507	: 3,070,823	54	: 3,074,101		: 3,082,475	.7	
	: 3,105,257		: 3,078,490	.32	: 3,085,277	509	: 3,081,480		: 3,093,858		: 3,097,391	.7	
	: 3,111,698	216	: 3,074,095	.34	: 3,088,154		: 3,099,032	55	: 3,106,743		: 3,099,038	.7	
.5	: 3,109,189	222	: 3,072,946	.36	: 3,089,174	510	: 3,085,281		: 3,108,315		: 3,103,694	.7	
106	: 3,088,150	227	: 3,103,029	.36	: 3,089,175		: 3,103,690	59	: 3,098,259		: 3,103,695	.7	
110	: 3,103,027	228	: 3,077,627	.36	: 3,092,866		: 3,115,664	66	: 3,071,800		: 3,104,418	.7	
111	: 3,094,728	229	: 3,075,224	.35	: 3,099,030	511	: 3,086,241		: 3,072,954		: 3,112,515	.7	
	: 3,097,384		: 3,081,474	.35	: 3,102,295		: 3,087,188		: 3,078,501		: 3,115,667	.7	
114	: 3,085,270		: 3,111,700	.35	: 3,105,990		: 3,100,314		: 3,083,399	.1	: 3,090,073	.7	
115	: 3,115,656		: 3,115,658	.42	: 3,076,993	512	: 3,106,740		: 3,090,988	.1	: 3,108,317	.7	
116	: 3,076,216		: 3,082,459	.42	: 3,082,464	513	: 3,087,189		: 3,103,034	.2	: 3,094,740	.7	
117	: 3,110,052	230	: 3,088,152	.42	: 3,083,395	520	: 3,105,264		: 3,105,264	23	: 3,074,102	.7	
118	: 3,083,392		: 3,112,729	.42	: 3,088,155	521	: 3,084,374	70	: 3,083,400		: 3,095,602	.7	
	: 3,097,385		: 3,115,659	.42	: 3,090,986	522	: 3,082,469	75	: 3,109,194		: 3,105,993	.7	
	: 3,098,253		: 3,115,660	.42	: 3,092,867	523	: 3,103,032	82	: 3,103,692				



## Class 18 - Con.

5	: 3,114,931	14	: 3,095,608	30	: 3,091,810	48	: 3,082,051	54	: 3,114,593	59	: 3,112,987	293	: 3,074,122
	: 3,114,932		: 3,099,860		: 3,093,863		: 3,082,482		: 3,115,384		: 3,113,830	294	: 3,079,647
	: 3,115,673		: 3,102,303		: 3,095,609		: 3,082,483		: 3,115,385		: 3,113,831	295	: 3,079,648
.3	: 3,112,523		: 3,104,421		: 3,097,395		: 3,083,410	.7	: 3,084,394		: 3,114,598	Class 20	
.7	: 3,100,911		: 3,105,269		: 3,097,396		: 3,083,411	.7	: 3,107,973		: 3,115,386		
6	: 3,072,960		: 3,108,324		: 3,099,045		: 3,083,412	55	: 3,072,969	.2	: 3,098,699	5	: 3,077,008
	: 3,080,606		: 3,111,713		: 3,099,861		: 3,084,393		: 3,074,115	.2	: 3,112,165	.5	: 3,078,521
	: 3,085,287	15	: 3,071,810		: 3,101,512		: 3,086,247		: 3,075,249	.3	: 3,081,498	.5	: 3,079,649
	: 3,095,605		: 3,087,198		: 3,103,039		: 3,086,248		: 3,076,233	.3	: 3,084,397	.5	: 3,079,649
	: 3,108,321		: 3,090,076		: 3,104,424		: 3,088,172		: 3,077,637	.3	: 3,084,398	.5	: 3,083,417
	: 3,112,524		: 3,111,715		: 3,105,995		: 3,088,173		: 3,079,642	.3	: 3,095,262	.5	: 3,089,201
8	: 3,070,839		: 3,112,528		: 3,108,326		: 3,090,077		: 3,080,614	.3	: 3,112,166	.5	: 3,100,915
	: 3,071,806	16	: 3,078,515		: 3,109,198		: 3,090,997		: 3,082,484	61	: 3,085,295	.5	: 3,106,752
	: 3,071,807		: 3,080,609		: 3,109,199		: 3,092,439		: 3,084,395		: 3,096,146	1	: 3,078,522
	: 3,071,808		: 3,084,387		: 3,109,200		: 3,093,444		: 3,084,396		: 3,101,994		: 3,080,619
	: 3,074,104		: 3,088,168		: 3,110,061		: 3,097,053		: 3,085,292	Class 19			: 3,083,418
	: 3,075,241		: 3,088,169		: 3,113,346		: 3,098,695		: 3,086,249		: 3,092,875		: 3,091,815
	: 3,075,242		: 3,089,188		: 3,114,935		: 3,099,516		: 3,089,197	.23	: 3,092,440		: 3,093,869
	: 3,077,633		: 3,089,189		: 3,115,681		: 3,099,517		: 3,092,441	.2	: 3,092,441		: 3,110,933
	: 3,078,509		: 3,094,743		: 3,115,682		: 3,101,243		: 3,096,145	.48	: 3,097,006		: 3,115,684
	: 3,080,607		: 3,100,912		: 3,072,966	34	: 3,101,990		: 3,097,057	.46	: 3,086,252	.126	: 3,077,642
	: 3,081,490		: 3,103,038		: 3,095,610		: 3,103,406		: 3,097,058	2	: 3,112,531	.123	: 3,086,256
	: 3,084,384		: 3,103,701		: 3,070,844	36	: 3,103,407		: 3,103,409	52	: 3,083,413	.126	: 3,088,176
	: 3,090,074		: 3,105,994		: 3,072,967		: 3,103,408		: 3,107,141	55	: 3,091,001	.123	: 3,091,816
	: 3,091,805		: 3,107,395		: 3,074,112		: 3,104,937		: 3,108,850	66	: 3,077,007	.12	: 3,092,876
	: 3,092,873		: 3,115,676		: 3,076,230		: 3,106,442		: 3,114,594		: 3,093,867	.13	: 3,103,706
	: 3,094,742	.5	: 3,075,244		: 3,077,003		: 3,107,139		: 3,114,595		: 3,114,175	.126	: 3,103,707
	: 3,095,606	.5	: 3,075,245		: 3,081,493		: 3,107,140		: 3,114,596		: 3,114,938	.13	: 3,105,999
	: 3,095,607	.5	: 3,082,477		: 3,084,391		: 3,111,365	.05	: 3,097,059	80	: 3,101,513	.126	: 3,107,398
	: 3,102,301	.5	: 3,084,388		: 3,086,245		: 3,111,366	56	: 3,102,776		: 3,110,062	.126	: 3,107,399
	: 3,104,419	.5	: 3,088,170		: 3,089,193		: 3,113,827	57	: 3,103,410	81	: 3,085,296	2	: 3,070,850
	: 3,108,322	.5	: 3,093,862		: 3,090,996		: 3,113,828		: 3,085,293	82	: 3,099,047	.5	: 3,075,252
	: 3,108,323	.5	: 3,096,544		: 3,093,864	53	: 3,072,968		: 3,090,998	83	: 3,098,264	.5	: 3,091,002
	: 3,109,195	.5	: 3,098,265		: 3,095,611		: 3,081,496		: 3,097,915	98	: 3,108,330	.5	: 3,095,616
	: 3,110,059	.5	: 3,108,321		: 3,095,612	54	: 3,073,669		: 3,108,851		: 3,071,820		: 3,097,400
	: 3,110,930	17	: 3,070,842		: 3,098,263		: 3,073,670		: 3,110,549		: 3,097,399		: 3,103,708
9	: Re. 25,346		: 3,071,811		: 3,103,703		: 3,077,374		: 3,110,551	99	: 3,108,331		: 3,103,709
	: 3,074,105		: 3,082,478		: 3,103,704		: 3,077,375	58	: 3,071,817		: 3,081,499		: 3,104,427
	: 3,075,243		: 3,096,545		: 3,108,327		: 3,078,139		: 3,072,970		: 3,087,202		: 3,106,750
	: 3,083,407		: 3,097,394		: 3,108,328		: 3,079,218		: 3,093,447		: 3,095,614		: 3,114,176
10	: 3,072,961		: 3,113,344		: 3,108,329		: 3,079,219		: 3,094,375	105	: 3,077,641	3.5	: 3,105,271
	: 3,107,394	18	: 3,074,109		: 3,109,201		: 3,080,209		: 3,095,259		: 3,111,718	.5	: 3,111,720
11	: 3,078,510		: 3,109,197		: 3,109,202		: 3,080,210		: 3,100,676		: 3,115,683	.5	: 3,111,721
12	: 3,070,840	19	: Re. 25,313		: 3,113,347		: 3,081,145		: 3,113,829	106	: 3,089,200	4	: 3,070,851
	: 3,070,841		: Re. 25,484		: 3,088,171	38	: 3,082,054		: 3,114,597		: 3,098,265		: 3,074,123
	: 3,072,962		: 3,072,963		: 3,097,397		: 3,082,055	.3	: 3,095,260		: 3,113,348		: 3,075,253
	: 3,074,106		: 3,072,964		: 3,114,936		: 3,082,056	.6	: 3,077,005	109	: 3,100,914		: 3,082,487
	: 3,078,511		: 3,074,110	39	: 3,070,846		: 3,082,057	.7	: 3,079,643	129	: 3,104,426		: 3,084,401
	: 3,078,512		: 3,076,227		: 3,082,479		: 3,083,075	59	: 3,071,818	145.3	: 3,090,080		: 3,084,402
	: 3,078,513		: 3,076,228		: 3,091,811		: 3,084,021		: 3,071,819	.5	: 3,087,203		: 3,087,205
	: 3,079,634		: 3,077,000		: 3,109,203		: 3,084,991		: 3,072,971	.5	: 3,107,397		: 3,091,817
	: 3,079,635		: 3,077,001	41	: 3,099,862		: 3,084,992		: 3,072,972	.7	: 3,080,617		: 3,099,863
	: 3,080,608		: 3,078,516	42	: Re. 25,441		: 3,084,993		: 3,072,973	150	: 3,083,414		: 3,100,319
	: 3,082,476		: 3,079,637		: 3,071,814		: 3,088,793		: 3,074,116	155	: 3,071,821		: 3,106,751
	: 3,084,385		: 3,081,491		: 3,074,113		: 3,088,794		: 3,074,117	156	: 3,086,253		: 3,107,400
	: 3,085,288		: 3,084,389		: 3,075,246		: 3,089,749		: 3,075,250	.3	: 3,071,822		: 3,108,334
	: 3,085,289		: 3,087,199		: 3,082,480		: 3,091,509		: 3,076,234	.3	: 3,076,236		: 3,109,206
	: 3,090,075		: 3,089,190		: 3,091,812		: 3,091,510		: 3,076,235	.3	: 3,114,939		: 3,110,064
	: 3,090,992		: 3,091,808		: 3,093,865		: 3,093,445		: 3,077,638	157	: 3,075,251		: 3,111,722
	: 3,093,860		: 3,094,744		: 3,093,866		: 3,093,446		: 3,077,639		: 3,084,399		: 3,111,723
	: 3,093,861		: 3,096,546		: 3,095,613		: 3,094,374		: 3,077,640		: 3,102,305	6	: 3,087,206
	: 3,096,543		: 3,099,043		: 3,097,398		: 3,095,258		: 3,079,644	159	: 3,083,415		: 3,090,082
	: 3,099,859		: 3,103,702		: 3,099,046		: 3,096,144		: 3,079,645		: 3,083,416		: 3,094,745
	: 3,101,510		: 3,104,422		: 3,103,705		: 3,097,054		: 3,080,615		: 3,105,996		: 3,114,940
	: 3,101,511		: 3,105,270		: 3,104,425		: 3,097,055		: 3,080,616	161	: 3,081,500	8	: 3,082,488
	: 3,102,302		: 3,106,749		: 3,111,717		: 3,097,056		: 3,081,497		: 3,081,501		: 3,082,489
	: 3,103,037		: 3,107,396	44	: 3,081,494		: 3,097,914		: 3,082,485		: 3,113,349	9	: 3,077,009
	: 3,103,700		: 3,111,716		: 3,100,318		: 3,098,696		: 3,082,486	163	: 3,095,615		: 3,102,306
	: 3,104,420		: 3,113,345		: 3,114,174		: 3,098,697		: 3,085,294	200	: 3,111,719	10	: 3,114,941
	: 3,105,268		: 3,114,172	45	: 3,083,409		: 3,100,675		: 3,086,250	202	: 3,108,332	11	: 3,077,010
	: 3,106,746		: 3,114,934		: 3,114,937		: 3,101,245		: 3,086,251	203	: Re. 25,460		: 3,079,650
	: 3,106,747		: 3,115,677	46	: 3,091,813		: 3,101,991		: 3,087,200		: 3,071,823		: 3,082,490
	: 3,109,196		: 3,115,678	47.2	: 3,071,815		: 3,102,775		: 3,087,201		: 3,086,254		: 3,087,207
	: 3,110,060	20	: 3,070,843	.3	: 3,084,392		: 3,104,154		: 3,088,174	204	: 3,070,847		: 3,090,083
	: 3,110,931		: 3,078,517	.5	: 3,071,816		: 3,104,938		: 3,089,198	215	: 3,074,118		: 3,098,266
	: 3,112,525		: 3,100,913	.5	: 3,075,247		: 3,106,444		: 3,089,199	218	: 3,084,400		: 3,100,320
	: 3,112,526		: 3,102,304	.5	: 3,076,231		: 3,107,970		: 3,090,078	225	: 3,103,041		: 3,103,710
	: 3,112,527		: 3,1071,812	.5	: 3,078,518		: 3,107,971		: 3,090,079	227	: 3,074,119		: 3,111,724
	: 3,113,343		: 3,077,634	.5	: 3,079,639		: 3,107,972		: 3,090,999	231	: 3,093,868	12	: 3,103,711
	: 3,114,169		: 3,089,191	.5	: 3,080,611		: 3,108,848		: 3,091,000	235	: 3,108,333	15	: 3,084,403
	: 3,114,170	26	: 3,072,965	.5	: 3,081,495		: 3,108,849		: 3,093,448	236	: 3,070,848		: 3,103,042
	: 3,114,171		: 3,074,111	.5	: 3,082,481		: 3,109,697		: 3,094,376	240	: 3,087,204		: 3,112,532
	: 3,114,933		: 3,077,635	.5	: 3,086,246		: 3,109,698		: 3,095,261		: 3,088,175		: 3,112,533
	: 3,115,674		: 3,098,262	.5	: 3,089,194		: 3,109,699		: 3,097,060		: 3,099,048	16	: 3,070,852
	: 3,115,675		: 3,099,044	.5	: 3,089,195		: 3,109,700		: 3,097,061	241	: 3,113,350		: 3,075



19	: 3,075,255	70	: 3,091,008	10	: 3,104,431	155	: 3,095,623	14.5	: 3,079,225	77	: 3,112,174	139	: 3,084,994
	: 3,085,298	74	: 3,077,012		: 3,107,402	168	: 3,080,628	.5	: 3,081,147	78	: 3,093,454	140	: 3,087,786
	: 3,089,203		: 3,086,262		: 3,114,181	174	: 3,076,240	.5	: 3,081,148	79	: 3,112,993		: 3,090,670
	: 3,090,084		: 3,091,821	11	: 3,092,878	192	: 3,077,646	.5	: 3,081,149	85	: 3,075,827		: 3,098,711
	: 3,091,003		: 3,110,066	13	: 3,074,129		: 3,087,213	.5	: 3,083,076		: 3,085,854	141	: 3,073,675
	: 3,091,004	78.3	: 3,093,870		: 3,082,494		: 3,110,943	.5	: 3,086,840		: 3,095,267		: 3,094,384
	: 3,097,401	.6	: 3,084,406		: 3,102,309		: 3,110,944	.5	: 3,086,841		: 3,101,248	142	: 3,077,380
	: 3,100,916	92	: 3,071,827		: 3,103,716	193	: 3,113,360	.5	: 3,086,842		: 3,102,784		: 3,094,385
	: 3,100,918		: 3,075,259		: 3,104,432		: 3,070,861	.5	: 3,087,779		: 3,105,735		: 3,106,452
	: 3,105,272		: 3,082,492	17	: 3,077,013		: 3,077,647	.5	: 3,087,780		: 3,110,558	143	: 3,071,436
	: 3,106,753		: 3,085,301		: 3,102,310		: 3,077,648	.5	: 3,087,781		: 3,111,380		: 3,086,845
	: 3,110,935		: 3,088,178		: 3,110,940		: 3,079,656	.5	: 3,088,798	86	: 3,094,380		: 3,092,452
	: 3,114,943		: 3,090,086		: 3,110,067		: 3,094,750	.5	: 3,088,799	87	: 3,074,777		: 3,092,453
	: 3,114,944		: 3,090,087	20	: 3,077,014		: 3,096,548	.5	: 3,088,800		: 3,078,144		: 3,092,454
23	: 3,091,820		: 3,090,088		: 3,083,421		: 3,101,516	.5	: 3,089,750		: 3,083,079		: 3,096,154
	: 3,099,864		: 3,094,747		: 3,103,717		: 3,108,340	.5	: 3,089,751		: 3,085,855		: 3,104,944
	: 3,106,000		: 3,094,748		: 3,111,729		: 3,108,341	.5	: 3,091,512		: 3,086,843		: 3,105,739
40	: 3,074,125		: 3,099,051	26	: 3,111,730		: 3,109,211	.5	: 3,092,445		: 3,101,249		: 3,111,382
	: 3,099,865		: 3,102,308	31	: 3,082,495		: 3,111,731	.5	: 3,092,446		: 3,101,250		: 3,112,994
	: 3,103,712		: 3,104,429		: 3,092,879		: 3,112,538	.5	: 3,092,447		: 3,102,785		: 3,112,995
	: 3,114,945		: 3,104,430	34	: 3,103,044		: 3,113,361	.5	: 3,093,452		: 3,102,786	144	: 3,096,155
.5	: 3,089,204		: 3,109,207	35	: 3,081,505		: 3,114,948	.5	: 3,094,377		: 3,105,736		: 3,107,977
42	: 3,070,853	.4	: 3,080,623	36	: 3,075,262	194	: 3,099,868	.5	: 3,096,150		: 3,107,144	145	: 3,074,778
	: 3,081,502	.4	: 3,113,358		: 3,089,206		: 3,107,403	.5	: 3,097,062		: 3,108,854		: 3,078,147
	: 3,085,299	94	: 3,091,822		: 3,089,207	195	: 3,085,304	.5	: 3,097,919		: 3,109,707	149	: 3,111,383
	: 3,086,258		: 3,109,208	43	: 3,094,749		: 3,105,277	.5	: 3,098,709	88	: 3,080,213		: 3,112,996
	: 3,097,402	95	: 3,077,645	57.2	: 3,075,263	196	: 3,070,862	.5	: 3,098,708		: 3,082,061	150	: 3,100,685
	: 3,108,335			.2	: 3,078,527		: 3,094,751	.5	: 3,098,709		: 3,089,752	151	: 3,096,156
	: 3,111,725			.2	: 3,079,654	200	: 3,072,982	.5	: 3,099,525		: 3,094,381		: 3,097,921
48	: 3,099,866			.2	: 3,080,625		: 3,072,983	.5	: 3,100,681		: 3,097,063		: 3,102,001
49	: 3,091,005	2	: 3,099,519	.2	: 3,080,626		: 3,096,549	.5	: 3,100,682		: 3,097,064		: 3,102,269
52	: 3,075,256		: 3,099,520	.2	: 3,082,496		: 3,112,539	.5	: 3,102,782		: 3,104,156		: 3,104,945
	: 3,077,011	.5	: 3,080,211	.2	: 3,087,211	.1	: 3,076,241	.5	: 3,104,940		: 3,106,448		: 3,107,146
	: 3,078,523	.5	: 3,084,022	.2	: 3,098,269		: 3,108,208	.5	: 3,104,941		: 3,106,449		: 3,112,177
	: 3,078,524	.5	: 3,111,371	.2	: 3,101,515	.1	: 3,089,209	.5	: 3,105,734		: 3,114,601	152	: 3,084,995
	: 3,085,300	.7	: 3,079,220	.2	: 3,103,718	.1	: 3,099,053	.5	: 3,110,555	89	: 3,087,782		: 3,101,253
	: 3,088,177	.7	: 3,079,221	.2	: 3,105,275	.1	: 3,107,404	.5	: 3,111,374		: 3,099,528		: 3,107,147
	: 3,103,713	.7	: 3,081,146	.2	: 3,112,537	202	: 3,077,649	.5	: 3,111,375		: 3,105,737	153	: 3,071,437
	: 3,106,754	.7	: 3,087,777	.3	: 3,075,264		: 3,103,722	.5	: 3,112,990		: 3,111,381		: 3,073,676
	: 3,111,726	.7	: 3,088,795	.3	: 3,088,181	203	: 3,083,424	.5	: 3,115,388		: 3,112,175		: 3,087,787
	: 3,111,727	.7	: 3,088,796	.4	: 3,080,627		: 3,094,752	.5	: 3,116,106		: 3,114,602		: 3,091,513
	: 3,114,177	.7	: 3,096,147	.4	: 3,110,941		: 3,112,540	.5	: 3,092,448		: 3,115,389		: 3,101,254
.2	: 3,074,126	.7	: 3,098,700	58	: 3,103,719		: 3,112,541	.5	: 3,099,526	91	: 3,092,450		: 3,102,787
.2	: 3,081,503	.7	: 3,099,521	62	: 3,100,322		: 3,094,753	.5	: 3,109,704		: 3,096,152		: 3,107,148
.2	: 3,083,419	.7	: 3,116,105	64	: 3,095,620		: 3,098,270	.5	: 3,079,226	92	: 3,082,062		: 3,110,562
.2	: 3,086,259	7	: 3,080,212	65	: 3,072,980		: 3,099,869	.5	: 3,107,976	93	: 3,078,145	154	: 3,074,779
.2	: 3,099,050	53	: 3,092,442		: 3,074,130		: 3,096,550	.5	: 3,078,142	97	: 3,092,451		: 3,079,230
.2	: 3,105,273		: 3,107,974		: 3,091,009		: 3,111,732	.5	: 3,092,449	100	: 3,097,065		: 3,079,231
.2	: 3,114,178	55	: 3,091,511	.1	: 3,095,621	210	: 3,072,984	.5	: 3,072,459	101	: 3,095,268		: 3,084,996
53	: 3,091,006	56	: 3,086,837	67	: 3,104,433	215	: 3,072,985	.5	: 3,077,378	102	: 3,099,529	155	: 3,085,860
	: 3,103,714	58	: 3,096,148	68	: 3,074,131		: 3,078,531	.5	: 3,100,683	103	: 3,106,450	157	: 3,079,232
55	: 3,080,620		: 3,097,916		: 3,078,528		: 3,106,002	.5	: 3,110,556	106	: Re. 25,455		: 3,099,531
	: 3,080,621		: 3,102,777		: 3,085,302			.5	: 3,102,783		: 3,113,836		: 3,113,837
	: 3,080,622		: 3,102,778		: 3,092,880			.5	: 3,112,991		: 3,081,150		: 3,113,837
	: 3,095,617		: 3,102,779		: 3,093,871			.5	: 3,114,600		: 3,087,783	159	: 3,098,712
56	: 3,108,336		: 3,102,780		: 3,106,755	1	: 3,078,140	.5	: 3,075,826	107	: 3,081,151	161	: 3,102,788
	: 3,112,534	60.5	: 3,082,058	69	: 3,092,881		: 3,079,222	.5	: 3,097,920		: 3,085,856	162	: 3,081,153
	: 3,113,354	.5	: 3,085,850	73	: 3,070,857		: 3,082,059	.5	: 3,101,246		: 3,086,844		: 3,101,255
.4	: 3,081,504	.5	: 3,095,263		: 3,099,052		: 3,090,667	.5	: 3,101,998		: 3,094,382		: 3,110,563
.4	: 3,090,085	.5	: 3,098,701	74	: 3,109,209		: 3,093,450	.5	: 3,112,168	31	: 3,110,559	165	: 3,072,460
.4	: 3,092,877	.5	: 3,098,702	75	: 3,095,622		: 3,098,704	.5	: 3,085,852	32	: 3,115,390		: 3,072,461
.4	: 3,112,535	.5	: 3,112,167	76	: 3,099,867		: 3,099,523	.5	: 3,112,169		: 3,116,109		: 3,073,677
.5	: 3,070,854	61	: 3,102,781	79	: 3,088,182		: 3,104,155	.5	: 3,099,527	33	: 3,099,527	108	: 3,087,784
.5	: 3,077,643	74	: 3,071,828		: 3,093,872		: 3,104,939	.5	: 3,112,170		: 3,099,530		: 3,077,381
.5	: 3,079,651		: 3,072,978	81	: 3,077,015		: 3,112,988	.5	: 3,084,026	38	: 3,084,026		: 3,077,382
.5	: 3,105,274		: 3,100,679	82	: 3,105,276		: 3,071,433	.5	: 3,101,247	39	: 3,101,247		: 3,084,027
.5	: 3,114,179		: 3,105,733		: 3,115,686		: 3,072,457	.5	: 3,073,672	48	: 3,073,672		: 3,097,922
57.5	: 3,075,257	78	: 3,101,995	84	: 3,087,212		: 3,072,458	.5	: 3,083,077		: 3,076,691	109	: 3,104,946
.5	: 3,084,404	80	: 3,087,209		: 3,090,090		: 3,074,776	.5	: 3,111,377		: 3,095,269		: 3,104,947
.5	: 3,086,260	86	: 3,106,445	85	: 3,083,422		: 3,085,851	.5	: 3,111,378		: 3,110,560		: 3,113,838
.5	: 3,094,746	87	: 3,090,089		: 3,091,823		: 3,086,838	.5	: 3,113,833		: 3,113,835		: 3,113,839
.5	: 3,097,403		: 3,092,443		: 3,091,824		: 3,086,839	.5	: 3,083,078	49	: Re. 25,464	167	: 3,086,846
.5	: 3,098,267	91	: 3,078,525		: 3,103,720		: 3,092,444	.5	: 3,095,265		: 3,080,214		: 3,093,455
.5	: 3,103,715		: 3,088,179	89	: 3,070,858		: 3,097,917	.5	: 3,107,142		: 3,087,785	174	: 3,098,713
.5	: 3,107,401	93	: 3,087,210		: 3,082,497		: 3,101,996	.5	: 3,088,801		: 3,090,669	181	: 3,079,233
62	: 3,107,855	94	: 3,093,449		: 3,083,423		: 3,103,411	.5	: 3,093,453		: 3,104,943		: 3,087,788
	: 3,074,127		: 3,099,522		: 3,088,183		: 3,079,223	.5	: 3,096,151		: 3,115,391		: 3,108,855
	: 3,084,405		: 3,107,975		: 3,090,091		: 3,084,023	.5	: 3,110,557	112	: 3,073,674	182	: 3,079,234
	: 3,110,936	98	: 3,086,263		: 3,092,882		: 3,087,778	.5	: 3,077,379		: 3,094,383		: 3,081,154
	: 3,110,937		: 3,088,180		: 3,109,210		: 3,098,705	.5	: 3,088,802	51	: 3,109,705		: 3,085,861
	: 3,113,355		: 3,114,599	95.5	: 3,076,238		: 3,100,680	.5	: 3,107,143		: 3,103,412		: 3,087,789
63	: 3,113,356	102	: 3,078,526	116	: 3,070,859		: 3,084,024	.5	: 3,112,992		: 3,101,251		: 3,110,564
	: 3,113,357	106	: 3,098,703		: 3,079,655		: 3,097,918	.5	: 3,085,853	52	: 3,085,853		: 3,112,176
64	: 3,072,976	111	: 3,095,264		: 3								



Class 23 - Con.		209.4 : 3,095,272		253 : 3,116,118		305 : 3,075,831		123 : 3,091,829		216 : 3,083,430		118 : 3,076,246	
		.4 : 3,103,418		254 : 3,076,697		306 : 3,097,076		: 3,100,323		217 : 3,095,625		: 3,089,215	
200	: 3,082,067	.4 : 3,077,153		: 3,086,848		308 : 3,084,032		125 : 3,081,507		218 : 3,107,409		121 : 3,071,833	
		.4 : 3,116,114		: 3,094,393		309 : 3,080,217		: 3,103,726		221 : 3,080,633		: 3,071,834	
201	: 3,075,828	.5 : 3,079,237		: 3,095,278		: 3,093,457		: 3,108,344		: 3,080,634		: 3,071,835	
		.6 : 3,095,273		: 3,100,692		310 : 3,071,450		: 3,111,733		: 3,102,315		: 3,071,836	
		.6 : 3,100,689		: 3,111,391		: 3,074,786		: 3,115,688		: 3,109,214		: 3,089,216	
		.8 : 3,088,806		: 3,112,998		: 3,088,859		126 : 3,071,831		225 : 3,095,626		: 3,092,886	
		.8 : 3,107,980		: 3,112,999		312 : 3,077,988		: 3,072,988		227 : 3,101,518		: 3,110,949	
		.9 : 3,089,754		: 3,113,842		: 3,080,220		: 3,072,989		230 : 3,075,270		127 : 3,110,074	
202	: 3,071,439	210 : 3,081,156		255 : 3,087,795		: 3,083,085		: 3,078,535		: 3,072,995		128 : 3,072,995	
		: 3,091,517		: 3,092,466		: 3,090,679		: 3,085,305		: 3,080,635		: 3,074,140	
		: 3,092,461		: 3,111,392		: 3,095,282		: 3,085,306		: 3,090,092		: 3,101,519	
		: 3,078,148		: 3,094,390		: 3,105,746		: 3,098,275		: 3,092,885		: 3,104,441	
		: 3,078,149		: 3,095,274		: 3,107,157		: 3,102,312		: 3,099,870		130 : 3,098,278	
		: 3,091,515		: 3,100,138		313 : 3,110,570		: 3,109,213		: 3,102,316		: 3,106,007	
		: 3,092,457		: 3,102,003		314 : 3,102,005		: 3,112,544		: 3,102,317		131 : 3,071,837	
		: 3,094,386		: 3,116,115		Class 24		: 3,094,755		: 3,104,440		: 3,074,142	
		: 3,097,923		: 3,074,783				129 : 3,102,313		: 3,110,071		: 3,074,142	
		: 3,104,950		: 3,094,391				131 : 3,080,631		234 : 3,083,431		: 3,075,272	
		: 3,105,742		: 3,106,457				132 : 3,084,409		: 3,105,280		: 3,077,652	
		: 3,105,743		: 3,108,857				: 3,096,551		239 : 3,110,072		: 3,077,653	
		: 3,105,744		: 3,111,387				: 3,075,267		241 : 3,082,502		: 3,086,272	
		: 3,107,150		: 3,115,394				: 3,108,345		: 3,110,073		: 3,089,217	
		: 3,109,708		: 3,116,116				: 3,110,070		: 3,114,955		: 3,092,887	
		: 3,112,178		215 : 3,114,607				137 : 3,084,410		243 : 3,087,219		: 3,099,062	
203	: 3,074,781	216 : 3,075,830		262 : 3,100,693		10 : 3,104,435		: 3,096,553		246 : 3,096,553		: 3,103,730	
		: 3,076,693		: 3,084,028		264 : 3,114,611		: 3,100,324		248 : 3,097,407		.5 : 3,072,996	
		: 3,079,235		: 3,098,716		13 : 3,114,183		: 3,103,727		249 : 3,105,281		.5 : 3,076,247	
		: 3,082,068		: 3,107,154		269 : 3,111,393		: 3,098,271		: 3,114,188		.5 : 3,109,217	
		: 3,085,862		: 3,107,155		270 : 3,077,388		: 3,099,054		252 : 3,100,326		142 : 3,091,832	
		: 3,092,458		: 3,114,608		: 3,100,694		: 3,102,311		: 3,093,877		: 3,094,759	
		: 3,092,459		: 3,103,419		.5 : 3,085,864		: 3,109,212		: 3,097,408		: 3,104,442	
		: 3,100,687		: 3,081,157		.5 : 3,089,756		20 : 3,082,498		257 : 3,113,363		: 3,108,351	
		: 3,107,978		: 3,100,690		.5 : 3,097,071		: 3,106,757		259 : 3,089,211		: 3,110,075	
		: 3,107,979		: 3,084,029		223 : 3,102,791		22 : 3,078,532		263 : 3,076,245		143 : 3,091,833	
		: 3,112,179		: 3,088,807		.5 : 3,107,982		27 : 3,106,758		: 3,095,627		153 : 3,091,014	
		: 3,113,840		.5 : 3,071,444		.5 : 3,110,568		30.5 : 3,078,533		: 3,111,734		: 3,099,063	
204	: 3,071,440	.5 : 3,078,150		271 : 3,097,072		.5 : 3,086,264		165 : 3,074,136		: 3,097,409		154 : 3,079,662	
		: 3,073,679		.5 : 3,092,462		.5 : 3,086,265		166 : 3,096,552		: 3,071,832		: 3,082,503	
		: 3,077,384		.5 : 3,097,068		.5 : 3,112,542		170 : 3,091,830		: 3,084,412		: 3,086,273	
		: 3,078,530		.5 : 3,097,069		: 3,078,151		.5 : 3,114,184		175 : 3,088,184		: 3,088,187	
		: 3,087,791		.5 : 3,101,257		: 3,086,850		33 : 3,071,830		178 : 3,083,428		: 3,107,158	
		: 3,087,792		.5 : 3,112,997		: 3,090,673		: 3,074,132		193 : 3,084,411		270 : 3,097,410	
		: 3,088,804		.5 : 3,113,841		: 3,096,158		: 3,084,408		194 : 3,078,536		274 : 3,087,220	
		: 3,088,805		: 3,071,445		275 : 3,073,683		: 3,107,406		198 : 3,104,436		: 3,100,327	
		: 3,094,387		: 3,087,793		277 : 3,071,448		: 3,086,266		200 : 3,075,268		276 : 3,109,215	
		: 3,094,388		: 3,095,275		: 3,073,684		: 3,108,342		: 3,077,650		278 : 3,086,270	
		: 3,097,066		: 3,095,276		: 3,085,001		66 : 3,083,425		: 3,085,308		279 : 3,079,660	
		: 3,101,256		: 3,097,925		: 3,085,865		: 3,095,624		201 : 3,070,864		: 3,087,221	
		: 3,102,002		: 3,097,926		: 3,086,851		: 3,103,724		: 3,074,137		: 3,088,185	
		: 3,103,415		: 3,099,535		: 3,087,797		: 3,105,728		: 3,086,268		: 3,089,212	
		: 3,103,416		: 3,104,951		: 3,090,674		67 : 3,074,133		: 3,098,276		: 3,099,060	
		: 3,103,417		: 3,110,566		: 3,090,675		: 3,082,499		: 3,103,049		: 3,109,216	
		: 3,106,454		: 3,079,238		: 3,095,279		: 3,082,499		: 3,108,346		: 3,110,948	
		: 3,106,455		: 3,099,536		: 3,097,073		68 : 3,083,426		: 3,111,735			
		: 3,108,856		: 3,073,682		: 3,101,258		: 3,091,827		: 3,111,736		Class 25	
		: 3,109,709		: 3,076,696		279 : 3,111,394		: 3,099,055		: 3,111,737		1 : 3,070,866	
		: 3,109,710		: 3,077,387		280 : 3,072,463		71.1 : 3,078,534		: 3,115,689		2 : 3,080,636	
		: 3,110,565		: 3,079,239		281 : 3,088,812		.1 : 3,089,210		203 : 3,076,244		: 3,096,555	
		: 3,111,386		: 3,084,030		283 : 3,072,464		73 : 3,072,987		: 3,103,050		2 : 3,091,012	
		: 3,112,180		: 3,088,808		284 : 3,083,082		: 3,074,134		204 : 3,101,517		7 : 3,094,758	
		: 3,114,604		: 3,097,927		: 3,087,798		: 3,077,018		: 3,102,314		8 : 3,083,432	
		: 3,114,605		: 3,098,717		: 3,092,468		: 3,077,019		: 3,114,951		7 : 3,094,758	
		: 3,116,112		: 3,099,537		: 3,111,395		: 3,079,657		205 : 3,112,545		14 : 3,117,739	
		: 3,116,113		: 3,102,789		: 3,089,757		: 3,080,629		.14 : 3,070,865		22 : 3,104,138	
		: 3,071,441		: 3,104,160		: 3,091,518		: 3,092,884		.13 : 3,072,991		30 : 3,078,539	
		: 3,071,442		: 3,110,567		: 3,091,519		: 3,093,874		.14 : 3,075,269		: 3,087,222	
		: 3,094,389		: 3,112,182		: 3,092,469		: 3,098,273		.11 : 3,077,651		3 : 3,103,729	
		: 3,095,271		: 3,114,609		: 3,113,843		: 3,098,274		.1 : 3,078,537		32 : 3,089,213	
		: 3,097,067		: 3,071,446		288 : 3,071,449		: 3,100,922		.14 : 3,080,632		: 3,091,013	
		: 3,109,711		: 3,084,999		: 3,072,465		: 3,103,047		.1 : 3,082,501		: 3,106,760	
206	: 3,082,069	: 3,088,809		: 3,073,685		: 3,110,068		: 3,110,069		.11 : 3,086,269		34 : 3,091,831	
207	: 3,073,680	: 3,090,672		: 3,083,083		: 3,101,067		: 3,110,068		.11 : 3,087,217		19 : 3,087,223	
		: 3,074,782		: 3,094,392		: 3,083,084		: 3,114,949		.14 : 3,093,875		36 : 3,095,628	
		: 3,098,714		: 3,096,157		: 3,086,852		74 : 3,112,543		.14 : 3,093,876		: 3,102,320	
		: 3,098,715		: 3,106,458		: 3,090,676		: 3,114,185		.14 : 3,094,756		33 : 3,106,005	
		: 3,107,151		: 3,111,388		: 3,090,677		75 : 3,081,506		.1 : 3,098,277		38 : 3,074,139	
		.5 : 3,089,753		252 : 3,072,462		: 3,091,520		: 3,103,048		.14 : 3,099,059		33 : 3,102,319	
		.5 : 3,114,606		: 3,088,810		: 3,094,394		77 : 3,077,020		.1 : 3,100,325		51.5 : 3,077,656	
208	: 3,077,385	: 3,102,004		: 3,097,074		: 3,099,538		81 : 3,087,210		.1 : 3,103,051		54 : 3,094,760	
		: 3,080,216		: 3,105,745		: 3,100,140		: 3,091,011		.16 : 3,103,728		55 : 3,076,249	
		: 3,085,863		: 3,111,389		: 3,100,141		: 3,105,279		.1 : 3,104,437		62 : 3,104,444	
		: 3,092,460		: 3,074,784		: 3,109,715		84 : 3,083,427		.11 : 3,104,438		39 : 3,083,433	
		: 3,099,534		: 3,080,218		: 3,110,569		: 3,099,056		.17 : 3,104,439		63 : 3,109,218	
		: 3,100,688		: 3,080,219		: 3,113,000		: 3,114,186		.17 : 3,106,004		64 : 3,104,445	
		: 3,106,456		: 3,081,158		: 3,113,844		87 : 3,091,828		.17 : 3,106,759		: 3,072,993	
		: 3,077,386		: 3,084,031		: 3,095,280		97 : 3,080,630		.14 : 3,108,347		: 3,081,509	
		: 3,086,847		: 3,087,794		290 : 3,097,928		100.5 : 3,100,923		.11 : 3,110,946		: 3,089,214	
		: 3,090,671		: 3,088,811		292 : 3,097,280		113 : 3,087,215		.12 : 3,111,738		43 : 3,099,061	
		: 3,091,516		: 3,092,463		293 : 3,090,678		116 : 3,075,266		.14 : 3,112,546		45 : 3,083,434	
		: 3,097,924		: 3,092,464		: 3,104,952		: 3,094,754		.1 : 3,114,953		: 3,090,093	
		: 3,115,393		: 3,092,465		294 : 3,094,395		: 3,114,187		.1 : 3,114,952		: 3,095,629	
		.1 : 3,083,080		: 3,095,277		: 3,102,792		117 : 3,074,135		.12 : 3,114,954		: 3,097,411	
		.1 : 3,104,159		: 3,097,070		: 3,087,799		: 3,086,267		.1 : 3,115,690			



1	3,077,017	76	3,100,328	33	3,073,009	155.5	3,071,843	156.4	3,096,569	195	3,113,846	252	3,104,459
	3,079,663		3,108,357		3,073,010	.55	3,071,844	.5	3,093,890		3,114,612		3,111,752
	3,081,510		3,114,191		3,077,023	.57	3,071,845	.5	3,093,891	.5	3,102,793	254	3,106,012
	3,084,413		3,114,192		3,078,545	.57	3,071,846	.6	3,100,929	196.1	3,079,677	255	3,083,449
	3,090,096		3,114,959		3,080,638	.5	3,073,011	.7	3,082,512	.3	3,088,196	257	3,102,333
	3,091,834	77	3,078,543		3,085,311	.5	3,074,149	.7	3,090,108	.4	3,074,154	259	3,076,259
	3,093,878		3,081,514		3,091,836	.55	3,074,150	.8	3,074,151	.5	3,078,555	260	3,110,957
	3,095,630		3,081,515		3,094,767	.5	3,075,280	.8	3,075,280	.6	3,108,861	261	3,089,229
	3,096,558		3,081,516		3,102,324	.55	3,075,281	.8	3,080,643		3,077,659		3,099,077
	3,096,559		3,081,517		3,103,735	.55	3,075,282	.8	3,083,446		3,096,160		3,103,740
	3,097,412		3,089,218		3,110,083	.55	3,076,255	.8	3,088,192	.5	3,093,459	263	3,096,574
	3,099,064		3,090,103		3,115,695	.55	3,076,256	.8	3,095,637	198	3,083,448		3,107,420
	3,101,520		3,096,563	37	3,081,522	.53	3,077,026	.8	3,096,570	199	3,086,285		3,110,958
	3,103,731		3,098,281	38	3,081,523	.55	3,077,027	.8	3,097,420	200	3,088,197	264	3,104,460
	3,108,352		3,075,275	39	3,112,555	.5	3,077,658	.8	3,107,416		3,092,900	267	3,070,877
	3,110,076	79	3,074,144	42	3,075,277	.5	3,078,549	.8	3,112,557		3,093,893		3,071,848
	3,110,950		3,077,657		3,113,371	.5	3,079,672	.8	3,114,961		3,103,062		3,087,237
	3,111,740		3,085,309	57	3,096,564	.5	3,079,673	157	3,070,874		3,114,198		3,099,078
	3,113,366		3,086,276	76	3,079,667	.5	3,079,674		3,104,456		3,114,962		3,110,959
	3,113,367		3,097,413		3,079,668	.57	3,080,640	.1	3,077,029	201	3,079,678	270	3,071,849
	3,114,958	80	Re.25,429	78	3,077,024	.57	3,080,641	.1	3,079,675		3,090,109		3,114,965
	3,115,691		3,070,871		3,079,669	.57	3,080,642	.1	3,087,232	202	3,095,638	271	3,084,424
2	3,110,077		3,073,004		3,086,277	.5	3,081,525	.1	3,089,224		3,095,639		3,104,462
4	3,108,353		3,081,518		3,098,282	.5	3,081,526	.1	3,093,892		3,102,330	275	3,092,902
	3,112,548		3,091,018	79	3,074,148	.55	3,081,528	.1	3,073,739	203	3,114,963		3,099,079
	3,112,549		3,091,019		3,082,506	.5	3,082,507	.1	3,107,417		3,081,531	278	3,110,960
15	3,098,280	81	3,081,519		3,102,325	.5	3,082,508	.3	3,073,012		3,082,513	280	3,108,365
19	3,072,997		3,092,890	81	3,081,524	.5	3,082,509	.3	3,083,447		3,084,422	282	3,104,461
	3,092,889		3,103,732		3,101,524	.5	3,082,510	.3	3,086,283		3,085,321	283	3,115,700
	3,103,054		3,115,437	90	3,076,254	.5	3,083,443	.3	3,088,193		3,090,110	400	3,091,023
	3,103,055	82	3,073,005		3,086,278	.5	3,083,444	.3	3,089,225		3,094,774	401	3,100,336
	3,108,354		3,078,544		3,093,884	.5	3,084,418	.3	3,089,226		3,095,640		3,101,529
	3,112,550		3,084,414		3,094,768	.5	3,084,419	.3	3,092,898		3,098,289		3,103,065
20	3,095,631		3,088,188		3,099,070	.5	3,084,420	.3	3,098,290		3,098,291		3,110,095
	3,081,511		3,092,891	95	3,078,546	.55	3,085,313	.3	3,100,332		3,100,931		3,114,966
	3,083,437		3,092,892		3,079,670	.56	3,085,314	.3	3,100,930		3,102,331	403	3,084,425
32	3,072,998		3,093,881		3,109,222	.57	3,085,315	.3	3,108,361		3,104,457		3,089,230
35	3,110,951		3,097,414		3,110,952	.5	3,086,280	.3	3,110,090		3,109,230	405	3,099,878
46	3,072,999		3,097,415		3,099,071	.55	3,086,281	.3	3,111,747		3,110,093		3,108,366
	3,083,438		3,097,416	96	Re.25,461	.55	3,086,282	.3	3,112,558		3,110,955	407	3,077,030
46	3,103,056		3,099,067		3,079,671	.5	3,088,191	.3	3,112,559		3,110,956		3,087,238
	3,103,057				3,084,416	.5	3,089,222	.4	3,078,551		3,114,199		3,090,112
51	3,115,692	Class 29			3,087,230	.55	3,089,223	.4	3,108,362	205	3,076,258		3,096,575
59.5	3,073,000				3,090,104	.55	3,091,838	159	3,080,644		3,093,894		3,097,423
	3,087,224	1.1	3,071,840		3,097,417	.5	3,092,896	.2	3,100,333	206	3,074,155	408	3,078,558
62	3,071,838	.1	3,112,553		3,098,283	.5	3,092,897	160	3,096,571		3,075,283	410	3,089,231
	3,087,225	.22	3,106,008		3,102,326	.55	3,093,887	.6	3,088,194		3,087,235		3,091,024
	3,094,761	2	3,095,633		3,103,736	.53	3,093,888	.6	3,109,229		3,090,111		3,114,967
	3,099,065	.15	3,106,009		3,104,452	.57	3,093,889	163.5	3,101,526	207	3,100,334	411	3,091,025
64	3,071,839	.17	3,114,193		3,113,372	.59	3,094,772	.5	3,105,289		3,106,770		3,095,641
	3,076,251	3	3,087,227		3,078,547	.57	3,095,635	168	3,073,013	208	3,077,660		3,109,231
	3,106,762	10	3,099,068	97	3,106,765	.5	3,096,566	.8	3,071,847		3,088,198	412	3,098,292
	3,113,368	11	3,106,010		3,106,766	.5	3,096,567	.8	3,078,552		3,102,332	413	3,078,559
71.3	3,073,001	14	3,083,440	105	3,077,025	.5	3,097,418	182	3,087,233		3,104,458		3,109,232
.3	3,099,872	20	3,091,020		3,083,442	.5	3,098,287		3,089,227		3,108,363	416	3,085,323
.3	3,108,355	21	3,075,276		3,091,021	.58	3,099,074		3,115,698		3,111,748		3,085,324
72	3,073,002		3,108,358		3,104,453	.5	3,099,874	.2	3,114,197	219	3,074,156		3,110,096
	3,078,542	.1	3,110,079		3,106,011	.55	3,100,330	.3	3,074,152	211	3,082,514	417	Re.25,424
	3,081,512	25.13	3,077,022		3,107,413	.57	3,101,525	.3	3,088,195		3,101,528	418	3,084,426
	3,083,439	.19	3,079,666		3,110,084	.5	3,102,328	.3	3,092,899		3,114,200	419	3,070,878
	3,087,226	.19	3,081,520	113	3,070,872	.54	3,103,060	.3	3,102,329	212	3,085,322		3,084,427
	3,090,097	.19	3,081,521		3,095,634	.55	3,103,061	.3	3,107,418		3,100,932		3,091,026
	3,090,098	.19	3,087,228		3,098,284	.5	3,103,737	.5	3,074,153		3,114,964		3,095,642
	3,091,015	.19	3,104,451	116	3,094,769	.55	3,103,738	.5	3,078,553	217	3,091,839	420	3,099,080
	3,093,879	.17	3,110,081		3,094,770	.5	3,104,455	.5	3,081,529	218	3,080,645		3,112,561
	3,094,762	.17	3,113,370		3,094,771	.5	3,105,285	.5	3,087,234	221.5	3,088,199	421	3,073,018
	3,095,632	.35	3,071,841		3,099,072	.56	3,105,286	.5	3,097,421	.5	3,100,335		3,077,031
	3,096,560	.3	3,073,006		3,102,327	.57	3,105,287	.5	3,101,527	225	3,091,840		3,088,200
	3,096,561	.3	3,074,145	119	3,106,767	.5	3,106,768	.5	3,105,290	226	3,078,556		3,090,113
	3,099,066	.3	3,074,146		3,100,928	.56	3,106,769	.5	3,110,091		3,115,699		3,096,576
	3,101,521	.3	3,076,253	123	3,086,279	.5	3,107,414	.5	3,110,092	227	3,099,875		3,110,097
	3,102,321	.3	3,083,441	124	3,090,105	.58	3,107,415	183	3,115,395		3,105,291		3,114,968
	3,102,322	.3	3,085,310	125	3,088,189	.5	3,108,360	.5	3,116,120	229	3,110,094	422	3,082,515
	3,104,449	.3	3,089,219		3,111,742	.5	3,109,225	.5	3,073,015		3,073,014	423	3,070,879
	3,106,763	.3	3,092,893	132	3,087,231	.5	3,109,226	.5	3,084,421		3,075,284		3,078,560
	3,107,411	.3	3,093,882		3,090,106	.5	3,110,087	.5	3,085,317		3,091,841		3,082,516
	3,107,412	.3	3,094,764		3,092,895	.5	3,110,088	.5	3,085,318		3,099,876		3,089,232
	3,112,551	.3	3,094,765	148.3	3,091,837	.55	3,110,089	.5	3,086,284		3,112,560		3,099,081
	3,115,693	.3	3,094,766	.4	3,075,278	.5	3,111,744	.5	3,097,422	235	3,073,016		3,110,098
.2	3,082,505	.31	3,100,329	.4	3,078,548	.5	3,111,745	.5	3,098,723		3,079,679	424	3,082,517
.2	3,090,099	.3	3,100,927	.4	3,080,639	.55	3,111,746	.5	3,099,539		3,081,532		3,114,201
.2	3,090,100	.3	3,101,523	.4	3,088,190	.57	3,112,556	.5	3,112,185		3,084,423	426	3,110,099
.2	3,090,101	.3	3,103,733	.4	3,089,221	.57	3,113,374	.5	3,113,845		3,106,771	427	3,082,518
.2	3,093,880	.3	3,106,764	.4	3,098,285	.5	3,114,194	187	3,092,470		3,111,749		3,109,233
73	3,076,252	.3	3,108,359	.4	3,099,073	.55	3,114,195	.5	3,100,142		3,111,750	429	3,106,772
74	3,070,870	.3	3,109,221	.4	3,103,059	.58	3,114,196	.5	3,116,121	236	3,099,877	430	3,108,367</



## Class 29—Con.

453 : 3,115,701  
 459 : 3,089,233  
 460 : 3,073,019  
     : 3,095,643  
     : 3,097,424  
 462 : 3,084,428  
 469 : 3,074,157  
     : 3,101,530  
 470 : 3,071,852  
     : 3,090,116  
     : 3,100,933  
     : 3,106,013  
     : 3,109,234  
     : 3,112,564  
     : 3,077,661  
     : 3,100,337  
     : 3,106,014  
     : 3,112,565  
     : 3,114,202  
 471.1 : 3,070,880  
     : 3,071,853  
     : 3,082,520  
     : 3,087,239  
     : 3,091,845  
     : 3,094,775  
     : 3,103,066  
     : 3,106,015  
     : 3,107,421  
     : 3,110,961  
     : 3,113,376  
     : 3,091,846  
     : 3,091,847  
     : 3,091,848  
     : 3,088,201  
 472.5 : 3,103,741  
     : 3,091,027  
     : 3,091,849  
 473.1 : 3,071,854  
     : 3,077,032  
     : 3,078,562  
     : 3,089,234  
     : 3,091,028  
     : 3,100,338  
     : 3,100,339  
     : 3,103,067  
     : 3,110,100  
     : 3,096,577  
 474.4 : 3,101,531  
     : 3,105,293  
 476.5 : 3,076,260  
 480 : 3,071,855  
 482 : 3,103,742  
 483 : 3,101,532  
 487 : 3,083,451  
     : 3,083,452  
     : 3,106,773  
     : 3,110,101  
 488 : 3,105,294  
     : 3,108,369  
 490 : 3,110,102  
 491 : 3,076,261  
     : 3,110,103  
     : 3,097,425  
     : 3,107,422  
 492 : 3,085,325  
 493 : 3,078,563  
     : 3,080,648  
     : 3,081,534  
     : 3,090,117  
 495 : 3,074,158  
     : 3,081,535  
     : 3,081,536  
 496 : 3,091,029  
 497 : 3,082,521  
     : 3,082,522  
     : 3,115,702  
 498 : 3,078,564  
     : 3,106,016  
     : 3,105,295  
 509 : 3,081,537  
 517 : 3,076,262  
 520 : 3,074,159  
     : 3,084,429  
     : 3,092,901  
     : 3,100,340  
 523 : 3,099,082  
     : 3,103,068  
     : 3,113,377  
 525 : 3,079,681  
     : 3,113,378  
     : 3,089,235  
     : 3,090,118  
     : 3,091,030  
     : 3,095,644  
     : 3,096,578  
     : 3,099,083  
     : 3,114,970  
 528 : 3,070,881  
     : 3,083,453  
     : 3,087,240  
     : 3,098,293

528 : 3,098,294  
     : 3,099,084  
     : 3,105,296  
     : 3,109,235  
 529 : 3,078,565  
     : 3,080,649  
     : 3,087,241  
     : 3,108,370  
 531 : 3,073,020  
     : 3,092,894  
 532 : 3,108,371  
 534 : 3,078,566  
     : 3,080,650  
     : 3,096,579  
     : 3,114,203  
 544 : 3,078,567  
     : 3,099,880  
 547 : 3,093,897  
     : 3,115,703  
 548 : 3,073,021  
     : 3,102,334  
 552 : 3,101,533  
 553 : 3,073,022  
     : 3,079,682  
     : 3,101,534  
 556 : 3,083,454  
 564 : 3,087,242  
 566 : 3,073,023  
     : 3,104,464  
     : 3,113,379  
     : 3,114,971  
     : 3,115,704  
 567 : 3,088,202  
     : 3,097,426  
 568 : 3,073,024

## Class 30

1 : 3,077,033  
 2 : 3,092,903  
 4 : 3,075,285  
     : 3,078,568  
     : 3,079,683  
     : 3,081,538  
     : 3,100,339  
     : 3,100,341  
     : 3,110,962  
     : 3,114,972  
 6.1 : 3,074,160  
     : 3,081,539  
     : 3,085,326  
     : 3,096,580  
     : 3,077,662  
     : 3,105,297  
     : 3,083,455  
 9 : 3,085,327  
 11 : 3,085,327  
 15 : 3,108,372  
     : 3,094,776  
 16 : 3,070,882  
 23 : 3,088,203  
 24 : 3,086,286  
 28 : 3,088,204  
     : 3,093,898  
 29.5 : 3,085,328  
     : 3,101,535  
 32 : 3,070,883  
     : 3,078,569  
     : 3,106,017  
     : 3,106,774  
 34 : 3,077,663  
     : 3,079,684  
     : 3,088,205  
     : 3,103,743  
     : 3,111,753  
 36 : 3,101,536  
 40 : 3,114,204  
 41 : 3,078,570  
     : 3,081,540  
     : 3,089,236  
     : 3,090,119  
     : 3,103,744  
     : 3,111,754  
 43 : 3,070,884  
     : 3,074,161  
     : 3,078,571  
     : 3,081,541  
     : 3,091,850  
     : 3,092,904  
     : 3,093,899  
     : 3,098,295  
     : 3,101,537  
     : 3,105,298  
     : 3,106,775  
     : 3,111,755  
     : 3,093,900  
     : 3,084,430  
     : 3,088,206  
 60.5 : 3,080,651  
 61 : 3,095,645  
 63 : 3,111,756  
 72 : 3,079,685  
 90 : 3,107,423

90 : 3,109,236  
     : 3,111,757  
     : 3,107,424  
     : 3,108,373  
 91 : 3,089,237  
     : 3,091,031  
     : 3,092,906  
 95 : 3,098,296  
 102 : 3,070,885  
     : 3,082,523  
     : 3,097,428  
     : 3,100,934  
     : 3,106,776  
 121 : 3,086,287  
 123.3 : 3,085,329  
     : 3,107,425  
 124 : 3,099,085  
     : 3,103,069  
 130 : 3,089,238  
     : 3,108,374  
 131 : 3,101,538  
 132 : 3,073,025  
 133 : 3,073,026  
 142 : 3,074,162  
     : 3,089,239  
 162 : 3,079,686  
     : 3,107,426  
 164.9 : 3,084,431  
     : 3,106,018  
 165 : 3,090,120  
     : 3,101,539  
 167 : 3,091,851  
 168 : 3,097,429  
     : 3,106,019  
 169 : 3,087,243  
 172 : 3,091,852  
 180 : 3,074,163  
 188 : 3,084,432  
 193 : 3,074,164  
 200 : 3,100,342  
 201 : 3,093,901  
 202 : 3,094,777  
 210 : 3,079,687  
     : 3,083,456  
 212 : 3,099,086  
 213 : 3,089,240  
 216 : 3,073,027  
     : 3,083,457  
 223 : 3,093,902  
 226 : 3,089,241  
 228 : 3,074,165  
 229 : 3,091,853  
 232 : 3,100,343  
 248 : 3,110,963  
 251 : 3,090,121  
 254 : 3,084,433  
 261 : 3,096,581  
 272 : 3,086,288  
 273 : 3,097,430  
 276 : 3,077,664  
 283 : 3,080,652  
     : 3,091,854  
     : 3,095,646  
     : 3,103,745  
     : 3,110,964  
 293 : 3,085,330  
     : 3,110,104  
 294 : 3,079,688  
     : 3,100,935  
     : 3,102,335  
 295 : 3,108,375  
 317 : 3,076,263  
     : 3,080,653  
 322 : 3,083,458  
 330 : 3,073,028  
     : 3,084,434  
 333 : 3,078,572  
 334 : 3,085,331  
 336 : 3,106,020  
 339 : 3,077,034  
     : 3,085,332  
 342 : 3,114,973  
 346 : 3,071,856  
     : 3,079,689  
 347 : 3,078,573  
     : 3,082,524  
 351 : 3,071,857  
     : 3,071,858  
 354 : 3,109,237  
 358 : 3,078,574  
 359 : 3,091,855  
 360 : 3,105,299  
 361 : 3,073,029  
 362 : 3,099,087

## Class 31

10 : 3,113,380  
 14 : 3,075,286  
 23 : 3,096,582  
 25 : 3,096,583  
 42 : 3,071,859  
     : 3,101,540

44 : 3,098,297  
 45 : 3,095,647  
 46 : 3,071,860  
     : 3,085,333  
 48 : 3,102,336  
 89 : 3,079,241  
 Class 32  
 1 : 3,084,435  
 2 : 3,082,525  
     : 3,083,459  
     : 3,083,460  
     : 3,084,436  
     : 3,085,334  
     : 3,104,465  
     : 3,105,300  
 5 : 3,076,264  
     : 3,089,242  
     : 3,094,778  
 6 : 3,083,461  
     : 3,091,032  
 12 : 3,102,337  
 14 : 3,075,287  
     : 3,076,265  
     : 3,084,437  
     : 3,085,335  
     : 3,085,336  
     : 3,087,244  
     : 3,087,245  
     : 3,091,856  
     : 3,091,857  
     : 3,092,907  
     : 3,093,903  
     : 3,096,584  
     : 3,110,105  
     : 3,111,758  
 15 : 3,082,526  
     : 3,107,427  
 17 : 3,082,527  
     : 3,107,428  
 19 : 3,074,166  
     : 3,085,337  
     : 3,098,298  
 20 : 3,084,438  
 22 : 3,077,665  
     : 3,078,575  
     : 3,081,542  
     : 3,085,338  
     : 3,111,759  
 23 : 3,076,266  
 25 : 3,083,462  
     : 3,106,777  
 26 : 3,076,267  
 27 : 3,071,861  
     : 3,074,167  
     : 3,078,576  
     : 3,082,528  
     : 3,084,439  
     : 3,092,908  
     : 3,094,779  
     : 3,098,299  
     : 3,101,541  
     : 3,101,542  
     : 3,109,238  
 28 : 3,094,780  
     : 3,106,021  
 32 : 3,073,030  
     : 3,074,168  
     : 3,078,577  
     : 3,092,909  
     : 3,097,431  
     : 3,107,429  
 33 : 3,078,578  
     : 3,078,579  
     : 3,084,440  
     : 3,086,289  
     : 3,090,122  
     : 3,091,858  
     : 3,091,859  
     : 3,101,543  
     : 3,101,544  
     : 3,101,545  
 40 : 3,079,690  
     : 3,080,654  
     : 3,085,338  
     : 3,086,287  
     : 3,096,587  
 46 : 3,073,031  
 48 : 3,083,463  
     : 3,101,546  
 56 : 3,082,529  
 58 : 3,075,288  
     : 3,091,033  
 59 : 3,082,530  
 60 : 3,088,207  
     : 3,091,860  
 63 : 3,074,169  
     : 3,081,543  
     : 3,082,531  
     : 3,099,088  
     : 3,105,301  
     : 3,108,377

66 : 3,085,339  
 67 : 3,078,580  
     : 3,100,344  
 69 : 3,091,034  
     : 3,092,910  
     : 3,102,338  
 71 : 3,111,760  
 Class 33  
 1 : 3,074,170  
     : 3,077,666  
     : 3,080,655  
     : 3,081,544  
     : 3,083,464  
     : 3,087,246  
     : 3,087,247  
     : 3,089,243  
     : 3,094,781  
     : 3,098,300  
     : 3,099,089  
     : 3,100,345  
     : 3,101,547  
     : 3,106,778  
     : 3,108,378  
     : 3,109,239  
     : 3,110,106  
     : 3,110,965  
     : 3,113,381  
 2 : 3,088,208  
     : 3,089,244  
 3 : 3,098,301  
 8 : 3,094,782  
 11 : 3,085,340  
 12 : 3,083,465  
     : 3,095,649  
 15 : 3,091,861  
 19 : 3,108,379  
 20 : 3,088,209  
 21 : 3,100,346  
     : 3,110,107  
 23 : 3,101,548  
     : 3,114,205  
 24 : 3,094,783  
 25 : 3,103,746  
     : 3,110,966  
 26 : 3,094,784  
     : 3,096,586  
 27 : 3,074,171  
     : 3,081,545  
     : 3,082,533  
     : 3,089,245  
     : 3,089,246  
     : 3,103,070  
     : 3,104,466  
     : 3,111,761  
 28 : 3,105,302  
 30 : 3,084,441  
     : 3,085,341  
     : 3,114,974  
 32 : 3,082,534  
     : 3,094,785  
     : 3,108,380  
     : 3,108,381  
     : 3,087,248  
 34 : 3,086,290  
 41 : 3,113,382  
 42 : 3,113,382  
     : 3,081,546  
     : 3,084,442  
     : 3,091,862  
     : 3,092,911  
     : 3,095,650  
     : 3,098,302  
     : 3,099,090  
 47 : 3,070,886  
     : 3,091,863  
     : 3,112,566  
 49 : 3,091,035  
     : 3,094,786  
 50 : 3,097,432  
     : 3,101,549  
 52 : 3,090,123  
     : 3,098,303  
 58 : 3,100,936  
 60 : 3,080,656  
 61 : 3,090,124  
 62 : 3,099,881  
     : 3,110,108  
 64 : 3,073,032  
     : 3,096,587  
     : 3,111,762  
 69 : 3,093,904  
 72 : 3,084,443  
 74 : 3,077,035  
     : 3,105,303  
     : 3,110,109  
     : 3,112,567  
 75 : 3,070,887  
     : 3,077,667  
     : 3,079,691  
     : 3,085,342  
     : 3,093,905

75 : 3,093,906  
     : 3,104,467  
     : 3,115,705  
 76 : 3,074,173  
     : 3,088,210  
     : 3,091,864  
 77 : 3,107,430  
     : 3,109,240  
     : 3,083,466  
     : 3,091,036  
     : 3,111,763  
     : 3,115,706  
 80 : 3,082,535  
     : 3,085,343  
     : 3,085,344  
     : 3,086,291  
     : 3,106,783  
 81 : 3,077,668  
 85 : 3,091,865  
     : 3,093,907  
     : 3,096,588  
     : 3,102,339  
     : 3,104,468  
     : 3,111,764  
     : 3,113,383  
     : 3,114,975  
 86 : 3,074,174  
 87 : 3,078,581  
     : 3,099,091  
 91 : 3,082,532  
     : 3,087,249  
 92 : 3,112,568  
 93 : 3,115,707  
 94 : 3,080,657  
 97 : 3,104,469  
 98 : 3,109,241  
 102 : 3,084,444  
     : 3,102,340  
 107 : 3,087,250  
 108 : 3,111,765  
 112 : 3,080,658  
     : 3,103,071  
 121 : 3,075,289  
 122 : 3,110,967  
 125 : 3,070,888  
     : 3,074,175  
 126.4 : 3,091,037  
     : 3,081,547  
     : 3,100,347  
     : 3,102,341  
 129 : 3,091,038  
     : 3,107,431  
 137 : 3,070,889  
     : 3,077,669  
     : 3,100,937  
 138 : 3,087,251  
 143 : 3,076,268  
     : 3,082,536  
     : 3,090,125  
     : 3,101,550  
     : 3,103,072  
     : 3,105,304  
     : 3,107,432  
     : 3,107,433  
     : 3,113,384  
     : 3,114,976  
     : 3,115,708  
 147 : 3,086,292  
     : 3,092,912  
     : 3,104,470  
     : 3,110,968  
 149 : 3,081,548  
     : 3,090,126  
     : 3,100,938  
     : 3,110,110  
     : 3,114,977  
     : 3,115,709  
 154 : 3,098,304  
     : 3,110,111  
 158 : 3,095,651  
 161 : 3,094,787  
 164 : 3,100,348  
     : 3,101,551  
 166 : 3,092,913  
 167 : 3,088,211  
     : 3,091,866  
     : 3,111,766  
     : 3,114,206  
 168 : 3,079,692  
 169 : 3,075,290  
     : 3,092,914  
     : 3,102,342  
     : 3,113,385  
 170 : 3,078,582  
     : 3,106,022  
     : 3,106,023  
 172 : 3,079,693  
     : 3,083,467  
     : 3,093,908  
     : 3,102,343  
     : 3,113,386  
     : 3,115,710  
 174 : 3,070,890

174 : 3,073,033  
     : 3,073,034  
     : 3,075,291  
     : 3,078,583  
     : 3,078,584  
     : 3,080,659  
     : 3,081,549  
     : 3,081,550  
     : 3,082,537  
     : 3,084,445  
     : 3,085,345  
     : 3,086,293  
     : 3,089,247  
     : 3,089,248  
     : 3,090,127  
     : 3,094,788  
     : 3,098,305  
     : 3,099,092  
     : 3,099,093  
     : 3,100,939  
     : 3,101,552  
     : 3,102,342  
     : 3,103,747  
     : 3,104,471  
     : 3,106,779  
     : 3,106,780  
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     : 3,106,782  
     : 3,109,242  
     : 3,109,243  
     : 3,110,112  
     : 3,111,767  
     : 3,114,207  
     : 3,114,978  
     : 3,115,711  
     : 3,107,434  
     : 3,070,891  
     : 3,074,176  
     : 3,075,292  
     : 3,075,293  
     : 3,077,670  
     : 3,093,909  
     : 3,096,589  
     : 3,097,433  
     : 3,100,349  
     : 3,103,748  
     : 3,104,472  
     : 3,111,768  
 179.5 : 3,071,862  
     : 3,077,671  
     : 3,086,294  
     : 3,089,249  
     : 3,090,128  
     : 3,095,652  
     : 3,096,590  
     : 3,099,882  
     : 3,100,940  
     : 3,100,969  
     : 3,115,712  
     : 3,107,892  
 180 : 3,073,035  
     : 3,074,177  
     : 3,088,212  
     : 3,092,915  
     : 3,093,910  
     : 3,104,473  
     : 3,111,769  
     : 3,111,770  
     : 3,111,771  
     : 3,111,772  
     : 3,097,434  
     : 3,104,474  
     : 3,108,382  
     : 3,111,773



[illegible]



Class 40—Con.		17.1 : 3,071,884 1 : 3,073,054 308 : 3,115,720 309 : 3,086,309 312 : 3,071,882 312 : 3,110,121 316 : 3,088,237 329 : 3,077,690 330 : 3,093,920 333 : 3,113,933 334 : 3,077,691 3,077,692 3,093,921	83.5 : 3,114,985 85 : 3,109,254 93 : 3,106,036 100 : 3,096,600 102 : 3,082,564 112 : 3,077,050 113 : 3,108,391 129 : 3,074,199 131 : 3,094,805 135 : 3,105,321 146 : 3,100,362	61 : 3,073,056 68 : 3,082,566 3,083,494 2 : 3,098,315 3 : 3,105,322 4 : 3,086,314 4 : 3,093,924 82 : 3,099,101 3,099,102 3,103,760 3,106,799 85 : 3,073,057 3,076,285 3,091,886 3,082,567 3,095,665 3,095,666 3,114,215 3,079,726 3,082,568 3,087,276 3,089,275 3,095,667 3,101,568 3,104,492 3,089,276 3,099,103 3,099,891 3,108,393 138 : 3,083,495 3,083,496 3,090,154 3,096,601 3,099,892 3,103,082 3,105,323 3,071,887 3,104,493	74 : 3,109,256 3,113,396 77 : 3,080,676 3,089,278 3,093,927 3,097,445 3,107,452 3,110,126 3,107,204 78 : 3,111,785 79 : 3,091,889 81 : 3,084,477 82 : 3,082,572 86 : 3,109,257 87 : 3,098,317 88 : 3,071,892 3,073,058 90 : 3,088,242 3,094,807 3,108,396 92 : 3,077,697 3,077,698 3,078,617 93 : 3,077,051 96 : 3,113,397 100 : 3,108,397 103 : 3,100,364 108 : 3,103,761 110 : 3,077,052 111 : 3,099,893 114 : 3,077,699 116 : 3,091,053 3,104,496 117 : 3,093,928 118 : 3,082,573 3,090,156 123 : 3,088,243 3,097,446 124 : 3,089,279 126 : 3,070,920 135 : 3,070,921 3,091,891 3,099,894 3,106,040 140 : 3,100,365 141 : 3,092,929 149 : 3,091,892 154 : 3,106,041 157 : 3,073,059 3,090,157 3,102,360 161 : 3,092,930 3,099,895 163 : 3,071,893 166 : 3,086,318 168 : 3,091,893 169 : 3,091,894 3,092,931 3,105,322 173 : 3,070,922 3,098,318 175 : 3,071,894 3,094,808 3,097,447 3,114,216 177 : 3,073,060 3,078,618 179 : 3,095,668 180 : 3,075,317 189 : 3,100,948 192 : 3,110,980 204 : 3,078,619 205 : 3,102,361 216 : 3,108,398 220 : 3,078,620 3,080,677 221 : 3,083,499 3,083,500 3,107,453 223 : 3,083,501 228 : 3,074,205 3,090,156 230 : 3,083,502 232 : 3,080,678 3,103,762 233 : 3,084,478 235 : 3,113,398 236 : 3,102,362 3,106,800 240 : 3,098,319 3,099,104 241 : 3,074,206 3,097,448 3,099,105 243 : 3,071,895 3,076,288	243 : 3,082,574 3,093,929 3,115,724 244 : 3,083,503 3,086,319 3,091,895 3,101,569 3,102,363 3,083,504 247 : 3,083,504	Class 50		215 : 3,097,935 216 : 3,090,685								
Class 41		3,098,313 3,102,358 23 : 3,073,055 24 : 3,099,889 25 : 3,086,311 2 : 3,086,312 26.1 : 3,106,796 2 : 3,085,361 2 : 3,088,240 2 : 3,099,099 2 : 3,105,317 35 : 3,076,282 3 : 3,081,572 3 : 3,086,313 3 : 3,100,359 41 : 3,087,272 42.65 : 3,078,611 3,079,722 3,087,273 3,091,883 3,109,253 3,098,311 3,094,803 3,096,597 3,096,598 3,092,474 3,106,461 3,108,389 3,108,390 3,107,047 3,107,047 3,108,562 3,093,923 3,095,664 3,104,486 3,110,122 3,102,576 24 : 3,070,917 26 : 3,079,723 24 : 3,081,573 28 : 3,087,274 23 : 3,094,804 31 : 3,091,049 47 : 3,090,152 52 : 3,091,885 74 : 3,110,979 43.1 : 3,076,283 1 : 3,076,284 12 : 3,077,694 12 : 3,077,694 12 : 3,081,574 12 : 3,081,575 16 : 3,082,563 13 : 3,083,492 11 : 3,084,468 14 : 3,084,469 13 : 3,090,153 16 : 3,101,565 14 : 3,102,359 11 : 3,104,487 15 : 3,105,318 11 : 3,106,034 11 : 3,106,797 14 : 3,111,784 44.4 : 3,105,319 87 : 3,087,275 88 : 3,091,050 88 : 3,104,488 87 : 3,107,451 9 : 3,077,049 91 : 3,084,470 99 : 3,084,471 9 : 3,096,599 9 : 3,114,984 53.5 : 3,081,576 5 : 3,099,100 5 : 3,106,035 54.5 : 3,070,918 5 : 3,075,315 5 : 3,081,577 5 : 3,104,488 55 : 3,078,612 3,084,472 56 : 3,077,695 3,105,320 57 : 3,092,926 5 : 3,071,885 5 : 3,115,723 61 : 3,113,395 67 : 3,075,316 69 : 3,085,362 79 : 3,103,081 81 : 3,100,361	Class 44		7 : 3,072,467 3,084,033 3,113,849 10 : 3,093,463 23 : 3,094,399 41 : 3,089,760 51 : 3,105,747 53 : 3,082,070 3,108,864 56 : 3,098,727 57 : 3,085,866 58 : 3,095,285 59 : 3,076,698 62 : 3,087,800 3,100,695 63 : 3,089,761 3,115,397 66 : 3,084,034 3,084,035 3,085,867 3,091,521 3,092,474 3,106,461 3,109,719 3,115,398 3,115,399 68 : 3,082,071 3,110,577 3,116,125 69 : 3,074,787 3,074,788 3,080,221 3,082,072 3,083,086 3,083,087 3,083,088 3,085,002 3,087,801 3,087,802 3,088,813 3,088,814 3,090,680 3,098,728 3,113,005 3,113,850 3,116,126 3,116,127 71 : 3,088,815 3,095,286 3,116,128 72 : 3,080,222 3,092,475 3,102,797 3,115,400 73 : 3,071,451 3,080,223 75 : 3,116,129 76 : 3,090,681 3,102,798 3,114,614 78 : 3,075,832 3,085,003 3,089,762 3,095,287 79 : 3,085,868	Class 45		5 : 3,083,493 5 : 3,084,473 5 : 3,084,474 15 : 3,088,241 24 : 3,082,565 28 : 3,071,886 3,094,806 3,100,363 3,101,566 3,101,567 3,104,490 3,106,798 3,108,392 57 : 3,079,724 3,097,444 58 : 3,104,491 59 : 3,106,037 60 : 3,079,725	Class 46		1 : 3,071,888 3,074,200 3,078,614 3,087,277 3,100,946 3,104,494 3,105,324 3,105,325 3,110,123 4 : 3,091,887 7 : 3,108,394 3,109,255 8 : 3,093,925 3,100,947 9 : 3,074,201 12 : 3,078,615 14 : 3,091,051 16 : 3,077,696 17 : 3,074,202 3,078,616 3,082,569 3,091,888 19 : 3,076,286 22 : 3,090,155 25 : 3,080,674 3,095,668 29 : 3,074,203 34 : 3,092,927 39 : 3,071,889 40 : 3,071,890 3,106,038 3,110,124 41 : 3,079,727 43 : 3,080,675 3,092,928 3,098,316 44 : 3,082,570 3,083,497 3,087,278 47 : 3,071,891 3,079,728 3,086,315 3,106,039 50 : 3,086,316 51 : 3,082,571 53 : 3,070,919 59 : 3,104,495 60 : 3,076,287 3,093,926 61 : 3,089,277 65 : 3,083,498 3,108,395 66 : 3,110,125 3,114,986 72 : 3,081,578 74 : 3,084,475 3,085,363 3,086,317 3,091,052	Class 47*		1 : 3,077,700 3,085,364 3,090,159 3,091,054 3,099,106 3,099,896 3,102,365 3,109,950 52 : 3,077,702 3,085,366 3,090,162 3,092,932 3,094,812 55 : 3,070,923 58 : 3,084,479 3,115,725 61 : 3,081,579 3,089,281 64 : 3,082,576 3,113,434 66 : 3,086,324 3,093,931 3,100,951 71 : 3,078,621 3,099,108 73 : 3,089,282 79 : 3,115,726 80 : 3,073,065 3,089,283 83 : 3,073,066 3,093,932 3,111,787 92 : 3,076,292 100 : 3,106,045 3,112,577 38 : 3,106,043 39 : 3,076,289 3,076,290 3,108,401 41 : 3,073,062 3,087,280 45 : 3,113,400 47 : 3,088,245 3,094,811 3,105,327 48.5 : 3,101,570 5 : 3,109,258 55 : 3,073,063 3,106,802 56 : 3,080,681 3,098,320 3,098,321 57.5 : 3,074,207 58 : Re. 25,438 3,073,064 3,076,291 3,086,322 3,089,280 3,099,107 3,108,402 3,110,129 74 : 3,098,729 54 : 3,077,390 3,088,816 67 : 3,104,956 180 : 3,072,468 3,073,686 3,077,391 3,085,869 184 : 3,081,160 190 : 3,071,452 3,075,833 192 : 3,079,242 195 : 3,112,189 196 : 3,071,453 3,071,454 3,090,682 3,090,683 197 : 3,086,853 3,104,957 3,107,985 3,111,400 203 : 3,110,578 212 : 3,090,684 214 : 3,073,423 215 : 3,072,469 3,097,081 3,097,082	Class 48		191 : 3,110,982 194 : 3,112,579 3,113,401 198 : 3,093,935 3,114,218 199 : 3,115,728 202 : 3,086,328 203 : 3,084,483 214 : 3,107,454 222 : 3,091,057 225 : 3,091,058 230 : 3,108,405 235 : 3,085,367 236 : 3,111,788 240 : 3,112,580 243 : 3,079,729 245 : 3,110,130 249 : 3,101,571 251 : 3,083,506 3,095,671 261 : 3,091,898 262 : 3,090,163 265 : 3,091,899 267 : 3,076,294 3,101,572 302 : 3,090,164 313 : 3,077,057

\*For Subclasses 59 through 62 see Classification of Plants, page 1107.



314 : 3,086,329	94 : 3,079,733	165 : 3,097,455	277 : 3,079,739	38 : 3,073,087	220 : 3,110,143	75 : 3,078,643
331 : 3,077,058	95 : 3,099,903	166 : 3,098,328	278 : 3,091,062	39 : 3,105,334	221 : 3,078,632	76 : 3,078,644
341 : 3,077,059	96 : 3,104,501	167 : 3,100,954	279 : 3,114,991	40 : 3,111,796	222 : 3,110,144	77 : 3,078,645
346 : 3,077,703	97 : 3,071,897	168 : 3,103,769	280 : 3,071,904	41 : 3,084,489	223 : 3,080,691	78 : 3,077,711
350 : 3,079,730	98 : 3,098,325	169 : 3,109,264	281 : 3,079,740	42 : 3,112,587	224 : 3,074,215	79 : 3,113,007
351 : 3,099,110	99 : 3,106,805	170 : 3,109,265	282 : 3,097,458	43 : 3,092,941	225 : 3,091,067	80 : 3,078,646
352 : 3,114,219	100 : 3,110,132	171 : 3,112,583	283 : 3,105,331	44 : 3,099,114	226 : 3,090,178	81 : 3,107,986
381 : 3,102,366	101 : 3,110,133	172 : 3,088,251	284 : 3,078,625	45 : 3,098,334	227 : 3,088,258	82 : 3,094,400
395 : 3,086,330	102 : 3,077,705	173 : 3,107,459	285 : 3,081,586	46 : 3,106,808	228 : 3,105,337	83 : 3,105,750
398 : 3,114,220	103 : 3,102,370	174 : 3,083,508	286 : 3,088,253	47 : 3,070,928	229 : 3,085,738	84 : 3,086,341
399 : 3,110,131	104 : 3,073,073	175 : 3,091,061	287 : 3,107,463	48 : 3,083,510	230 : 3,107,467	85 : 3,113,852
406 : 3,094,813	105 : 3,088,248	176 : 3,094,819	288 : 3,109,270	49 : 3,108,414	231 : 3,106,051	86 : 3,110,580
413 : 3,100,952	106 : 3,089,290	177 : 3,107,459	289 : 3,109,271	50 : 3,111,797	232 : 3,091,903	87 : 3,114,615
416 : 3,089,284	107 : 3,095,673	178 : 3,081,583	290 : 3,101,577	51 : 3,075,328	233 : 3,092,944	88 : 3,073,094
424 : 3,100,953	108 : 3,081,581	179 : 3,098,329	291 : 3,074,789	52 : 3,078,630	234 : 3,070,932	89 : 3,108,865
439 : 3,108,406	109 : 3,106,406	180 : 3,108,409	292 : 3,092,476	53 : 3,087,290	235 : 3,070,933	90 : 3,114,616
445 : 3,090,165	110 : 3,109,263	181 : 3,109,900	293 : 3,101,260	54 : 3,097,459	236 : 3,112,590	91 : 3,104,960
453 : 3,102,367	111 : 3,110,134	182 : 3,094,820	294 : 3,110,579	55 : 3,098,335	237 : 3,099,119	92 : 3,080,693
477 : 3,095,672	112 : 3,108,285	183 : 3,075,323	295 : 3,115,401	56 : 3,099,906	238 : 3,111,798	93 : 3,104,163
500 : 3,099,899	113 : 3,110,985	184 : 3,084,487	296 : 3,089,763	57 : 3,071,466	239 : 3,099,120	94 : 3,116,133
514 : 3,114,221	114 : 3,071,898	185 : 3,109,266	297 : 3,102,010	58 : 3,082,584	240 : 3,071,909	95 : 3,093,466
531 : 3,082,578	115 : 3,075,321	186 : 3,112,581	298 : 3,079,741	59 : 3,071,909	241 : 3,112,591	96 : 3,070,935
532 : 3,113,402	116 : 3,080,686	187 : 3,113,404	299 : 3,102,011	60 : 3,083,511	242 : 3,100,366	97 : 3,087,292
533 : 3,077,704	117 : 3,081,582	188 : 3,114,989	300 : 3,101,261	61 : 3,091,063	243 : 3,076,300	98 : 3,105,751
538 : 3,113,403	118 : 3,089,291	189 : 3,104,503	301 : 3,103,771	62 : 3,097,460	244 : 3,107,638	99 : 3,116,134
539 : 3,099,900	119 : 3,093,938	190 : 3,110,137	302 : 3,097,455	63 : 3,084,490	245 : 3,107,468	100 : 3,074,216
540 : 3,093,936	120 : 3,094,817	191 : 3,108,286	303 : 3,071,455	64 : 3,099,115	246 : 3,091,068	101 : 3,112,191
	121 : 3,108,407	192 : 3,108,487	304 : 3,089,764	65 : 3,100,957	247 : 3,075,331	102 : 3,092,477
	122 : 3,115,729	193 : 3,109,266	305 : 3,089,763	66 : 3,085,376	248 : 3,112,596	103 : 3,078,647
	123 : 3,077,060	194 : 3,108,687	306 : 3,102,010	67 : 3,073,088	249 : 3,092,945	104 : 3,096,166
	124 : 3,088,249	195 : 3,108,688	307 : 3,079,742	68 : 3,081,588	250 : 3,075,332	105 : 3,071,913
	125 : 3,092,934	196 : 3,085,372	308 : 3,081,161	69 : 3,096,603	251 : 3,070,934	106 : 3,078,648
	126 : 3,092,935	197 : 3,112,584	309 : 3,087,803	70 : 3,102,374	252 : 3,077,064	107 : 3,078,649
	127 : 3,109,261	198 : 3,113,406	310 : 3,098,730	71 : 3,115,732	253 : 3,114,226	108 : 3,094,401
	128 : 3,107,069	199 : 3,089,294	311 : 3,099,455	72 : 3,094,824	254 : 3,071,910	109 : 3,077,712
	129 : 3,098,323	200 : 3,112,581	312 : 3,102,011	73 : 3,095,678	255 : 3,071,469	110 : 3,074,217
	130 : 3,111,790	201 : 3,113,404	313 : 3,111,401	74 : 3,094,825	256 : 3,107,470	111 : 3,093,467
	131 : 3,112,582	202 : 3,108,287	314 : 3,113,409	75 : 3,089,298	257 : 3,078,633	112 : 3,077,713
	132 : 3,113,404	203 : 3,103,085	315 : 3,106,048	76 : 3,094,825	258 : 3,071,911	113 : 3,103,426
	133 : 3,114,989	204 : 3,103,086	316 : 3,106,048	77 : 3,113,409	259 : 3,094,827	114 : 3,070,936
	134 : 3,073,074	205 : 3,107,457	317 : 3,073,687	78 : 3,106,809	260 : 3,108,415	115 : 3,102,799
	135 : 3,110,135	206 : 3,107,458	318 : 3,073,688	79 : 3,113,410	261 : 3,075,332	116 : 3,109,723
	136 : 3,073,075	207 : 3,107,459	319 : 3,082,073	80 : 3,106,048	262 : 3,081,589	117 : 3,073,095
	137 : 3,103,085	208 : 3,107,458	320 : 3,107,461	81 : 3,095,678	263 : 3,084,491	118 : 3,075,333
	138 : 3,107,457	209 : 3,110,987	321 : 3,073,689	82 : 3,115,733	264 : 3,091,904	119 : 3,090,179
	139 : 3,104,499	210 : 3,089,292	322 : 3,110,141	83 : 3,105,335	265 : 3,073,773	120 : 3,104,961
	140 : 3,089,285	211 : 3,075,321	323 : 3,073,689	84 : 3,114,993	266 : 3,103,774	121 : 3,077,714
	141 : 3,103,084	212 : 3,112,582	324 : 3,073,690	85 : 3,094,826	267 : 3,093,468	122 : 3,093,468
	142 : 3,103,765	213 : 3,102,371	325 : 3,073,690	86 : 3,074,213	268 : 3,073,096	123 : 3,102,800
	143 : 3,104,499	214 : 3,112,582		87 : 3,083,512	269 : 3,092,478	124 : 3,094,478
	144 : 3,104,499	215 : 3,107,706		88 : 3,070,929	270 : 3,088,259	125 : 3,084,492
	145 : 3,104,499	216 : 3,078,622		89 : 3,115,734	271 : 3,112,592	126 : 3,114,617
	146 : 3,104,499	217 : 3,084,485		90 : 3,070,929	272 : 3,104,507	127 : 3,102,014
	147 : 3,104,499	218 : 3,093,939		91 : 3,099,116	273 : 3,077,710	128 : 3,097,936
	148 : 3,104,499	219 : 3,084,486		92 : 3,101,064	274 : 3,071,914	129 : 3,098,731
	149 : 3,104,499	220 : 3,098,326		93 : 3,070,930	275 : 3,099,546	130 : 3,099,546
	150 : 3,104,499	221 : 3,110,136		94 : 3,088,257	276 : 3,090,180	131 : 3,078,647
	151 : 3,104,499	222 : 3,101,899		95 : 3,091,065	277 : 3,080,697	132 : 3,080,697
	152 : 3,104,499	223 : 3,075,322		96 : 3,106,049	278 : 3,080,697	133 : 3,080,697
	153 : 3,104,499	224 : 3,101,575		97 : 3,110,142	279 : 3,083,515	134 : 3,097,937
	154 : 3,104,499	225 : 3,111,791		98 : 3,073,089	280 : 3,095,289	135 : 3,095,289
	155 : 3,104,499	226 : 3,109,169		99 : 3,074,214	281 : 3,107,921	136 : 3,107,987
	156 : 3,104,499	227 : 3,082,580		100 : 3,077,063	282 : 3,080,692	137 : 3,097,937
	157 : 3,104,499	228 : 3,113,405		101 : 3,082,585	283 : 3,108,630	138 : 3,104,962
	158 : 3,104,499	229 : 3,114,502		102 : 3,086,335	284 : 3,106,462	139 : 3,105,752
	159 : 3,104,499	230 : 3,110,989		103 : 3,086,336	285 : 3,071,912	140 : 3,107,988
	160 : 3,104,499	231 : 3,074,210		104 : 3,097,462	286 : 3,073,091	141 : 3,086,342
	161 : 3,104,499	232 : 3,092,936		105 : 3,110,994	287 : 3,073,092	142 : 3,085,381
	162 : 3,104,499	233 : 3,090,170		106 : 3,110,995	288 : 3,085,379	143 : 3,071,915
	163 : 3,104,499	234 : 3,095,674		107 : 3,070,931	289 : 3,102,012	144 : 3,093,469
	164 : 3,104,499	235 : 3,099,904		108 : 3,082,586	290 : 3,102,013	145 : 3,078,650
	165 : 3,104,499	236 : 3,079,734		109 : 3,083,513	291 : 3,105,748	146 : 3,071,916
	166 : 3,104,499	237 : 3,103,768		110 : 3,092,942	292 : 3,086,339	147 : 3,104,963
	167 : 3,104,499	238 : 3,083,507		111 : 3,114,994	293 : 3,102,013	148 : 3,077,716
	168 : 3,104,499	239 : 3,095,675		112 : 3,092,943	294 : 3,104,958	149 : 3,078,650
	169 : 3,104,499	240 : 3,071,900		113 : 3,075,329	295 : 3,105,748	150 : 3,071,916
	170 : 3,104,499	241 : 3,071,901		114 : 3,075,330	296 : 3,078,634	151 : 3,083,516
	171 : 3,104,499	242 : 3,073,077		115 : 3,076,299	297 : 3,116,131	152 : 3,092,479
	172 : 3,104,499	243 : 3,073,078		116 : 3,106,050	298 : 3,078,635	153 : 3,099,547
	173 : 3,104,499	244 : 3,073,079		117 : 3,115,735	299 : 3,107,479	154 : 3,074,218
	174 : 3,104,499	245 : 3,106,407		118 : 3,085,377	300 : 3,073,093	155 : 3,075,334
	175 : 3,104,499	246 : 3,107,458		119 : 3,087,463	301 : 3,104,959	156 : 3,113,853
	176 : 3,104,499	247 : 3,107,459		120 : 3,112,588	302 : 3,101,261	157 : 3,088,260
	177 : 3,104,499	248 : 3,107,460		121 : 3,103,772	303 : 3,116,132	158 : 3,090,181
	178 : 3,104,499	249 : 3,107,461		122 : 3,108,637	304 : 3,116,133	159 : 3,097,939
	179 : 3,104,499	250 : 3,107,462		123 : 3,108,638	305 : 3,093,465	160 : 3,107,989
	180 : 3,104,499	251 : 3,107,463		124 : 3,108,639	306 : 3,085,380	161 : 3,075,335
	181 : 3,104,499	252 : 3,107,464		125 : 3,108,640	307 : 3,087,291	162 : 3,070,937
	182 : 3,104,499	253 : 3,107,465		126 : 3,108,641	308 : 3,095,288	163 : 3,110,581
	183 : 3,104,499	254 : 3,107,466		127 : 3,108,642	309 : 3,103,425	164 : 3,077,717
	184 : 3,104,499	255 : 3,107,467		128 : 3,108,643	310 : 3,078,636	165 : 3,104,964
	185 : 3,104,499	256 : 3,107,468		129 : 3,108,644	311 : 3,113,851	166 : 3,094,828
	186 : 3,104,499	257 : 3,107,469		130 : 3,108,645	312 : 3,086,340	167 : 3,104,965
	187 : 3,104,499	258 : 3,107,470		131 : 3,108,646	313 : 3,078,637	168 : 3,078,651
	188 : 3,104,499	259 : 3,107,471		132 : 3,108,647	314 : 3,078,638	169 : 3,092,480
	189 : 3,104,499	260 : 3,107,472		133 : 3,108,648	315 : 3,078,639	170 : 3,075,336
	190 : 3,104,499	261 : 3,107,473		134 : 3,108,649	316 : 3,078,640	171 : 3,110,582
	191 : 3,104,499	262 : 3,107,474		135 : 3,108,650	317 : 3,078,641	172 : 3,085,382
	192 : 3,104,499	263 : 3,107,475		136 : 3,108,651	318 : 3,078,642	
	193 : 3,104,499	264 : 3,107,476		137 : 3,108,652		
	194 : 3,104,499	265 : 3,107,477		138 : 3,108,653		
	195 : 3,104,499	266 : 3,107,478		139 : 3,108,654		
	196 : 3,104,499	267 : 3,107,479		140 : 3,108,655		
	197 : 3,104,499	268 : 3,107,480		141 : 3,108,656		
	198 : 3,104,499	269 : 3,107,481		142 : 3,108,657		



## Class 55—Con.

456 : 3,086,343  
470 : 3,080,695  
480 : 3,108,866  
487 : 3,076,302  
491 : 3,107,990  
495 : 3,082,587  
502 : 3,095,290  
504 : 3,085,383  
505 : 3,115,402  
510 : 3,104,966  
511 : 3,076,303  
514 : 3,109,724

## Class 56

1 : 3,082,588  
3,082,589  
3,085,384  
3,086,344  
3,090,182  
3,090,183  
3,100,367  
3,101,578  
3,104,509  
3,105,338  
3,106,052  
3,110,145  
3,111,799  
3,114,995  
3,115,737  
6 : 3,070,938  
3,103,090  
3,115,738  
3,115,739  
7 : 3,085,385  
3,090,184  
3,097,465  
3,100,958  
3,106,811  
8 : 3,087,293  
11 : 3,081,590  
12 : 3,100,368  
3,114,227  
14 : 3,108,416  
15 : 3,095,679  
3,108,417  
16 : 3,100,369  
3,103,091  
3,109,185  
3,095,680  
3,109,271  
18 : 3,070,939  
3,088,261  
3,091,070  
3,096,604  
3,101,579  
19 : 3,073,098  
3,105,339  
20 : 3,073,099  
3,089,299  
3,093,946  
3,094,829  
21 : 3,100,370  
23 : Re.25,385  
3,079,742  
3,091,071  
3,096,605  
3,114,228  
24 : 3,070,940  
3,084,493  
3,087,294  
3,092,946  
3,094,830  
3,112,593  
25 : 3,086,345  
3,089,300  
3,091,072  
3,092,947  
3,109,272  
3,110,146  
3,113,411  
3,114,996  
4 : Re.25,379  
3,070,941  
3,107,420  
3,075,338  
3,077,065  
3,077,718  
3,079,743  
3,080,696  
3,084,494  
3,085,386  
3,085,387  
3,086,346  
3,087,295  
3,087,296  
3,090,186  
3,091,073  
3,091,905  
3,091,906  
3,093,947

25.4 : 3,093,948  
4 : 3,094,831  
4 : 3,097,466  
4 : 3,097,467  
4 : 3,098,337  
4 : 3,100,371  
4 : 3,101,580  
4 : 3,106,812  
4 : 3,107,472  
4 : 3,110,996  
4 : 3,110,997  
4 : 3,111,800  
4 : 3,112,594  
4 : 3,112,595  
4 : 3,112,596  
4 : 3,114,229  
26 : 3,073,100  
3,077,066  
3,096,606  
5 : 3,074,221  
5 : 3,094,832  
27.5 : 3,079,744  
5 : 3,083,517  
5 : 3,093,949  
28 : 3,092,948  
3,101,581  
3,108,418  
35 : 3,070,942  
41 : 3,088,262  
3,093,950  
42 : 3,082,590  
3,107,471  
3,108,419  
44 : 3,092,949  
3,103,092  
3,114,997  
48 : 3,105,340  
49 : 3,107,473  
50 : 3,096,607  
98 : 3,075,339  
104 : 3,075,340  
3,101,582  
119 : 3,088,263  
3,107,474  
121.44 : 3,099,121  
190 : 3,109,273  
192 : 3,105,341  
199 : 3,099,122  
3,100,372  
3,110,147  
202 : 3,087,297  
3,099,123  
3,110,998  
3,112,597  
3,112,598  
205 : 3,108,420  
210 : 3,088,264  
214 : 3,100,373  
219 : 3,077,719  
238 : 3,083,518  
249 : 3,070,943  
3,073,101  
3,083,301  
3,099,124  
3,106,813  
255 : 3,084,495  
3,102,375  
291 : 3,106,053  
294 : 3,093,951  
3,102,376  
295 : 3,080,697  
3,087,298  
3,090,187  
3,093,952  
3,096,608  
3,097,468  
3,097,469  
3,103,093  
3,103,094  
3,103,099  
3,104,510  
3,113,412  
297 : 3,108,421  
3,114,230  
305 : 3,099,125  
309 : 3,083,519  
311 : 3,098,339  
327 : 3,070,944  
3,084,496  
328 : 3,077,720  
3,077,721  
3,080,698  
3,100,959  
3,101,583  
3,105,342  
3,105,343  
3,105,344  
3,105,345  
3,107,475  
3,115,740

329 : 3,105,346  
3,105,347  
3,114,998  
332 : 3,109,276  
334 : 3,083,520  
339 : 3,081,591  
3,095,681  
341 : 3,103,775  
3,106,814  
345 : 3,098,340  
347 : 3,110,148  
364 : 3,088,265  
366 : 3,097,470  
3,103,776  
3,111,801  
370 : 3,084,497  
372 : 3,083,521  
376 : 3,074,222  
377 : Re.25,366  
3,073,102  
3,077,067  
3,077,722  
3,080,699  
3,091,907  
3,092,950  
3,092,951  
3,093,953  
3,093,954  
3,098,341  
3,101,584  
3,103,777  
3,103,778  
3,104,512  
3,104,513  
3,107,476  
3,108,422  
3,108,423  
3,108,424  
3,108,425  
3,110,149  
3,111,802  
400 : 3,096,609  
3,102,377  
01 : 3,070,945  
04 : 3,084,498  
01 : 3,108,426  
18 : 3,073,103  
17 : 3,078,652  
12 : 3,095,682  
12 : 3,105,348  
503 : 3,090,188  
3,115,741  
504 : 3,106,054

## Class 57

1 : 3,070,946  
3,075,341  
3,080,700  
3,094,833  
3,103,095  
6 : 3,082,591  
7 : 3,085,389  
12 : 3,073,104  
3,091,074  
13 : 3,067,815  
3,111,803  
15 : 3,077,068  
3,097,472  
3,097,473  
3,098,342  
3,115,742  
17 : 3,110,999  
18 : 3,074,223  
22 : 3,070,947  
23 : 3,097,474  
24 : 3,109,277  
32 : 3,077,723  
3,091,075  
3,111,000  
34 : 3,071,917  
3,079,745  
3,083,522  
3,085,389  
3,085,390  
3,091,908  
3,091,909  
3,092,952  
3,093,955  
3,095,683  
3,096,610  
3,098,343  
3,098,344  
3,105,349  
3,112,600  
3,113,413  
5 : 3,073,105  
36 : 3,107,948  
3,073,106  
3,092,953  
38.3 : 3,086,347  
50 : 3,107,477

51 : 3,079,746  
6 : 3,114,231  
52 : 3,112,601  
53 : 3,070,949  
3,077,725  
3,088,266  
3,088,267  
54 : 3,103,096  
3,074,224  
3,075,342  
3,080,701  
3,095,684  
3,101,585  
3,113,414  
55.5 : 3,094,834  
5 : 3,114,999  
56 : 3,071,918  
3,086,348  
3,115,000  
57 : 3,095,685  
58.3 : 3,095,686  
3,108,427  
59 : 3,106,055  
52 : 3,106,816  
52 : 3,114,232  
67 : 3,079,747  
65 : 3,093,956  
7 : 3,099,126  
63 : 3,077,726  
89 : 3,110,150  
95 : 3,107,478  
91 : 3,115,001  
66.5 : 3,082,592  
71 : 3,114,224  
73 : 3,104,514  
3,107,479  
76 : 3,075,343  
3,111,804  
77.3 : 3,087,299  
33 : 3,091,910  
45 : 3,074,225  
45 : 3,074,226  
4 : 3,103,097  
45 : 3,115,743  
78 : 3,108,428  
81 : 3,084,499  
3,102,378  
3,114,233  
96 : 3,089,302  
99 : 3,097,475  
3,108,429  
3,112,602  
100 : 3,095,687  
102 : 3,098,345  
103 : 3,098,346  
104 : 3,086,349  
106 : 3,076,304  
3,084,500  
3,094,835  
3,095,688  
3,103,779  
108 : 3,086,350  
110 : 3,097,476  
120 : 3,081,592  
3,084,501  
3,095,689  
3,107,480  
3,112,603  
3,093,957  
3,100,374  
124 : 3,114,234  
125 : 3,077,727  
127.5 : 3,077,069  
129 : 3,076,305  
130 : 3,074,227  
3,077,070  
3,091,911  
3,092,954  
3,100,960  
134 : 3,100,375  
135 : 3,076,306  
3,088,268  
139 : 3,082,593  
3,090,189  
3,090,190  
3,071,919  
3,083,523  
3,091,912  
3,091,913  
3,092,955  
3,102,379  
3,103,098  
3,104,450  
3,109,278  
3,111,805  
144 : 3,076,307  
3,111,001  
145 : 3,092,956  
146 : 3,088,269  
3,104,515  
147 : 3,075,344  
152 : 3,109,282  
3,098,347  
154 : 3,112,604

156 : 3,096,611  
3,099,907  
3,106,056  
157 : 3,070,950  
3,081,593  
3,098,348  
3,104,516  
3,108,430  
3,109,279  
3,110,151  
3,114,235  
3,115,744  
163 : 3,078,654  
3,115,745

## Class 58

2 : 3,106,817  
3,113,415  
16 : 3,099,127  
3,101,586  
3,109,280  
20 : 3,080,702  
23 : 3,070,951  
3,107,481  
26 : 3,078,655  
28 : Re.25,328  
3,075,345  
3,091,914  
3,095,690  
3,111,806  
34 : 3,090,191  
38 : 3,086,351  
3,091,076  
3,100,961  
39.5 : 3,088,270  
5 : 3,090,192  
43 : 3,115,002  
44 : 3,091,915  
50 : 3,079,748  
3,081,594  
3,114,236  
53 : 3,073,107  
3,090,193  
57.5 : 3,079,749  
5 : 3,086,352  
58 : 3,082,594  
3,093,958  
59 : 3,099,128  
68 : 3,111,002  
70 : 3,099,129  
71 : 3,114,237  
82 : 3,087,300  
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5 : 3,091,916  
5 : 3,106,819  
5 : 3,112,605  
5 : 3,113,417  
5 : 3,114,238  
90 : 3,091,917  
121 : 3,077,728  
125 : 3,102,380  
126 : 3,077,729  
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140 : 3,080,703  
3,104,518  
142 : 3,091,918  
144 : 3,101,587  
3,103,099  
3,111,004  
145 : 3,089,303

## Class 59

7 : 3,075,346  
3,075,347  
3,097,477  
3,099,130  
8 : 3,084,502  
3,092,957  
22 : 3,096,612  
29 : 3,070,952  
35 : 3,082,595  
78.1 : 3,098,349  
79 : 3,084,503  
3,099,908  
3,112,606  
86 : 3,104,519  
88 : 3,095,691

## Class 60

6 : 3,071,921  
3,079,750  
3,107,482  
7 : 3,082,596  
10.5 : 3,109,282  
12 : 3,071,922  
3,077,730

12 : 3,090,195  
3,096,613  
13 : 3,077,071  
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3,091,077  
3,093,959  
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3,102,382  
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14 : 3,073,108  
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16 : 3,074,228  
18 : 3,106,057  
19 : 3,078,656  
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3,085,392  
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23 : 3,070,953  
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24 : 3,074,229  
3,077,732  
3,080,706  
26.1 : 3,102,383  
11 : 3,104,521  
3,109,283  
1 : 3,111,808  
1 : 3,115,004  
29 : 3,083,524  
30 : 3,082,597  
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3,091,920  
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31 : 3,101,588  
35.3 : 3,076,308  
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4 : 3,071,923  
4 : 3,071,924  
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6 : 3,098,352



35.6 : 3.098,353	39.37 : 3.082,602	53 : 3.080,719	6 : 3.103,788	3 : 3.070,964	51 : 3.094,849	156 : 3.111,814
.6 : 3.099,909	.32 : 3.085,398	.32 : 3.081,598	7 : 3.113,435	3 : 3.071,932	3.106,827	3.112,619
.6 : 3.100,962	.35 : 3.085,399	.33 : 3.091,930	10 : 3.096,622	3.073,126	3.114,247	157 : 3.075,363
.6 : 3.100,963	.37 : 3.086,363	.37 : 3.092,970	11 : 3.081,599	3.073,127	52 : 3.070,968	159 : 3.078,688
.6 : 3.101,590	.36 : 3.088,279	.38 : 3.095,708	12 : 3.103,789	3.074,242	3.077,745	3.105,365
.6 : 3.102,385	.34 : 3.089,307	.39 : 3.096,619	19 : 3.114,243	3.075,360	3.091,096	160 : 3.103,794
.6 : 3.102,386	.34 : 3.091,927	.39 : 3.098,359	22 : 3.097,491	3.077,079	3.092,972	3.113,439
.6 : 3.102,387	.35 : 3.092,967	.39 : 3.104,529	22 : 3.097,931	3.077,743	3.097,497	3.115,018
.6 : 3.102,388	.35 : 3.095,703	.39 : 3.104,530	23 : 3.070,963	3.078,682	54 : 3.109,292	161 : 3.100,972
.6 : 3.103,102	.31 : 3.098,357	.39 : 3.107,490	28 : 3.086,366	3.080,723	3.078,686	162 : 3.110,159
.6 : 3.103,784	.3 : 3.100,964	.39 : 3.107,491	29 : 3.090,202	3.083,543	3.087,311	164 : 3.110,160
.6 : 3.104,522	.35 : 3.102,391	.39 : 3.108,437	35 : 3.098,360	3.085,405	3.096,625	170 : 3.113,440
.6 : 3.104,523	.32 : 3.104,525	54 : 3.071,928	36 : 3.076,317	3.088,288	3.098,362	172 : 3.080,728
.6 : 3.105,352	.31 : 3.105,355	.39 : 3.074,234	29 : 3.084,516	3.087,309	3.108,446	3.103,105
.6 : 3.106,059	.34 : 3.109,286	.39 : 3.075,354	35 : 3.099,911	3.088,288	3.108,447	173 : 3.105,366
.6 : 3.106,060	.31 : 3.113,430	.39 : 3.079,756	36 : 3.100,381	3.090,206	3.112,617	176 : 3.111,010
.6 : 3.106,822	.36 : 3.115,011	.39 : 3.096,620	40 : 3.106,068	3.091,939	3.079,760	178 : 3.096,627
.6 : 3.107,486	.47 : 3.070,958	.39 : 3.100,966	41 : 3.107,437	3.091,939	3.081,602	180 : 3.070,972
.6 : 3.107,487	.46 : 3.071,925	.39 : 3.107,492	42 : 3.111,811	3.091,939	3.092,973	3.070,973
.6 : 3.107,488	.47 : 3.073,120	.5 : 3.070,959	43 : 3.097,493	3.091,939	3.097,498	3.090,209
.6 : 3.108,433	.47 : 3.077,077	.5 : 3.070,960	44 : 3.106,069	3.095,709	3.097,499	3.091,098
.6 : 3.109,284	.48 : 3.077,078	.5 : 3.071,929	45 : 3.077,741	3.096,624	3.097,500	3.099,139
.6 : 3.109,285	.47 : 3.077,736	.5 : 3.071,930	46 : 3.086,367	3.099,137	3.106,071	3.107,502
.6 : 3.110,154	.46 : 3.080,714	.5 : 3.076,313	47 : 3.087,676	3.100,969	3.109,293	183 : 3.073,132
.6 : 3.111,005	.45 : 3.084,511	.5 : 3.076,314	48 : 3.104,529	3.100,970	3.109,294	3.112,620
.6 : 3.112,611	.47 : 3.087,306	.5 : 3.076,315	49 : 3.103,789	3.108,444	3.109,295	184 : 3.108,451
.6 : 3.112,612	.45 : 3.091,083	.5 : 3.077,738	50 : 3.099,911	3.109,290	57 : 3.115,756	187 : 3.108,452
.6 : 3.112,613	.47 : 3.091,084	.5 : 3.078,676	51 : 3.091,938	3.111,008	58 : 3.070,969	188 : 3.110,161
.6 : 3.112,614	.47 : 3.092,968	.5 : 3.080,720	52 : 3.087,308	3.111,813	3.073,131	192 : 3.084,521
.6 : 3.112,615	.43 : 3.094,840	.5 : 3.084,514	53 : 3.075,358	4 : 3.075,361	3.077,746	3.088,291
.6 : 3.115,006	.45 : 3.095,704	.5 : 3.090,201	54 : 3.103,789	3.091,091	3.079,761	196 : 3.088,292
.6 : 3.115,007	.46 : 3.095,705	.5 : 3.091,085	55 : 3.086,368	3.095,291	3.093,975	3.091,943
.6 : 3.115,008	.46 : 3.101,592	.5 : 3.091,931	56 : 3.087,677	3.074,243	3.095,295	3.093,976
.6 : 3.115,009	.48 : 3.104,526	.5 : 3.091,932	57 : 3.088,289	3.090,208	3.095,296	3.103,106
.6 : 3.115,010	.48 : 3.105,356	.5 : 3.093,970	58 : 3.089,138	3.103,104	3.098,733	3.103,795
.6 : 3.115,746	.47 : 3.111,810	.5 : 3.094,843	59 : 3.097,494	6 : 3.074,244	3.098,734	3.110,162
.6 : 3.115,747	.52 : 3.077,737	.5 : 3.106,823	60 : 3.108,442	3.078,683	3.098,735	197 : 3.070,974
36 : 3.095,698	.51 : 3.079,754	.5 : 3.110,031	61 : 3.108,443	3.091,092	60 : 3.096,626	3.081,606
39 : 3.087,304	.61 : 3.073,118	.5 : 3.114,241	62 : 3.108,444	3.101,596	62 : 3.074,246	3.088,293
.08 : 3.075,349	.65 : 3.075,352	.5 : 3.114,242	63 : 3.115,754	3.101,597	3.080,725	3.090,210
.02 : 3.078,662	.65 : 3.080,715	.5 : 3.115,752	64 : 3.086,367	3.115,015	3.092,974	3.091,944
.02 : 3.078,663	.66 : 3.080,716	.6 : 3.070,961	65 : 3.088,286	3.115,015	63 : 3.070,970	3.099,140
.02 : 3.078,664	.65 : 3.082,603	.6 : 3.074,235	66 : 3.091,089	3.115,016	3.074,247	3.109,297
.02 : 3.078,665	.66 : 3.083,532	.6 : 3.078,677	67 : 3.094,847	7 : 3.109,291	3.092,975	200 : 3.108,453
.06 : 3.078,666	.66 : 3.085,400	.6 : 3.078,678	68 : 3.107,495	9 : 3.094,402	3.097,501	202 : 3.092,977
.08 : 3.078,667	.6 : 3.088,276	.6 : 3.079,757	69 : 3.115,755	3.098,732	3.099,138	208 : 3.093,977
.09 : 3.089,306	.65 : 3.088,280	.6 : 3.082,604	70 : 3.108,445	3.109,725	3.108,448	209 : 3.103,107
.09 : 3.092,964	.65 : 3.088,281	.6 : 3.088,285	71 : 3.109,291	10 : 3.077,081	64 : 3.078,687	3.111,815
.09 : 3.094,839	.66 : 3.095,706	.6 : 3.091,086	72 : 3.076,318	11 : 3.076,318	3.079,762	212 : 3.111,816
.02 : 3.095,699	.65 : 3.099,134	.6 : 3.094,844	73 : 3.086,368	3.116,135	3.100,971	216 : 3.092,978
.07 : 3.108,434	.63 : 3.104,527	.6 : 3.100,379	74 : 3.093,937	3.070,965	3.114,248	217 : 3.082,611
.14 : 3.073,114	.65 : 3.113,431	.6 : 3.103,786	75 : 3.093,937	3.073,125	70 : 3.108,449	3.107,503
.16 : 3.073,115	.74 : 3.075,353	.6 : 3.103,787	76 : 3.093,937	3.074,245	71 : 3.071,933	222 : 3.086,372
.16 : 3.073,116	.71 : 3.078,672	.6 : 3.109,287	77 : 3.093,937	3.075,362	3.101,598	234 : 3.103,796
.14 : 3.085,396	.72 : 3.085,401	.6 : 3.113,433	78 : 3.093,937	3.089,311	76 : 3.109,296	235 : 3.108,454
.14 : 3.086,361	.74 : 3.095,707	.6 : 3.115,012	79 : 3.093,937	3.091,093	77 : 3.081,603	236 : 3.093,978
.18 : 3.086,362	.74 : 3.099,910	59 : 3.076,316	80 : 3.093,937	3.095,292	78 : 3.070,971	237 : 3.110,163
.14 : 3.087,305	.71 : 3.101,593	.39 : 3.092,971	81 : 3.093,937	3.097,940	3.088,290	238 : 3.070,975
.14 : 3.088,277	.72 : 3.102,392	60 : 3.080,721	82 : 3.074,238	3.102,015	84 : 3.079,763	3.101,599
.16 : 3.088,278	.74 : 3.102,393	.39 : 3.094,845	83 : 3.074,239	3.086,371	3.081,604	239 : 3.077,083
.14 : 3.090,199	.82 : 3.073,121	62.6 : 3.078,679	84 : 3.081,601	3.091,941	85 : 3.081,605	3.089,313
.14 : 3.097,485	.82 : 3.073,122	64 : 3.070,962	85 : 3.084,517	3.100,696	3.091,097	3.092,979
.18 : 3.097,486	.82 : 3.079,755	67 : 3.091,933	86 : 3.088,287	3.105,360	3.113,437	240 : 3.076,320
.14 : 3.098,355	.82 : 3.085,402	.39 : 3.101,595	87 : 3.094,848	3.109,726	3.071,934	3.102,397
.16 : 3.100,378	.82 : 3.088,282	73 : 3.083,536	88 : 3.096,623	17 : 3.087,310	3.082,609	241 : 3.087,312
.16 : 3.104,524	.82 : 3.090,200	.39 : 3.097,487	89 : 3.100,968	18 : 3.107,992	3.091,942	3.097,504
.16 : 3.106,062	.82 : 3.096,618	.39 : 3.097,488	90 : 3.106,826	20 : 3.080,724	113 : 3.082,610	243 : 3.102,398
.14 : 3.107,489	46.5 : 3.115,013	.39 : 3.097,489	91 : 3.114,244	3.116,136	117 : 3.092,976	256 : 3.082,612
.16 : 3.108,435	51 : 3.078,673	.39 : 3.097,490	92 : 3.091,938	3.108,867	3.095,710	3.090,211
.16 : 3.114,240	.39 : 3.080,717	.39 : 3.100,967	93 : 3.075,358	23 : 3.095,293	3.112,618	3.094,851
.14 : 3.115,749	.39 : 3.083,533	.39 : 3.105,357	94 : 3.104,532	3.101,262	118 : 3.079,764	3.115,019
.16 : 3.115,750	.39 : 3.083,534	95 : 3.074,236	95 : 3.104,533	24 : 3.077,744	123 : 3.103,792	259 : 3.074,250
.25 : 3.073,117	.39 : 3.100,965	97 : 3.075,355	96 : 3.104,534	3.091,094	126 : 3.100,383	3.079,765
.28 : 3.073,119	.39 : 3.071,926	.39 : 3.075,356	97 : 3.104,535	27 : 3.111,402	3.105,362	260 : 3.100,973
.28 : 3.075,350	.39 : 3.071,927	.39 : 3.079,758	98 : 3.104,536	28 : 3.073,129	3.106,072	261 : 3.097,505
.28 : 3.075,351	.39 : 3.078,674	.39 : 3.082,605	99 : 3.104,537	3.073,130	132 : 3.094,850	262 : 3.084,522
.28 : 3.076,310	.39 : 3.078,675	.39 : 3.085,403	100 : 3.104,538	3.083,544	135 : 3.074,248	263 : 3.097,506
.28 : 3.076,311	.39 : 3.080,718	.39 : 3.087,307	101 : 3.104,539	3.091,095	3.089,312	264 : 3.070,976
.28 : 3.076,312	.39 : 3.083,535	.39 : 3.093,971	102 : 3.104,540	3.113,854	138 : 3.080,726	265 : 3.096,628
.25 : 3.078,668	.39 : 3.084,512	.39 : 3.100,380	103 : 3.104,541	62 : 3.114,245	140 : 3.077,747	268 : 3.103,108
.28 : 3.078,669	.39 : 3.084,513	.39 : 3.107,493	104 : 3.104,542	72 : 3.107,497	3.103,793	270 : 3.076,321
.28 : 3.078,670	.39 : 3.086,364	.39 : 3.106,067	105 : 3.104,543	54 : 3.103,103	3.107,499	275 : 3.115,020
.29 : 3.080,712	.39 : 3.086,365	105 : 3.077,739	106 : 3.104,544	64 : 3.083,539	3.105,363	276 : 3.099,914
.29 : 3.080,713	.39 : 3.088,283	106 : 3.089,308	107 : 3.104,545	65 : 3.073,125	3.102,801	278 : 3.071,936
.28 : 3.083,531	.39 : 3.088,284	107 : 3.102,394	108 : 3.104,546	3.077,742	34 : 3.083,545	3.077,084
.28 : 3.084,510	.39 : 3.091,928	108 : 3.080,722	109 : 3.104,547	3.083,546	35 : 3.070,967	3.081,607
.28 : 3.085,397	.39 : 3.091,929	.39 : 3.115,753	110 : 3.104,548	3.084,517	37 : 3.078,684	279 : 3.089,314
.28 : 3.091,925	.39 : 3.092,969	Class 61	111 : 3.104,549	3.100,147	155 : 3.071,935	280 : 3.079,766
.28 : 3.091,926	.39 : 3.094,841	.5 : 3.083,537	112 : 3.104,550	39 : 3.093,470	3.084,519	3.079,767
.26 : 3.092,965	.39 : 3.094,842	.5 : 3.083,538	113 : 3.104,551	3.103,427	3.102,395	3.079,768
.26 : 3.092,966	.39 : 3.098,358	.5 : 3.083,539	114 : 3.104,552	42 : 3.100,697	3.113,438	3.079,769
.21 : 3.093,968	.39 : 3.099,135	.5 : 3.083,540	115 : 3.104,553	45 : 3.077,082	3.115,017	283 : 3.096,629
.28 : 3.093,969	.39 : 3.099,136	.5 : 3.083,541	116 : 3.104,554	3.097,084	3.080,727	3.111,817
.2 : 3.095,700	.39 : 3.101,594	.5 : 3.105,358	117 : 3.104,555	3.103,791	3.084,520	285 : 3.097,507
.28 : 3.095,701	.39 : 3.104,528	.5 : 3.106,824	118 : 3.104,556	3.107,498	3.097,502	292 : 3.093,979
.28 : 3.095,702	.39 : 3.106,063	.5 : 3.107,494	119 : 3.104,557	3.110,156	3.097,503	293 : 3.077,085
.28 : 3.098,356	.39 : 3.106,064	.5 : 3.108,438	120 : 3.104,558	3.108,445	3.100,384	296 : 3.084,523
.28 : 3.103,785	.39 : 3.106,065	.5 : 3.108,439	121 : 3.104,559	3.108,446	3.102,396	3.088,294
.28 : 3.105,354	.39 : 3.106,066	1 : 3.075,357	122 : 3.104,560	3		



## Class 62—Con.

324	: 3,077,088	8	: 3,113,442	18	: 3,116,137	60	: 3,090,214	7.1	: 3,083,554	134	: 3,082,616	224	: 3,077,100
	: 3,078,689	9	: 3,070,979	19	: 3,109,727	63	: 3,102,403	1	: 3,083,555	139	: 3,070,985	232	: 3,112,636
	: 3,109,298		: 3,080,732	20	: 3,104,164	64	: 3,102,404	1	: 3,085,412		: 3,089,327	240	: 3,115,764
	: 3,110,164	11	: 3,074,254	21	: 3,074,257		: 3,103,110	1	: 3,088,301	140	: 3,100,978	258	: 3,112,637
326	: 3,089,315		: 3,082,613	23	: 3,091,104	65	: 3,115,760	1	: 3,089,324	148	: 3,103,802	262	: 3,113,447
332	: 3,081,068		: 3,093,982	30	: 3,099,549	82	: 3,079,776	1	: 3,092,988		: 3,111,832	271	: 3,083,562
	: 3,102,399		: 3,095,714	31	: 3,113,008		: 3,079,777	1	: 3,093,990		: 3,112,633	272	: 3,076,329
340	: 3,074,251		: 3,112,626		: 3,113,855	84	: 3,070,983	1	: 3,096,636	150	: 3,100,979		: 3,115,027
341	: 3,111,011		: 3,115,759	32	: 3,083,551		: 3,074,259	1	: 3,111,015	158	: 3,092,989	276	: 3,111,834
346	: 3,089,316	12	: 3,087,313	33	: 3,113,009		: 3,092,985	1	: 3,112,629	173	: 3,085,420	278	: 3,100,389
347	: 3,074,252	14	: 3,084,524	35	: 3,075,371		: 3,115,023	1	: 3,113,444	177	: 3,091,109	288	: 3,115,028
353	: 3,075,364		: 3,094,853	44	: 3,088,298		: 3,079,778	1	: 3,114,249	181	: 3,078,703	303	: 3,073,145
355	: 3,075,365		: 3,102,402	45	: 3,106,463		: 3,099,919	22	: 3,088,302		: 3,081,613	313	: 3,099,150
367	: 3,093,980	15	: 3,071,942	48	: 3,083,552	86	: 3,097,511		: 3,091,952		: 3,088,306	315	: 3,090,219
369	: 3,077,748		: 3,079,773	49	: 3,088,299		: 3,099,920		: 3,105,373		: 3,112,634		: 3,115,765
374	: 3,083,547		: 3,080,733	54	: 3,113,010	88	: 3,099,921		: 3,107,511	188	: 3,093,991	333	: 3,098,376
376	: 3,091,099		: 3,080,734	55	: 3,078,692	90	: 3,093,986	23	: 3,071,952	189	: 3,087,322		: 3,106,083
382	: 3,075,366		: 3,091,947	58	: 3,086,375	95	: 3,110,167	25	: 3,091,106		: 3,092,990		: 3,111,022
	: 3,108,455		: 3,096,631	59	: 3,073,137	96	: 3,100,975	31	: 3,087,318	196	: 3,103,803	339	: 3,103,806
389	: 3,086,373		: 3,096,632	60	: 3,078,693	107	: 3,071,947		: 3,106,080	198	: 3,086,381	346	: 3,095,725
391	: 3,086,374		: 3,104,535	65	: 3,083,505	108	: 3,080,740		: 3,111,016		: 3,097,515	352	: 3,093,993
395	: 3,091,100		: 3,107,338		: 3,107,161		: 3,094,854	55	: 3,112,612		: 3,115,025	363	: 3,084,533
402	: 3,097,508	17	: 3,070,980		: 3,103,428		: 3,104,537		: 3,097,514	203	: 3,099,146		: 3,099,151
	: 3,106,073		: 3,074,255		: 3,071,946		: 3,115,024	87	: 3,085,413	207	: 3,079,783		: 3,102,412
408	: 3,093,981		: 3,088,296		: 3,097,942	110	: 3,073,138	111	: 3,114,251		: 3,091,110	364	: 3,080,744
419	: 3,077,749		: 3,091,948		: 3,087,315	112	: 3,078,698				: 3,095,722	383	: 3,070,987
	: 3,081,608		: 3,103,798		: 3,077,753	125	: 3,080,741			208	: 3,091,111		: 3,073,146
	: 3,103,109		: 3,106,076		: 3,102,016		: 3,095,718			210	: 3,084,531		: 3,078,705
	: 3,103,797		: 3,107,506		: 3,078,694		: 3,095,718				: 3,094,860		: 3,095,726
	: 3,104,533	20	: 3,075,368		: 3,114,619	131	: 3,115,761	3	: 3,098,370	213	: 3,074,263	417	: 3,083,563
	: 3,111,012		: 3,103,799		: 3,085,408	132	: 3,073,139	4	: 3,091,107		: 3,105,376	419	: 3,078,706
	: 3,111,013		: 3,077,994		: 3,080,737		: 3,090,215	5	: 3,074,261	235	: 3,098,375	434	: 3,093,994
	: 3,111,818	21	: 3,071,943		: 3,077,094		: 3,099,143		: 3,083,556	242	: 3,111,019	447	: 3,086,384
	: 3,112,623		: 3,071,944		: 3,113,011	133	: 3,095,719		: 3,085,414	253	: 3,105,377	451	: 3,095,727
440	: 3,112,624		: 3,076,322		: 3,079,774	134	: 3,081,609		: 3,094,858	258	: 3,101,563	455	: 3,077,101
447	: 3,100,385		: 3,076,323		: 3,114,620	138	: 3,101,601		: 3,098,371			456	: 3,079,784
448	: 3,104,534		: 3,076,323		: 3,097,943		: 3,102,405		: 3,105,374			459	: 3,112,638
	: 3,109,299		: 3,083,548		: 3,100,148		: 3,108,461		: 3,110,169				
452	: 3,092,980		: 3,083,549		: 3,103,429	140	: 3,077,097	12	: 3,078,700				
455	: 3,079,770		: 3,092,982		: 3,113,012		: 3,079,779		: 3,080,742				
457	: 3,089,317		: 3,095,715		: 3,077,754		: 3,083,553		: 3,084,530				
462	: 3,111,014		: 3,105,369		: 3,080,738		: 3,090,216		: 3,085,415				
464	: 3,106,074		: 3,106,077		: 3,074,258		: 3,090,217		: 3,086,379				
465	: 3,091,946	23	: 3,108,456		: 3,116,138		: 3,092,986		: 3,087,319				
467	: 3,089,318		: 3,075,368		: 3,077,095		: 3,097,512		: 3,088,303				
	: 3,090,212		: 3,103,135		: 3,113,013	145	: 3,075,374		: 3,088,304				
	: 3,100,386		: 3,105,370		: 3,104,967		: 3,097,513		: 3,091,953				
468	: 3,092,981		: 3,108,457		: 3,078,695		: 3,100,976		: 3,100,387				
469	: 3,097,509		: 3,112,627		: 3,107,162		: 3,100,977		: 3,105,375				
471	: 3,111,819		: 3,099,917		: 3,077,755		: 3,113,445		: 3,106,081				
473	: 3,070,977		: 3,098,366		: 3,084,526		: 3,099,144		: 3,106,831				
491	: 3,078,690	25	: 3,091,103		: 3,087,316	147	: 3,071,948		: 3,110,170				
497	: 3,080,729	26	: 3,093,983		: 3,091,105		: 3,108,462		: 3,111,017				
498	: 3,102,400		: 3,093,983		: 3,114,621	150	: 3,071,949		: 3,111,830				
505	: 3,111,820		: 3,077,090		: 3,105,753		: 3,096,634		: 3,112,630				
506	: 3,096,630		: 3,091,949		: 3,086,376	154	: 3,089,322		: 3,113,445				
507	: 3,071,937		: 3,095,716		: 3,087,317		: 3,093,987		: 3,114,252				
	: 3,115,757		: 3,103,800		: 3,088,300		: 3,099,145		: 3,114,253				
511	: 3,105,367		: 3,101,600		: 3,089,319	155	: 3,110,168	13	: 3,085,416				
512	: 3,095,255		: 3,108,458		: 3,092,481	163	: 3,094,855	15	: 3,094,859				
514	: 3,095,711		: 3,108,458		: 3,094,403		: 3,106,829	16	: 3,102,406				
			: 3,111,822		: 3,102,802	164	: 3,098,367	17	: 3,070,984				
			: 3,080,735		: 3,086,377		: 3,108,463		: 3,085,417				
			: 3,111,823		: 3,103,430		: 3,098,367		: 3,085,418				
			: 3,111,823		: 3,115,403		: 3,094,856		: 3,086,380				
			: 3,091,950		: 3,092,482		: 3,096,635		: 3,088,305				
			: 3,093,984		: 3,098,736		: 3,078,699		: 3,091,108				
			: 3,075,369		: 3,106,464		: 3,092,987		: 3,102,407				
			: 3,090,213		: 3,094,404		: 3,103,111		: 3,107,512				
			: 3,091,951		: 3,077,096	177	: 3,075,375	18	: 3,071,953				
			: 3,092,983		: 3,113,856		: 3,093,988		: 3,074,262				
			: 3,092,984		: 3,078,696		: 3,109,300		: 3,078,701				
			: 3,100,974		: 3,070,982		: 3,109,301		: 3,085,419				
			: 3,105,371				: 3,089,325		: 3,089,325				
			: 3,106,828				: 3,077,757		: 3,091,954				
			: 3,107,507				: 3,098,368		: 3,102,409				
			: 3,111,824				: 3,098,369		: 3,102,409				
			: 3,106,078				: 3,079,780		: 3,103,112				
			: 3,075,370				: 3,112,628		: 3,111,831				
			: 3,104,536				: 3,085,409		: 3,091,955				
			: 3,111,825				: 3,078,697		: 3,091,955				
							: 3,085,410		: 3,108,464				
							: 3,089,323		: 3,112,631				
							: 3,107,510		: 3,078,702				
							: 3,094,857		: 3,083,557				
							: 3,096,637		: 3,096,637				
							: 3,073,140		: 3,106,832				
							: 3,084,529		: 3,111,018				
							: 3,105,372		: 3,079,782				
							: 3,106,079		: 3,083,558				
							: 3,109,302		: 3,087,321				
							: 3,111,829		: 3,091,956				
							: 3,071,951		: 3,102,410				
							: 3,106,830		: 3,103,113				
							: 3,093,989		: 3,089,326				
									: 3,098,372				
									: 3,108,465				
									: 3,071,954				
									: 3,098,373				
									: 3,098,374				
									: 3,095,720				
									: 3,071,955				



2.7 : 3,093,472	15 : 3,088,309	53 : 3,102,418	91 : 3,095,733	162 : 3,112,643	221 : 3,110,171	355 : 3,073,163
7 : 3,093,473	7 : 3,106,085	7 : 3,103,809	7 : 3,113,452	167 : 3,081,626	223 : 3,078,714	7 : 3,075,386
7 : 3,094,407	7 : 3,114,255	7 : 3,106,090	93 : 3,079,789	7 : 3,090,228	7 : 3,087,336	7 : 3,080,755
7 : 3,101,264	.6 : 3,075,378	7 : 3,106,836	7 : 3,101,610	7 : 3,100,394	7 : 3,088,316	7 : 3,081,632
7 : 3,101,265	.6 : 3,078,708	7 : 3,107,519	94 : 3,115,772	168 : 3,086,392	7 : 3,094,872	7 : 3,092,997
7 : 3,102,020	16 : 3,086,385	7 : 3,111,837	95 : 3,079,790	7 : 3,091,116	7 : 3,096,645	7 : 3,094,001
7 : 3,102,021	7 : 3,106,086	54 : 3,073,150	7 : 3,099,152	7 : 3,098,382	7 : 3,100,396	7 : 3,096,650
7 : 3,102,022	7 : 3,077,763	7 : 3,073,151	7 : 3,113,453	7 : 3,099,163	7 : 3,101,613	7 : 3,107,530
7 : 3,102,023	7 : 3,077,764	7 : 3,082,620	97 : 3,102,421	170 : 3,086,393	224 : 3,115,038	356 : 3,082,624
7 : 3,103,433	7 : 3,081,619	7 : 3,093,997	99 : 3,105,381	7 : 3,098,380	7 : 3,071,002	7 : 3,090,234
6 : 3,115,404	7 : 3,083,565	7 : 3,110,172	100 : 3,099,153	7 : 3,110,178	7 : 3,081,630	357 : 3,083,574
9 : 3,113,014	7 : 3,084,535	7 : 3,111,838	7 : 3,110,174	172 : 3,100,992	7 : 3,083,571	7 : 3,098,387
7 : 3,114,622	7 : 3,107,516	55 : 3,071,961	7 : 3,080,749	178 : 3,077,109	7 : 3,090,230	358 : 3,090,235
10 : 3,102,804	19 : 3,077,765	7 : 3,074,266	7 : 3,090,225	7 : 3,077,110	7 : 3,101,614	7 : 3,090,236
13 : 3,073,693	7 : 3,092,992	7 : 3,081,621	7 : 3,098,378	7 : 3,085,429	228 : 3,085,432	359 : 3,075,387
21 : 3,108,868	23 : 3,070,989	7 : 3,105,379	7 : 3,107,522	7 : 3,086,394	7 : 3,090,231	7 : 3,094,875
23 : 3,101,266	7 : 3,077,103	7 : 3,115,768	7 : 3,107,523	7 : 3,086,599	7 : 3,096,646	7 : 3,100,397
24 : 3,075,836	7 : 3,077,766	59 : 3,071,962	7 : 3,107,524	7 : 3,087,333	7 : 3,096,647	7 : 3,111,032
7 : 3,111,404	7 : 3,086,386	7 : 3,079,787	7 : 3,087,329	7 : 3,091,962	7 : 3,098,384	7 : 3,114,263
27 : 3,082,075	7 : 3,094,862	7 : 3,079,788	105 : 3,112,642	7 : 3,094,868	7 : 3,104,549	361 : 3,073,164
7 : 3,082,076	7 : 3,095,728	7 : 3,090,223	7 : 3,104,545	7 : 3,104,546	229 : 3,114,261	7 : 3,085,436
28 : 3,096,168	7 : 3,097,517	7 : 3,113,450	114 : 3,084,539	7 : 3,112,644	230 : 3,071,003	362 : 3,071,967
7 : 3,100,698	7 : 3,097,518	7 : 3,115,769	116 : 3,076,332	7 : 3,098,379	231 : 3,091,118	7 : 3,076,338
29 : 3,076,700	7 : 3,097,519	60 : 3,107,520	7 : 3,099,154	179 : 3,085,430	7 : 3,075,383	7 : 3,076,339
7 : 3,087,806	7 : 3,100,984	61 : 3,070,994	7 : 3,100,988	7 : 3,098,381	7 : 3,084,545	7 : 3,077,111
30 : 3,073,694	7 : 3,101,606	7 : 3,073,152	7 : 3,101,611	7 : 3,111,029	7 : 3,091,964	7 : 3,082,625
7 : 3,092,486	7 : 3,103,807	7 : 3,084,537	7 : 3,107,773	180 : 3,077,773	7 : 3,097,529	7 : 3,087,337
7 : 3,105,754	7 : 3,104,541	7 : 3,085,425	7 : 3,107,525	7 : 3,082,622	7 : 3,101,615	7 : 3,087,338
37 : 3,091,523	7 : 3,106,087	7 : 3,086,388	7 : 3,109,304	7 : 3,105,382	233 : 3,088,317	7 : 3,089,339
7 : 3,092,487	7 : 3,107,517	7 : 3,086,389	7 : 3,111,841	181 : 3,070,999	7 : 3,095,747	7 : 3,091,965
7 : 3,098,737	7 : 3,111,023	7 : 3,093,998	7 : 3,115,033	7 : 3,083,568	234 : 3,075,384	7 : 3,092,998
39 : 3,092,488	7 : 3,111,024	7 : 3,108,468	118 : 3,075,381	7 : 3,095,738	249 : 3,073,159	7 : 3,100,996
41 : 3,074,792	7 : 3,111,025	7 : 3,111,839	119 : 3,081,623	7 : 3,104,547	258 : 3,100,993	7 : 3,102,425
42 : 3,109,728	7 : 3,111,835	65 : 3,106,091	133 : 3,096,643	7 : 3,114,260	263 : 3,101,616	7 : 3,104,550
7 : 3,109,729	7 : 3,112,639	67 : 3,070,995	134 : 3,092,994	7 : 3,082,623	270 : 3,098,385	7 : 3,107,531
7 : 3,113,858	7 : 3,112,640	7 : 3,095,730	7 : 3,099,155	7 : 3,084,543	272 : 3,107,528	7 : 3,111,033
43 : 3,076,701	7 : 3,115,766	1 : 3,070,996	7 : 3,115,034	7 : 3,088,314	290 : 3,080,752	7 : 3,113,458
44 : 3,078,156	25 : 3,070,990	1 : 3,108,469	136 : 3,079,791	7 : 3,090,229	7 : 3,094,873	7 : 3,115,779
7 : 3,114,623	27 : 3,075,379	2 : 3,106,837	7 : 3,081,624	7 : 3,089,335	7 : 3,100,994	2 : 3,091,966
50 : 3,088,819	7 : 3,080,745	2 : 3,106,838	7 : 3,084,540	184 : 3,104,548	363.1 : 3,107,532	7 : 3,076,339
7 : 3,104,969	7 : 3,084,536	2 : 3,113,451	7 : 3,085,427	187 : 3,101,612	295 : 3,085,433	5 : 3,077,112
54 : 3,079,245	7 : 3,088,310	5 : 3,074,267	7 : 3,095,734	188 : 3,108,473	7 : 3,089,337	5 : 3,078,717
59 : 3,096,169	7 : 3,091,957	5 : 3,074,268	7 : 3,104,544	7 : 3,112,645	7 : 3,111,031	5 : 3,088,320
61 : 3,110,583	7 : 3,097,520	5 : 3,101,608	7 : 3,108,471	189 : 3,071,964	297 : 3,098,386	5 : 3,115,039
64 : Re.25,394	7 : 3,100,985	5 : 3,115,770	7 : 3,111,028	7 : 3,079,794	298 : 3,113,457	7 : 3,092,999
7 : 3,077,395	7 : 3,106,088	6 : 3,097,522	139 : 3,088,313	7 : 3,094,869	299 : 3,094,874	9 : 3,089,340
7 : 3,082,077	28 : 3,104,542	7 : 3,100,987	7 : 3,089,334	7 : 3,105,383	302 : 3,106,841	9 : 3,096,651
7 : 3,085,870	30 : 3,082,618	8 : 3,077,107	7 : 3,108,472	190 : 3,071,965	7 : 3,110,181	9 : 3,099,161
7 : 3,092,489	7 : 3,082,619	8 : 3,077,768	140 : 3,087,330	7 : 3,095,739	304 : 3,073,160	368 : 3,079,798
7 : 3,096,170	7 : 3,091,113	8 : 3,077,769	7 : 3,100,989	7 : 3,111,844	7 : 3,074,273	7 : 3,086,398
7 : 3,096,171	7 : 3,107,518	8 : 3,086,390	141 : 3,073,155	192 : 3,100,395	7 : 3,079,797	7 : 3,104,551
7 : 3,113,015	32 : 3,100,390	8 : 3,091,959	7 : 3,074,272	193 : 3,110,179	7 : 3,083,572	2 : 3,091,120
7 : 3,114,624	35 : 3,108,466	8 : 3,105,380	7 : 3,076,333	194 : 3,071,000	7 : 3,103,815	3 : 3,080,756
7 : 3,114,625	36 : 3,096,640	8 : 3,106,839	7 : 3,077,772	7 : 3,073,157	7 : 3,111,845	3 : 3,103,818
	37 : 3,102,415	8 : 3,107,521	7 : 3,079,792	7 : 3,078,712	7 : 3,112,647	4 : 3,082,626
Class 73	.5 : 3,074,264	8 : 3,111,022	7 : 3,081,625	7 : 3,079,795	7 : 3,114,262	4 : 3,100,398
1 : 3,070,988	.5 : 3,077,767	9 : 3,090,227	7 : 3,084,541	7 : 3,080,750	306 : 3,080,753	4 : 3,107,533
7 : 3,071,959	.5 : 3,094,863	9 : 3,114,258	7 : 3,084,542	7 : 3,083,569	309 : 3,074,274	7 : 3,075,388
7 : 3,077,760	38 : 3,070,991	9 : 3,115,771	7 : 3,087,331	7 : 3,084,544	311 : 3,086,397	376 : 3,099,162
7 : 3,079,785	7 : 3,073,149	69 : 3,097,523	7 : 3,090,226	7 : 3,088,315	313 : 3,078,715	378.3 : 3,086,399
7 : 3,088,307	7 : 3,102,416	7 : 3,104,543	7 : 3,090,227	7 : 3,089,336	317 : 3,078,716	3 : 3,091,121
7 : 3,096,638	7 : 3,111,026	71.2 : 3,094,864	7 : 3,091,961	7 : 3,091,117	321 : 3,085,434	379 : 3,081,633
7 : 3,096,639	7 : 3,111,836	4 : 3,081,622	7 : 3,092,995	7 : 3,094,000	7 : 3,088,318	7 : 3,081,634
7 : 3,102,413	7 : 3,114,256	4 : 3,089,332	7 : 3,093,999	7 : 3,094,870	7 : 3,090,232	7 : 3,084,547
7 : 3,107,514	7 : 3,115,767	4 : 3,089,333	7 : 3,096,644	7 : 3,097,526	7 : 3,099,158	7 : 3,088,321
7 : 3,113,448	39 : 3,088,311	4 : 3,106,092	7 : 3,097,524	7 : 3,098,383	322 : 3,099,159	380 : 3,078,718
7 : 3,115,029	7 : 3,103,808	4 : 3,115,032	7 : 3,099,156	7 : 3,102,422	323 : 3,103,816	7 : 3,088,322
7 : 3,115,030	40 : 3,076,330	6 : 3,074,269	7 : 3,103,810	7 : 3,102,423	324 : 3,089,338	382 : 3,073,165
3 : 3,073,147	7 : 3,081,620	6 : 3,087,328	7 : 3,110,175	7 : 3,108,474	334 : 3,096,648	7 : 3,076,340
7 : 3,087,325	7 : 3,090,221	6 : 3,100,393	7 : 3,110,176	7 : 3,108,475	335 : 3,075,385	7 : 3,095,744
7 : 3,092,991	7 : 3,097,521	6 : 3,106,840	7 : 3,115,035	7 : 3,110,180	336 : 3,095,742	7 : 3,103,819
7 : 3,101,605	7 : 3,100,391	73 : 3,073,153	7 : 3,115,773	7 : 3,115,777	5 : 3,073,161	7 : 3,103,820
4 : Re.25,392	7 : 3,100,986	7 : 3,077,770	143 : 3,073,156	195 : 3,083,570	5 : 3,077,774	7 : 3,114,264
7 : 3,077,102	7 : 3,101,607	7 : 3,091,115	7 : 3,110,177	7 : 3,107,526	5 : 3,083,573	384 : 3,083,575
7 : 3,077,761	7 : 3,115,031	7 : 3,103,117	147 : 3,070,998	7 : 3,076,335	5 : 3,112,648	7 : 3,093,000
7 : 3,077,762	.5 : 3,071,960	76 : 3,074,270	7 : 3,077,108	7 : 3,076,336	337 : 3,073,162	7 : 3,098,388
7 : 3,089,331	.5 : 3,075,380	77 : 3,110,173	7 : 3,087,332	7 : 3,087,334	338.6 : 3,092,996	7 : 3,098,389
7 : 3,097,516	.5 : 3,085,423	80 : 3,070,997	7 : 3,095,735	7 : 3,107,527	339 : 3,080,754	385 : 3,114,265
7 : 3,104,540	.5 : 3,086,387	7 : 3,095,731	7 : 3,100,990	7 : 3,076,337	7 : 3,095,743	386 : 3,075,389
7 : 3,106,084	.5 : 3,105,378	81 : 3,077,771	7 : 3,109,305	200 : 3,081,627	7 : 3,107,529	7 : 3,077,778
7 : 3,106,833	.5 : 3,106,089	7 : 3,078,710	7 : 3,111,842	201 : 3,111,030	340 : 3,074,275	7 : 3,079,799
7 : 3,107,515	.5 : 3,108,467	7 : 3,102,417	7 : 3,111,843	202 : 3,102,424	7 : 3,097,530	7 : 3,111,847
7 : 3,078,707	.7 : 3,070,992	7 : 3,106,093	7 : 3,113,454	7 : 3,103,814	7 : 3,111,846	7 : 3,112,649
7 : 3,087,326	7 : 3,087,327	7 : 3,114,259	149 : 3,075,382	204 : 3,081,628	341 : 3,077,775	388 : 3,071,004
7 : 3,088,308	45.2 : 3,091,958	83 : 3,084,538	151 : 3,085,428	7 : 3,085,431	7 : 3,099,922	7 : 3,084,548
7 : 3,100,981	.5 : 3,114,257	86 : 3,073,154	7 : 3,095,736	7 : 3,095,740	7 : 3,099,923	7 : 3,100,997
7 : 3,102,414	46 : 3,088,312	7 : 3,085,426	7 : 3,115,036	205 : 3,078,713	7 : 3,101,617	7 : 3,100,998
9 : 3,090,220	7 : 3,093,996	7 : 3,115,774	7 : 3,115,774	7 : 3,081,629	342 : 3,088,319	7 : 3,115,780
7 : 3,098,377	7 : 3,100,392	7 : 3,102,419	152 : 3,079,793	7 : 3,086,395	7 : 3,096,649	391 : 3,100,399
10 : 3,113,449	49.1 : 3,095,729	7 : 3,086,391	7 : 3,103,811	7 : 3,097,527	7 : 3,099,160	393 : 3,075,390
12 : 3,073,148	.2 : 3,074,265	88 : 3,071,963	7 : 3,115,775	7 : 3,115,778	343 : 3,081,631	398 : 3,080,757
7 : 3,079,786	.3 : 3,091,114	7 : 3,074,271	7 : 3,083,567	207 : 3,080,751	7 : 3,084,546	7 : 3,089,341
7 : 3,083,564	7 : 3,070,993	7 : 3,076,331	155 : 3,076,334	208 : 3,112,646	7 : 3,090,233	7 : 3,091,122
7 : 3,085,422	53 : 3,077,104	7 : 3,082,621	7 : 3,103,812	210 : 3,103,119	7 : 3,091,119	7 : 3,096,652
7 : 3,100,982	7 : 3,077,105	7 : 3,095,732	7 : 3,103,813	211 : 3,071,001	7 : 3,100,995	7 : 3,103,821
7 : 3,100,983	7 : 3,077,106	7 : 3,101,609	7 : 3,113,455	7 : 3,079,796	7 : 3,106,842	7 : 3,113,459
7 : 3,103,116						



Class 73 — Con.		485 : 3,098,392	5.4 : 3,073,170	113 : 3,083,580	243 : 3,111,859	472 : 3,109,319	640 : 3,091,979
		486 : 3,074,278	4.7 : 3,077,787	114 : 3,105,388	245 : 3,071,981	473 : 3,115,049	641 : 3,101,009
407 : 3,084,549		490 : 3,097,533	4.0 : 3,082,628	116 : 3,103,173	246 : 3,103,126	474 : 3,115,050	642 : 3,073,179
3,084,550		3,100,400	4.0 : 3,082,629	117 : 3,103,824	248 : 3,095,753	475 : 3,080,769	643 : 3,076,353
3,085,437		3,114,267	4.7 : 3,082,631	118 : 3,103,825	250 : 3,074,290	476 : 3,082,638	644 : 3,096,666
3,091,123	492 : 3,071,973	3,107,934	4.0 : 3,085,444	124 : 3,115,043	254 : 3,086,404	477 : 3,082,639	645 : 3,101,627
3,094,876	3,097,534	3,109,309	4.3 : 3,093,004	125 : 3,071,017	258 : 3,096,661	478 : 3,088,329	646 : 3,107,552
3,100,999	3,103,120	3,111,035	5.0 : 3,107,540	126 : 3,078,732	321 : 3,075,397	479 : 3,104,558	647 : 3,110,196
3,106,094	3,109,309	3,111,035	6.0 : 3,071,976	127 : 3,078,732	322 : 3,098,398	480 : 3,103,829	648 : 3,111,043
409 : 3,083,576	497 : 3,071,974	3,107,782	6.0 : 3,078,729	128 : 3,086,402	330 : 3,091,975	481 : 3,096,663	649 : 3,108,492
3,084,551	3,077,782	3,077,782	6.0 : 3,084,560	129 : 3,090,245	331 : Re.25,458	482 : 3,103,130	650 : 3,079,811
3,115,040	3,078,721	3,078,721	7.0 : 3,071,011	130 : 3,111,854	333 : 3,080,766	483 : 3,111,041	651 : 3,106,106
412 : 3,095,745	3,104,552	3,104,552	7.0 : 3,074,283	131 : 3,078,733	334 : 3,110,191	484 : 3,104,559	652 : 3,109,322
3,080,758	3,078,722	3,078,722	7.0 : 3,080,763	132 : 3,083,581	335 : 3,074,291	485 : 3,084,566	653 : 3,088,334
417 : 3,084,552	3,101,000	3,101,000	7.0 : 3,086,400	133 : 3,087,347	336 : 3,076,349	486 : 3,113,469	654 : 3,073,180
3,111,848	3,101,001	3,101,001	7.0 : 3,094,878	134 : 3,078,734	337 : 3,079,806	487 : 3,088,330	655 : 3,079,812
419 : 3,073,166	3,113,462	3,113,462	7.0 : 3,097,535	141.5 : 3,071,979	338 : 3,093,008	488 : 3,091,977	656 : 3,081,645
3,102,426	504 : 3,071,008	3,071,008	7.0 : 3,102,430	142 : 3,095,751	339 : 3,106,851	489 : 3,096,664	657 : 3,087,353
3,113,466	3,083,578	3,083,578	6.0 : 3,084,561	143 : 3,106,849	336 : 3,096,662	490 : 3,110,193	658 : 3,101,628
3,102,427	505 : 3,085,443	3,085,443	3,089,344	148 : 3,101,004	337 : 3,076,350	491 : 3,077,789	659 : 3,074,294
421 : 3,071,969	3,088,324	3,088,324	3,114,270	152 : 3,109,314	339 : 3,103,826	492 : 3,095,756	660 : 3,076,354
3,085,438	3,106,847	3,106,847	7.0 : 3,071,013	157 : 3,096,659	342 : 3,099,165	493 : 3,100,405	661 : 3,088,335
3,102,428	3,113,463	3,113,463	7.0 : 3,071,978	158 : 3,107,544	346 : 3,111,040	494 : 3,111,042	662 : 3,073,182
3,110,182	506 : 3,087,340	3,087,340	7.0 : 3,077,115	190 : 3,076,347	353 : 3,113,468	495 : 3,088,331	663 : 3,075,408
3,111,034	507 : 3,078,723	3,078,723	3,090,241	191 : 3,106,850	354 : 3,103,174	496 : 3,086,406	664 : 3,073,180
5.0 : 3,075,391	514 : 3,089,342	3,089,342	3,090,242	192 : 3,106,100	355 : 3,077,120	497 : 3,099,169	665 : 3,084,568
5.0 : 3,077,779	3,101,002	3,101,002	10.33 : 3,074,284	196 : 3,108,480	359 : 3,107,982	498 : 3,107,546	666 : 3,090,252
5.0 : 3,084,553	515 : 3,090,238	3,090,238	33.0 : 3,086,401	198 : 3,071,018	360 : 3,090,247	499 : 3,094,883	667 : 3,090,252
5.0 : 3,085,439	3,091,971	3,091,971	45.0 : 3,073,171	199 : 3,097,539	361 : 3,099,166	500 : 3,096,665	668 : 3,093,012
5.0 : 3,085,440	516 : 3,078,724	3,078,724	85.0 : 3,090,243	200 : 3,082,634	362 : 3,106,102	501 : 3,107,547	669 : 3,103,831
5.0 : 3,093,001	3,080,761	3,080,761	8.0 : 3,106,098	201 : 3,087,348	360 : 3,080,767	502 : 3,109,320	670 : 3,110,197
5.0 : 3,106,843	3,084,557	3,084,557	15.2 : 3,074,285	202 : 3,115,044	361 : 3,102,432	503 : 3,107,401	671 : 3,113,470
5.0 : 3,107,535	3,089,343	3,089,343	2.0 : 3,094,005	205 : 3,078,735	364 : 3,115,047	504 : 3,082,640	672 : 3,075,409
422 : 3,071,005	3,098,393	3,098,393	63.0 : 3,111,852	206 : 3,077,119	364 : 3,091,976	505 : 3,075,402	673 : 3,114,273
3,080,759	3,105,385	3,105,385	86.0 : 3,077,116	216.5 : 3,082,635	365 : 3,106,852	506 : 3,082,641	674 : 3,075,410
3,083,577	3,109,310	3,109,310	84.0 : 3,090,768	217 : 3,081,641	366 : 3,098,399	507 : 3,105,391	675 : 3,082,646
3,084,554	517 : 3,071,975	3,071,975	84.0 : 3,086,654	220 : 3,095,752	368 : 3,087,351	508 : 3,086,407	676 : 3,074,295
3,084,555	3,073,168	3,073,168	16.0 : 3,105,387	221 : 3,111,855	369 : 3,090,248	509 : 3,079,809	677 : 3,074,296
3,087,339	3,074,279	3,074,279	18.1 : 3,075,394	222 : 3,108,481	370 : 3,110,192	510 : 3,082,642	678 : 3,079,813
3,095,746	3,074,280	3,074,280	1.0 : 3,077,117	223 : 3,076,348	371 : 3,099,925	511 : 3,071,023	679 : 3,085,444
3,096,653	3,076,343	3,076,343	1.0 : 3,082,632	224 : 3,108,482	372 : 3,111,860	512 : 3,106,853	680 : 3,090,253
3,101,619	3,077,783	3,077,783	1.0 : 3,087,341	225 : 3,083,582	373 : 3,084,563	513 : 3,091,978	681 : 3,095,757
3,106,096	3,078,725	3,078,725	2.0 : 3,097,536	226 : 3,083,583	374 : 3,115,048	514 : 3,087,352	682 : 3,071,983
3,106,844	3,081,637	3,081,637	2.0 : 3,104,554	227 : 3,091,129	375 : 3,071,021	515 : 3,074,292	683 : 3,080,772
3,109,306	3,084,558	3,084,558	2.0 : 3,106,099	230.17 : 3,071,019	376 : 3,107,175	516 : 3,082,643	684 : 3,084,569
3,111,849	3,090,239	3,090,239	22.0 : 3,094,006	17.0 : 3,074,289	379 : 3,075,398	517 : 3,101,007	685 : 3,089,348
3,115,782	3,090,240	3,090,240	25.0 : 3,081,639	17.0 : 3,079,804	388 : 3,084,564	518 : 3,100,404	686 : 3,097,544
423 : 3,076,341	3,091,972	3,091,972	26.0 : 3,083,579	17.0 : 3,081,642	388 : 3,086,405	519 : 3,084,567	687 : 3,099,171
3,107,536	3,094,877	3,094,877	26.0 : 3,095,747	17.0 : 3,082,636	389 : 3,094,010	520 : 3,101,626	688 : 3,104,560
3,107,537	3,096,656	3,096,656	36.0 : 3,087,342	17.0 : 3,085,445	390 : 3,099,167	521 : 3,097,542	689 : 3,105,393
3,110,183	3,096,657	3,096,657	3.0 : 3,100,401	17.0 : 3,085,446	394 : 3,076,351	522 : 3,111,861	690 : 3,106,107
3,098,390	3,101,003	3,101,003	41.0 : 3,094,879	18.0 : 3,087,349	397 : 3,104,556	523 : 3,108,489	691 : 3,107,553
3,074,276	3,109,311	3,109,311	44.0 : 3,109,313	17.0 : 3,088,326	410 : 3,093,009	524 : 3,114,272	692 : 3,108,493
3,081,635	3,110,185	3,110,185	44.0 : 3,084,562	17.0 : 3,088,327	411 : 3,102,433	525 : 3,110,194	693 : 3,110,198
3,091,967	3,111,036	3,111,036	3,095,748	17.0 : 3,090,246	411 : 3,109,317	526 : 3,080,770	694 : 3,115,789
3,110,184	3,111,850	3,111,850	3,112,652	17.0 : 3,097,540	412 : 3,075,399	527 : 3,082,644	695 : 3,101,010
2.0 : 3,073,167	3,113,464	3,113,464	45.0 : 3,089,345	17.0 : 3,102,431	415 : 3,079,807	528 : 3,090,249	696 : 3,095,758
2.0 : 3,080,760	3,114,268	3,114,268	54.0 : 3,103,823	17.0 : 3,107,545	421 : 3,073,176	529 : 3,097,543	697 : 3,095,759
2.0 : 3,091,968	519 : 3,111,037	3,111,037	57.0 : 3,113,465	17.0 : 3,108,483	424.8 : 3,112,655	530 : 3,107,548	698 : 3,113,471
2.0 : 3,091,969	521 : 3,071,009	3,071,009	57.0 : 3,080,765	17.0 : 3,108,484	424.8 : 3,081,644	531 : 3,099,170	699 : 3,106,855
2.0 : 3,109,307	531 : 3,074,281	3,074,281	3,103,122	17.0 : 3,108,485	8.0 : 3,083,586	532 : 3,073,178	700 : Re.25,500
4.0 : 3,077,780	535 : 3,110,186	3,110,186	3,107,541	17.0 : 3,109,315	8.0 : 3,101,006	533 : 3,075,403	701 : 3,081,647
4.0 : 3,091,124	541 : 3,106,097	3,106,097	59.0 : 3,074,286	17.0 : 3,110,188	8.0 : 3,101,623	534 : 3,106,105	702 : 3,089,349
4.0 : 3,097,532	551 : 3,098,394	3,098,394	60.0 : 3,071,014	17.0 : 3,110,189	8.0 : 3,103,827	535 : 3,107,549	703 : 3,090,254
6.0 : 3,106,845	3,103,822	3,103,822	3,076,345	17.0 : 3,111,857	8.0 : 3,108,487	536 : 3,074,293	704 : 3,095,760
431 : 3,077,113	Class 74	3,111,858	3,077,118	17.0 : 3,111,858	432 : 3,115,786	537 : 3,075,404	705 : 3,105,394
3,093,002	1 : 3,071,010	3,094,880	3,101,621	17.0 : 3,114,271	441 : 3,115,787	538 : 3,107,550	706 : 3,107,550
3,096,654	1 : 3,073,169	3,101,621	61.0 : 3,097,537	17.0 : 3,115,045	441 : 3,094,011	539 : 3,109,321	707 : 3,109,323
3,108,477	3,075,392	3,112,653	69.0 : 3,111,853	3.0 : 3,074,288	443 : 3,076,352	540 : 3,075,405	708 : 3,115,790
3,071,006	3,105,386	3,105,386	75.0 : 3,091,128	3.0 : 3,096,660	458 : 3,071,022	541 : 3,075,406	709 : 3,095,760
3,093,003	3,109,312	3,109,312	84.0 : 3,095,749	3.0 : 3,111,856	458 : 3,079,808	542 : 3,077,123	710 : 3,102,435
3,094,002	5.0 : 3,076,344	3,076,344	87.0 : 3,076,346	4.0 : 3,094,009	459 : Re.25,426	543 : 3,078,737	711 : 3,078,739
3,109,308	5.0 : 3,103,121	3,103,121	88.0 : 3,078,730	8.0 : 3,094,881	459 : Re.25,426	544 : 3,080,771	712 : 3,095,762
3,113,461	2.0 : 3,077,114	3,077,114	88.0 : 3,071,015	231.0 : 3,105,389	459 : Re.25,426	545 : 3,088,332	713 : 3,107,554
3,081,636	3,078,726	3,078,726	89.0 : 3,074,287	232.0 : 3,093,005	5.0 : 3,104,557	546 : 3,089,347	714 : 3,091,132
3,074,277	3,082,627	3,082,627	89.0 : 3,075,395	234.0 : 3,103,124	465.0 : 3,108,488	547 : 3,105,392	715 : 3,096,667
3,085,441	3,091,973	3,091,973	3,078,731	236.0 : 3,071,020	470 : 3,109,318	548 : 3,107,791	716 : 3,080,773
3,071,971	3,094,004	3,094,004	3,090,244	237.0 : 3,105,390	471 : 3,083,587	549 : 3,115,788	717 : 3,090,255
3,078,720	3,111,851	3,111,851	3,101,622	241.0 : 3,079,805	471 : 3,083,588	550 : 3,108,490	718 : 3,101,011
3,094,003	3.52 : 3,074,282	3,074,282	91.0 : 3,094,007	242.0 : 3,101,005	472 : 3,088,328	551 : 3,103,131	719 : 3,107,555
3,071,972	5.2 : 3,077,784	3,077,784	95.0 : 3,087,343	242.0 : 3,098,396	473 : 3,112,657	552 : 3,109,320	720 : 3,078,740
3,076,342	5.0 : 3,081,638	3,081,638	3,087,344	243.0 : 3,108,486	474 : 3,101,624	553 : 3,088,333	721 : 3,106,108
3,079,801	54.0 : 3,091,126	3,091,126	3,087,345	243.0 : 3,108,487	475 : 3,103,127	554 : 3,077,123	722 : 3,094,012
3,090,237	54.0 : 3,077,539	3,077,539	3,107,542	244.0 : 3,108,488	476 : 3,112,656	555 : 3,090,250	723 : 3,111,864
3,091,125	5.0 : 3,077,785	3,077,785	96.0 : 3,103,123	244.0 : 3,108,489	477 : 3,075,400	556 : 3,101,008	724 : 3,088,336
3,098,391	3,077,786	3,077,786	97.0 : 3,094,008	245.0 : 3,103,125	478 : 3,077,122	557 : 3,112,658	725 : 3,105,395
3,102,429	3,078,727	3,078,72					



752	: 3,108,494	31	: 3,077,396	126	: 3,077,397	80	: 3,097,547	69	: 3,104,564	51	: 3,071,032	166	: 3,093,019
	: 3,109,324	33	: 3,093,474		: 3,092,491	82.1	: 3,101,629		: 3,111,866	54	: 3,074,300	177	: 3,113,479
	: 3,115,792		: 3,096,172		: 3,097,091	89.1	: 3,090,259		: 3,080,777	72	: 3,098,404	179	: 3,079,820
754	: 3,095,763		: 3,097,090		: 3,104,168	101	: 3,087,356		: 3,078,743	55	: 3,075,417	180	: 3,083,599
757	: 3,088,338	34	: 3,082,078		: 3,112,195		: 3,089,352	.5	: 3,087,359		: 3,078,747	329	: 3,091,984
759	: 3,091,981		: 3,098,738		: 3,113,862		: 3,111,865	.5	: 3,099,174		: 3,081,652	351	: 3,097,553
	: 3,103,832	40	: 3,094,410		: 3,114,630	107	: 3,077,797		: 3,087,360	75	: 3,081,653	380	: 3,104,571
761	: 3,071,985		: 3,101,268	128	: 3,076,704		: 3,080,776				: 3,081,654	415	: 3,082,652
	: 3,088,339	41	: 3,099,551		: 3,082,083		: 3,094,886				: 3,089,363		
	: 3,108,495		: 3,108,869		: 3,086,858		: 3,102,439				: 3,089,364		
	: 3,115,793	42	: 3,110,584		: 3,097,092		: 3,109,328			1	: 3,086,411		
763	: 3,071,025		: 3,116,143		: 3,102,025	108	: 3,077,798				: 3,094,887		
	: 3,077,794	43	: 3,089,766		: 3,105,758		: 3,085,453				: 3,106,113		
	: 3,095,764	44	: 3,107,166		: 3,110,586		: 3,089,353			9	: 3,091,139		
764	: 3,077,795	49	: 3,071,458	129	: 3,072,476		: 3,089,354				: 3,108,502	2	: 3,073,193
	: 3,100,405		: 3,084,038	130	: 3,076,705		: 3,107,027			13	: 3,114,276		: 3,075,418
	: 3,102,438	51	: 3,083,092		: 3,080,228		: 3,104,562			17	: 3,100,409		: 3,111,046
767	: 3,109,325		: 3,089,767		: 3,113,019						: 3,101,632		: 3,111,047
772	: 3,077,124		: 3,098,739	.5	: 3,085,004						: 3,107,557		: 3,112,662
780	: 3,080,774		: 3,099,552	133.5	: 3,074,793						: 3,110,201		: 3,101,636
781	: 3,083,590		: 3,112,194	134	: 3,079,251	2	: 3,075,412				: 3,112,660	57	: 3,078,748
	: 3,087,354	52	: 3,076,703	135	: 3,071,461		: 3,103,834			20	: 3,098,402	60	: 3,076,361
	: 3,090,257		: 3,079,249		: 3,094,412	3	: 3,071,028			21	: 3,071,031		: 3,096,672
785	: 3,079,814		: 3,088,821		: 3,094,413		: 3,083,592				: 3,084,571		: 3,097,549
	: 3,082,647		: 3,115,405		: 3,113,020		: 3,094,014				: 3,087,361	.5	: 3,096,673
	: 3,095,765	53	: 3,079,250	153	: 3,107,998		: 3,103,135			39	: 3,099,175	4	: 3,076,364
	: 3,110,199		: 3,113,016	156.5	: 3,097,093		: 3,115,796			42	: 3,103,136		: 3,078,749
	: 3,113,473	57	: 3,107,995	159	: 3,091,527	4	: 3,073,185				: 3,105,398		: 3,083,600
788	: 3,093,013	59	: 3,084,039	161	: 3,079,252		: 3,075,413				: 3,108,503		: 3,114,279
	: 3,097,546		: 3,100,699	165	: 3,087,810		: 3,100,406				: 3,111,867		: 3,115,055
789	: 3,105,396	60	: 3,096,173	166	: 3,078,161		: 3,106,110				: 3,113,476	1	: 3,088,345
792	: 3,095,766		: 3,098,740	168	: 3,071,462		: 3,109,329			43	: 3,080,778		: 3,105,401
	: 3,109,326	63	: 3,078,159		: 3,092,492	5	: 3,077,128			44	: 3,075,416	3	: 3,103,836
793	: 3,082,648		: 3,080,227		: 3,101,269		: 3,087,357			45	: 3,101,633	.2	: 3,085,454
	: 3,087,355		: 3,083,093	169	: 3,087,811	5	: 3,071,988			46	: 3,089,360	.43	: 3,084,573
796	: 3,085,450		: 3,093,475	170	: 3,072,477		: 3,089,355				: 3,091,982	.5	: 3,108,504
	: 3,089,350		: 3,099,553	171	: 3,085,005	7	: 3,077,129				: 3,094,017	5.1	: 3,094,018
	: 3,099,927		: 3,100,700		: 3,087,812	14	: 3,090,260				: 3,111,045	6	: 3,106,115
	: 3,108,496	65	: 3,098,741		: 3,089,769	18	: 3,082,649				: 3,111,868	7	: 3,086,412
	: 3,108,497	67	: 3,114,627		: 3,093,476		: 3,099,173				: 3,111,869	9.1	: 3,089,366
797	: 3,115,794	68	: 3,087,808		: 3,094,414	21	: 3,094,015			47	: 3,079,816	.3	: 3,091,143
	: 3,115,795		: 3,102,805		: 3,098,743	22	: 3,100,407			49	: 3,093,017	.3	: 3,111,870
798	: 3,084,570	74	: 3,102,806		: 3,107,167	24	: 3,089,356			60	: 3,115,797	.51	: 3,074,301
800	: 3,085,451	75	: 3,081,163		: 3,107,999	25	: 3,082,650			63	: 3,087,362	.51	: 3,084,574
801	: 3,080,775		: 3,114,628		: 3,110,587		: 3,115,051			82	: 3,083,595	.51	: 3,085,455
	: 3,081,648	80	: 3,099,554		: 3,110,588	28	: 3,078,741				: 3,088,343	.5	: 3,087,363
	: 3,090,258	84	: 3,083,094		: 3,113,021		: 3,088,344				: 3,090,262	.5	: 3,089,367
	: 3,108,498		: 3,090,686	173	: 3,114,631		: 3,102,440				: 3,093,018	.5	: 3,094,019
802	: 3,071,986		: 3,091,525	174	: 3,075,840	32.2	: 3,071,029				: 3,101,634	.51	: 3,095,768
804	: 3,073,184		: 3,104,970		: 3,086,859	.2	: 3,075,414				: 3,101,635	.5	: 3,102,444
	: 3,077,125		: 3,114,629		: 3,109,734	.2	: 3,077,799				: 3,103,137	.5	: 3,103,837
	: 3,094,884	.1	: 3,085,871		: 3,113,863	.2	: 3,090,261				: 3,106,856	.5	: 3,108,505
	: 3,098,400	.1	: 3,085,872		: 3,115,407	.3	: 3,088,344			89	: 3,090,263	.5	: 3,109,332
810	: 3,077,796	.1	: 3,085,873	175	: 3,087,813	.3	: 3,091,137			96	: 3,105,399	.5	: 3,114,277
813	: 3,088,340	.1	: 3,088,822	.5	: 3,105,759	.7	: 3,093,015			98	: 3,073,190	13	: 3,094,020
815	: 3,074,298	.1	: 3,088,823	.5	: 3,110,589	.7	: 3,103,835			99	: 3,079,817	15	: 3,071,993
	: 3,075,411	.1	: 3,099,555	.5	: 3,111,406	33.5	: 3,071,989				: 3,089,361		: 3,080,779
817	: 3,113,474	.1	: 3,102,807	.5	: 3,112,196	.5	: 3,078,742				: 3,084,575		: 3,084,575
818	: 3,101,013	.1	: 3,109,730	.5	: 3,114,632	.5	: 3,101,014				: 3,088,346		: 3,101,020
822	: 3,085,452	.1	: 3,109,731	176	: 3,080,229	9	: 3,071,990				: 3,088,347		: 3,103,839
	: 3,093,014	4	: 3,085,874		: 3,085,006	9	: 3,089,357				: 3,091,983		: 3,107,562
	: 3,106,109	4	: 3,103,434		: 3,085,007	34.4	: 3,101,630				: 3,101,017		: 3,109,336
826	: 3,091,133	4	: 3,116,144		: 3,110,590	.4	: 3,105,397			3	: 3,083,596		: 3,104,568
	: 3,091,134	.5	: 3,071,459		: 3,116,145	.7	: 3,075,415			5	: 3,091,141		: 3,105,402
	: 3,091,135	.5	: 3,075,837	177	: 3,072,478	40	: 3,087,358				: 3,107,560	38	: 3,091,985
	: 3,094,885	.5	: 3,091,526		: 3,097,094	41	: 3,108,499				: 3,109,333		: 3,103,840
	: 3,111,044	.5	: 3,104,165		: 3,104,972	42	: 3,071,991				: 3,113,478	40	: 3,115,056
		.5	: 3,104,166		: 3,083,096	55	: 3,083,593			1	: 3,074,299		: 3,115,053
		.5	: 3,110,585	178	: 3,115,408		: 3,100,408			5	: 3,077,130		: 3,108,348
		.5	: 3,113,017	206	: 3,082,084		: 3,077,556			.1	: 3,088,344	.2	: 3,111,048
		86	: 3,094,411		: 3,085,876	58	: 3,103,186			5	: 3,089,362	.2	: 3,111,048
.5	: 3,073,695	87	: 3,073,696		: 3,105,760		: 3,076,355				: 3,107,558	.7	: 3,073,191
.5	: 3,078,157	97	: 3,102,808	208	: 3,073,697		: 3,079,815			9	: 3,076,358	.7	: 3,079,818
.5	: 3,078,158		: 3,104,167		: 3,087,814		: 3,081,649				: 3,076,359	.7	: 3,083,597
.5	: 3,102,024		: 3,113,018		: 3,094,415		: 3,089,358			11	: 3,071,992	.7	: 3,110,205
1	: 3,105,755		: 3,105,756		: 3,108,871		: 3,091,138				: 3,078,744	.8	: 3,099,928
	: 3,105,756		: 3,105,757	101	: 3,085,875		: 3,097,548				: 3,101,015	52.35	: 3,071,994
	: 3,105,757		: 3,112,193		: 3,076,706	211	: 3,076,706			12	: 3,076,359	.3	: 3,083,598
	: 3,116,140		: 3,112,193		: 3,073,698	212	: 3,073,698				: 3,106,114	.3	: 3,094,021
3	: 3,097,945		: 3,116,140		: 3,084,041	213	: 3,084,041			13	: 3,104,565	.3	: 3,108,506
5	: 3,083,090		: 3,107,996		: 3,071,463	214	: 3,071,463			14	: 3,081,650	.3	: 3,108,507
	: 3,083,091		: 3,108,809		: 3,108,000		: 3,113,475				: 3,112,661	.4	: 3,076,362
6	: 3,097,089		: 3,113,860		: 3,116,146	61	: 3,110,200				: 3,084,572	.4	: 3,088,349
	: 3,113,859		: 3,104,971		: 3,084,042	62	: 3,071,030			16	: 3,078,745	53	: 3,086,413
7	: 3,088,820		: 3,082,080		: 3,086,860		: 3,073,187				: 3,090,264		: 3,087,364
9	: 3,094,409		: 3,082,081		: 3,103,435		: 3,073,188				: 3,090,265		: 3,094,022
	: 3,088,820	122.5	: 3,098,742		: 3,109,735		: 3,082,651				: 3,094,888		: 3,097,550
	: 3,094,409	.7	: 3,072,475		: 3,096,174		: 3,086,408				: 3,096,669		: 3,104,569
10	: 3,079,246	.7	: 3,084,040				: 3,095,767				: 3,115,052	56	: 3,097,551
	: 3,084,037		: 3,089,768				: 3,098,401			19	: 3,077,559	57	: 3,111,049
	: 3,086,856	123	: 3,075,838				: 3,1						



## Class 83—Con.

61 : 3,104,573	347 : 3,074,303	171 : 3,104,581	32 : 3,086,421	14 : 3,081,665	24 : 3,085,468	57 : 3,115,537
62 : 3,110,206	349 : 3,099,181	174 : 3,072,005	40 : 3,072,009	3,081,666	3,085,469	3,115,538
63 : 3,076,365	355 : 3,091,988	177 : 3,100,415	3,073,205	3,082,664	3,085,470	3,116,359
71 : 3,094,028	368 : 3,073,197	183 : 3,072,006	3,085,463	3,084,591	3,087,381	5 : 3,075,429
72 : 3,078,751	370 : 3,093,023	195 : 3,086,420	3,099,931	3,084,592	3,089,384	5 : 3,085,473
74 : 3,084,579	375 : 3,115,801	209 : 3,090,274	3,105,407	3,085,466	3,089,385	60 : 3,085,474
75 : 3,083,602	383 : 3,099,182	237 : 3,091,149	3,107,572	3,086,422	3,090,280	3,096,684
3,105,405	384 : 3,077,805	240 : 3,076,371	3,109,342	3,087,377	3,090,281	61 : 3,093,477
76 : 3,071,999	403 : 3,104,580	246 : 3,106,861	3,110,213	3,088,364	3,093,029	3,098,112
81 : 3,077,803	411 : 3,077,806	255 : 3,101,640	41 : 3,093,028	3,089,381	3,094,034	65 : 3,104,273
3,108,509	416 : 3,086,417	267 : 3,072,007	45 : 3,073,206	3,089,382	3,094,036	74 : 3,084,596
82 : 3,106,119	425 : 3,081,658	275 : 3,084,586	3,078,754	3,090,278	3,094,037	3,085,475
87 : 3,110,207	431 : 3,085,459	279 : 3,090,275	3,106,862	3,090,279	3,097,562	75 : 3,074,319
89 : 3,089,370	433 : 3,091,146	283 : 3,107,568	3,104,583	3,090,993	3,097,563	3,096,389
95 : 3,082,654	437 : 3,100,414	293 : 3,091,150	3,079,831	3,091,154	3,099,185	77 : 3,075,430
3,101,638	454 : 3,097,557	298 : 3,101,662	3,083,609	3,094,416	3,099,934	3,076,384
98 : 3,076,366	456 : 3,074,304	302 : 3,096,676	3,094,893	3,096,175	3,100,419	79 : 3,108,510
3,088,354	468 : 3,089,373	314 : 3,103,846	3,094,894	3,096,388	3,101,024	87 : 3,104,274
3,111,873	473 : 3,090,269	322 : 3,112,668	3,094,895	3,097,254	3,101,025	93 : 3,075,431
3,101,021	479 : 3,080,783	327 : 3,102,446	3,073,207	3,097,254	3,101,645	3,077,142
3,103,842	482 : 3,080,784	332 : 3,094,890	3,077,812	3,098,408	3,101,646	3,082,665
3,090,268	504 : 3,073,198	343 : 3,103,141	3,087,371	3,102,155	3,102,449	96 : 3,082,665
3,111,052	529 : 3,094,889	345 : 3,103,847	3,088,363	3,102,921	3,103,546	97 : 3,072,017
3,080,780	530 : 3,083,603	376 : 3,100,417	3,104,584	3,109,049	3,102,450	98 : 3,081,672
3,109,340	532 : 3,077,807	380 : 3,094,032	3,107,574	3,112,354	3,103,849	111 : 3,075,432
3,093,020	549 : 3,073,199	382 : 3,079,828	3,111,058	3,113,171	3,104,586	3,089,386
106 : 3,103,843	550 : 3,110,210	383 : 3,091,989	3,111,059	3,113,991	3,104,587	
3,111,874	554 : 3,081,659	400 : 3,099,183	3,107,575	3,114,791	3,105,410	Class 89
3,079,823	555 : 3,094,890	402 : 3,084,587	3,111,058	3,115,536	3,106,127	1 : 3,084,597
3,072,000	559 : 3,077,134	404 : 3,106,862	3,111,059	3,109,933	3,106,128	3,087,385
3,081,655	560 : 3,089,374	406 : 3,074,307	3,107,575	3,100,418	3,106,129	3,103,851
3,084,580	568 : 3,091,147	407 : 3,084,588	3,107,575	3,111,878	3,107,578	3,106,130
3,107,567	571 : 3,089,375	409 : 3,083,607	3,107,575	3,111,878	3,112,669	3,106,131
3,111,053	578 : 3,071,034	411 : 3,105,406	3,107,575	3,111,878	3,112,670	3,112,669
3,081,656	581 : 3,077,808	415 : 3,113,481	3,107,575	3,111,878	3,112,670	5 : 3,074,320
3,091,986	588 : 3,087,367	418 : 3,076,372	3,107,575	3,111,878	3,112,670	5 : 3,077,818
3,106,120	601 : 3,090,270	421 : 3,096,677	3,107,575	3,111,878	3,112,670	5 : 3,088,372
3,112,666	602 : 3,073,200	423 : 3,087,368	3,107,575	3,111,878	3,112,670	5 : 3,089,387
3,082,655	614 : 3,079,827	425 : 3,110,211	3,107,575	3,111,878	3,112,670	5 : 3,091,993
3,100,411	619 : 3,090,271	425 : 3,110,211	3,107,575	3,111,878	3,112,670	5 : 3,093,031
3,079,824	635 : 3,083,604	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,018
3,114,280	640 : 3,086,418	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,019
3,087,366	647 : 3,073,201	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,020
3,072,001	648 : 3,097,558	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,021
3,106,121	657 : 3,111,877	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,072,002	676 : 3,081,661	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,114,281	687 : 3,077,135	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,080,781	698 : 3,101,639	425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,100,412		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,103,844		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,104,574		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,104,575		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,104,576		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,111,875		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,088,355		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,100,413		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,104,577		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,091,145		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,073,195		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,077,132		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,089,371		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,093,021		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,104,578		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,114,282		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,111,876		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,079,825		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,072,003		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,076,367		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,099,180		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,088,356		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,085,457		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,098,405		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,085,458		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,076,368		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,088,357		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,091,987		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,097,556		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,081,657		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,075,419		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,075,420		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,076,369		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,084,581		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,110,208		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,077,133		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,075,421		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,080,782		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,079,826		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,088,358		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,072,004		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,089,372		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,075,422		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,082,656		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,093,022		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,111,054		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,110,209		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,111,055		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,073,196		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,084,582		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,094,029		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,077,804		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,086,416		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022
3,106,859		425 : 3,110,211	3,107,575	3,111,878	3,112,670	7 : 3,072,022



24 : 3,099,937	62 : 3,110,226	<b>Class 93</b>	77 : 3,114,301	<b>Class 95</b>	10 : 3,093,041	45 : 3,074,334
3 : 3,111,061	64 : 3,114,295	1 : 3,071,045	80 : 3,085,481	1 : 3,110,235	3,093,042	3,075,444
26 : 3,114,290	91 : 3,087,389	1 : 3,072,024	3,099,190	1 : 3,080,801	3,093,043	3,076,396
27 : 3,074,322	97 : 3,103,852	3,088,379	3,102,458	1 : 3,082,669	3,093,044	3,081,682
33 : 3,076,386	<b>Class 91</b>	3,090,285	81 : 3,073,218	1 : 3,102,459	3,094,051	3,092,001
3,080,793	1 : 3,095,783	1 : 3,071,046	3,105,421	1 : 3,111,886	3,094,052	3,095,794
3,087,387	1 : 3,095,784	1 : 3,071,047	82 : 3,081,676	1 : 3,111,887	3,094,053	3,108,527
3,101,029	4 : 3,112,676	1 : 3,074,324	84 : 3,077,148	7 : 3,072,026	3,094,911	3,110,238
3,104,588	19 : 3,100,422	1 : 3,106,139	3,110,233	7 : 3,076,392	3,095,790	47 : 3,073,230
3,106,865	26 : 3,106,870	8 : 3,074,325	88 : 3,086,429	7 : 3,077,150	3,095,791	53 : 3,073,231
34 : 3,109,344	3,112,673	3,101,033	3,095,787	7 : 3,078,770	3,096,697	3,093,046
35 : 3,078,765	42 : 3,095,785	3,103,856	93 : 3,089,394	7 : 3,081,677	3,097,581	3,095,795
3,112,673	48 : 3,103,147	3,107,585	3,105,422	7 : 3,083,622	3,097,582	3,115,080
3,115,061	3,112,676	3,111,063	94 : 3,087,393	7 : 3,083,623	3,097,583	3,115,080
36 : 3,091,994	3,112,674	3,112,679	<b>Class 94</b>	7 : 3,088,386	3,098,417	3,108,862
37 : 3,078,766	3,115,062	3,115,072	1 : 3,086,430	7 : 3,090,287	3,099,192	54 : 3,091,164
3,112,674	49 : 3,099,940	3,105,478	7 : 3,091,160	7 : 3,093,039	3,099,193	55 : 3,078,776
3,115,062	56 : 3,111,884	3,088,380	7 : 3,093,039	7 : 3,094,049	3,099,194	3,082,673
5 : 3,086,425	78 : 3,094,040	3,114,299	7 : 3,094,049	7 : 3,094,909	3,099,195	3,109,357
5 : 3,099,938	80 : 3,097,571	22 : 3,094,044	5 : 3,084,604	7 : 3,094,910	3,099,196	57 : 3,087,401
40 : 3,082,667	81 : 3,112,677	23 : 3,077,147	5 : 3,091,996	7 : 3,097,580	3,100,428	58 : 3,092,002
41 : 3,098,411	103 : 3,106,871	35 : 3,077,820	5 : 3,091,997	7 : 3,099,943	3,100,429	59 : 3,081,683
3,102,451	169 : 3,114,296	3,079,844	5 : 3,093,038	7 : 3,099,944	3,103,149	63 : 3,073,232
42 : 3,114,291	171 : 3,106,872	3,081,674	5 : 3,094,046	7 : 3,100,426	3,103,150	3,075,445
45 : 3,075,434	172 : 3,104,589	3,083,618	5 : 3,096,694	7 : 3,100,427	3,104,601	3,083,629
3,106,866	175 : 3,105,414	3,094,905	5 : 3,106,878	7 : 3,105,426	3,105,427	3,084,607
46 : 3,101,647	189 : 3,106,134	3,105,417	5 : 3,114,303	7 : 3,109,355	3,105,428	3,089,400
47 : 3,102,452	216 : 3,098,412	3,106,140	3 : 3,085,482	7 : 3,115,075	3,106,882	3,089,401
144 : 3,109,345	217 : 3,106,135	3,110,231	3,091,998	7 : 3,115,076	3,108,527	3,092,003
159 : 3,110,221	227 : 3,099,186	3,094,045	4 : 3,094,907	7 : 3,115,077	3,109,356	3,093,048
3,110,222	232 : 3,099,187	3,097,574	7 : 3,112,681	4.5 : Re.25,354	3,109,357	3,096,700
161 : 3,088,378	250 : 3,115,066	3,107,586	3,114,304	5 : 3,074,328	3,111,072	3,099,196
165 : 3,111,883	275 : 3,107,581	3,112,680	8 : 3,104,600	5 : 3,076,393	3,111,072	3,099,197
177 : 3,105,411	283 : 3,100,423	3,113,492	3,105,423	5 : 3,078,771	3,111,888	3,102,462
3,115,063	287 : 3,101,030	3,115,813	11 : 3,096,695	5 : 3,080,802	3,111,889	3,105,429
183 : 3,101,648	335 : 3,105,416	01 : 3,073,216	13 : 3,076,390	5 : 3,082,670	3,112,682	3,115,817
184 : 3,112,675	342 : 3,112,678	01 : 3,104,596	17 : 3,089,395	5 : 3,083,624	3,112,687	64 : 3,071,056
188 : 3,103,142	364 : 3,101,031	5 : 3,087,390	18 : 3,094,908	5 : 3,092,000	3,115,077	3,071,057
196 : 3,110,223	369 : 3,102,453	6 : 3,078,768	3,097,579	5 : 3,094,050	3,108,398	3,071,058
198 : 3,089,391	372 : 3,106,873	6 : 3,114,300	3,106,879	5 : 3,098,416	3,095,792	3,072,035
<b>Class 90</b>	374 : 3,109,188	37 : 3,101,652	3,111,069	5 : 3,099,945	3,096,698	3,072,036
1 : 3,076,387	375 : 3,094,041	39.2 : 3,103,857	3,113,493	5 : 3,099,945	3,107,593	3,073,233
3,094,897	376 : 3,096,689	41 : 3,080,796	22 : 3,113,493	5 : 3,106,880	3,107,593	3,074,335
4 : 3,074,323	378 : 3,104,590	1 : 3,076,389	3,113,493	5 : 3,106,881	3,108,523	3,074,336
4 : 3,083,616	380 : 3,103,148	1 : 3,078,769	3,113,493	5 : 3,106,881	3,115,078	3,074,337
6 : 3,095,782	391 : 3,115,067	1 : 3,088,381	3,113,493	5 : 3,108,521	3,115,078	3,076,397
6 : 3,096,685	395 : 3,103,854	44 : 3,105,418	31.1 : 3,089,396	5 : 3,115,815	3,095,793	3,076,398
6 : 3,097,566	412 : 3,104,591	1 : 3,079,845	3,108,621	10 : 3,071,052	3,111,073	3,077,153
6 : 3,110,224	414 : 3,094,042	1 : 3,093,035	3,086,431	5 : 3,071,053	3,111,495	3,079,851
6 : 3,115,064	416 : 3,112,679	1 : 3,104,597	3,096,696	5 : 3,071,054	3,111,495	3,080,806
3 : 3,099,939	417 : 3,112,679	45 : 3,111,064	3,098,413	5 : 3,071,055	3,115,079	3,081,684
4 : 3,077,146	418 : 3,112,679	49 : 3,071,048	3,109,350	5 : 3,071,055	3,115,079	3,081,685
3,078,767	419 : 3,112,679	3,083,619	3,099,999	5 : 3,072,029	3,115,079	3,082,674
3,096,686	420 : 3,112,679	3,096,692	3,095,788	5 : 3,072,030	3,115,079	3,084,608
3,103,143	421 : 3,112,679	3,097,576	3,100,425	5 : 3,072,031	3,115,079	3,085,486
3,105,412	422 : 3,112,679	3,101,654	3,108,517	5 : 3,072,032	3,115,079	3,085,487
3,107,579	423 : 3,112,679	3,110,232	3,109,351	5 : 3,072,033	3,115,079	3,091,165
3,113,488	424 : 3,112,679	3,111,065	3,109,352	5 : 3,072,034	3,115,079	3,091,166
3,108,392	425 : 3,112,679	3,112,680	3,109,353	5 : 3,072,035	3,115,079	3,091,167
3,097,567	426 : 3,112,679	3,113,494	3,109,354	5 : 3,072,036	3,115,079	3,093,049
3,107,580	427 : 3,112,679	3,114,301	3,109,355	5 : 3,072,037	3,115,079	3,094,056
9.4 : 3,110,225	428 : 3,112,679	3,115,066	3,109,356	5 : 3,072,038	3,115,079	3,098,420
3,106,867	429 : 3,112,679	3,116,032	3,109,357	5 : 3,072,039	3,115,079	3,098,421
10 : 3,106,867	430 : 3,112,679	3,117,098	3,109,358	5 : 3,072,040	3,115,079	3,098,422
11 : 3,076,388	431 : 3,112,679	3,118,163	3,109,359	5 : 3,072,041	3,115,079	3,099,198
3,087,388	432 : 3,112,679	3,119,228	3,109,360	5 : 3,072,042	3,115,079	3,103,152
3,097,568	433 : 3,112,679	3,120,293	3,109,361	5 : 3,072,043	3,115,079	3,106,144
3,103,144	434 : 3,112,679	3,121,358	3,109,362	5 : 3,072,044	3,115,079	3,106,883
3,115,065	435 : 3,112,679	3,122,423	3,109,363	5 : 3,072,045	3,115,079	3,107,594
5 : 3,101,649	436 : 3,112,679	3,123,488	3,109,364	5 : 3,072,046	3,115,079	3,108,528
62 : 3,090,283	437 : 3,112,679	3,124,553	3,109,365	5 : 3,072,047	3,115,079	3,110,240
12 : 3,079,842	438 : 3,112,679	3,125,618	3,109,366	5 : 3,072,048	3,115,079	3,111,890
3,085,476	439 : 3,112,679	3,126,683	3,109,367	5 : 3,072,049	3,115,079	3,111,891
3,106,133	440 : 3,112,679	3,127,748	3,109,368	5 : 3,072,050	3,115,079	3,112,684
13 : 3,084,603	441 : 3,112,679	3,128,813	3,109,369	5 : 3,072,051	3,115,079	66 : 3,091,168
3,091,156	442 : 3,112,679	3,129,878	3,109,370	5 : 3,072,052	3,115,079	3,103,864
3,094,898	443 : 3,112,679	3,130,943	3,109,371	5 : 3,072,053	3,115,079	73 : 3,076,399
3,097,569	444 : 3,112,679	3,132,008	3,109,372	5 : 3,072,054	3,115,079	3,077,823
3,103,145	445 : 3,112,679	3,133,073	3,109,373	5 : 3,072,055	3,115,079	3,081,686
3,106,868	446 : 3,112,679	3,134,138	3,109,374	5 : 3,072,056	3,115,079	3,087,402
3,106,869	447 : 3,112,679	3,135,203	3,109,375	5 : 3,072,057	3,115,079	3,090,288
3,112,679	448 : 3,112,679	3,136,268	3,109,376	5 : 3,072,058	3,115,079	3,090,289
05 : 3,091,157	449 : 3,112,679	3,137,333	3,109,377	5 : 3,072,059	3,115,079	3,092,004
05 : 3,094,039	450 : 3,112,679	3,138,398	3,109,378	5 : 3,072,060	3,115,079	3,093,050
1 : 3,085,477	451 : 3,112,679	3,139,463	3,109,379	5 : 3,072,061	3,115,079	3,099,199
4 : 3,114,293	452 : 3,112,679	3,140,528	3,109,380	5 : 3,072,062	3,115,079	3,099,199
14 : 3,105,413	453 : 3,112,679	3,141,593	3,109,381	5 : 3,072,063	3,115,079	3,100,431
15 : 3,079,843	454 : 3,112,679	3,142,658	3,109,382	5 : 3,072,064	3,115,079	3,102,463
3,114,294	455 : 3,112,679	3,143,723	3,109,383	5 : 3,072,065	3,115,079	3,106,145
1 : 3,103,146	456 : 3,112,679	3,144,788	3,109,384	5 : 3,072,066	3,115,079	75 : 3,073,234
16 : 3,097,570	457 : 3,112,679	3,145,853	3,109,385	5 : 3,072,067	3,115,079	3,076,400
17 : 3,080,794	458 : 3,112,679	3,146,918	3,109,386	5 : 3,072,068	3,115,079	3,085,488
3,083,617	459 : 3,112,679	3,147,983	3,109,387	5 : 3,072,069	3,115,079	3,087,403
3,086,426	460 : 3,112,679	3,149,048	3,109,388	5 : 3,072,070	3,115,079	3,092,005
3,096,687	461 : 3,112,679	3,150,113	3,109,389	5 : 3,072,071	3,115,079	3,094,057
18 : 3,080,795	462 : 3,112,679	3,151,178	3,109,390	5 : 3,072,072	3,115,079	3,100,432
24 : 3,081,673	463 : 3,112,679	3,152,243	3,109,391	5 : 3,072,073	3,115,079	3,103,865
25 : 3,077,819	464 : 3,112,679	3,153,308	3,109,392	5 : 3,072,074	3,115,079	3,103,866
58 : 3,072,023	465 : 3,112,679	3,154,373	3,109,393	5 : 3,072,075	3,115,079	3,110,241
3,090,284	466 : 3,112,679	3,155,438	3,109,394	5 : 3,072,076	3,115,079	3,115,081
62 : 3,094,899	467 : 3,112,679	3,156,503	3,109,395	5 : 3,072,077	3,115,079	76 : 3,087,404
3,096,688	468 : 3,112,679	3,157,568	3,109,396	5 : 3,072,078	3,115,079	77.5 : 3,077,824
	469 : 3,112,679	3,158,633	3,109,397	5 : 3,072,079	3,115,079	5 : 3,091,169
	470 : 3,112,679	3,159,698	3,109,398	5 : 3,072,080	3,115,079	
	471 : 3,112,679	3,160,763	3,109,399	5 : 3,072,081	3,115,079	
	472 : 3,112,679	3,161,828	3,109,400	5 : 3,072,082	3,115,079	
	473 : 3,112,679	3,162,893				



## Class 95 - Con.

77.5	: 3,092,006	33	: 3,100,703	2	: 3,075,449	115	: 3,087,411	80	: 3,085,011	138	: 3,099,565	205	: 3,102,036
.5	: 3,101,034		: 3,102,809		: 3,078,779		: 3,096,704		: 3,086,867	139	: 3,088,829		: 3,113,876
.5	: 3,104,602		: 3,113,023		: 3,080,807		: 3,098,423		: 3,088,827	140	: 3,082,095	207	: 3,085,019
.5	: 3,107,595		: 3,106,465		: 3,083,630		: 3,109,358		: 3,097,948		: 3,083,105		: 3,085,020
.5	: 3,113,499	35	: 3,073,699		: 3,086,440		: 3,111,077		: 3,102,032		: 3,095,306	208	: 3,083,108
85	: 3,075,446		: 3,074,794		: 3,090,291	116	: 3,072,041		: 3,115,410		: 3,096,180	210	: 3,076,715
	: 3,089,402		: 3,080,231		: 3,093,055	119	: 3,085,491	81	: 3,077,406		: 3,102,815		: 3,077,411
	: 3,099,947		: 3,080,232		: 3,101,037	121	: 3,086,442		: 3,085,012		: 3,102,816		: 3,082,098
86	: 3,074,338		: 3,081,168		: 3,101,660		: 3,086,443		: 3,104,975		: 3,104,171		: 3,114,645
	: 3,101,035		: 3,093,478		: 3,102,464		: 3,087,412	83	: 3,113,868		: 3,109,741	212	: 3,072,491
	: 3,105,430		: 3,097,097		: 3,103,867		: 3,096,705	85	: 3,082,092		: 3,112,204	214	: 3,071,478
89	: 3,078,777		: 3,099,558		: 3,105,431				: 3,113,869		: 3,113,031		: 3,112,205
	: 3,079,852		: 3,110,592	6	: 3,092,007	Class 99		86	: 3,104,976	141	: 3,084,050	217	: 3,092,503
	: 3,081,687	36	: 3,079,254	14	: 3,083,631	1	: 3,097,946	90	: 3,076,710		: 3,087,821		: 3,093,489
	: 3,081,688	42	: 3,095,304	29	: 3,111,074		: 3,098,744		: 3,084,048		: 3,093,484	222	: 3,104,978
	: 3,082,675	45	: 3,110,593	31	: 3,101,661	2	: 3,074,795		: 3,091,538		: 3,098,749	229	: 3,073,705
	: 3,090,290		: 3,110,594	32	: 3,073,235		: 3,077,404		: 3,102,033	143	: 3,097,952		: 3,106,473
	: 3,093,051	47	: 3,102,027	33	: 3,093,056		: 3,078,164	91	: 3,108,878	144	: 3,093,485	232	: 3,077,412
	: 3,094,914	48	: 3,072,481		: 3,106,146		: 3,079,260		: 3,085,014		: 3,093,486	234	: 3,085,492
	: 3,095,796		: 3,082,086	36	: 3,086,441		: 3,079,261		: 3,088,828		: 3,108,004	235	: 3,071,061
	: 3,095,797		: 3,090,687		: 3,089,403		: 3,081,171		: 3,111,409	148	: 3,110,598		: 3,076,403
	: 3,097,585		: 3,091,532		: 3,092,008		: 3,084,046	92	: 3,108,003		: 3,111,411		: 3,092,010
	: 3,097,586		: 3,099,559		: 3,097,587		: 3,087,819		: 3,116,149	150	: 3,096,181		: 3,101,040
	: 3,101,036		: 3,102,811		: 3,112,686		: 3,087,820	93	: 3,077,407	152	: 3,077,409	236	: 3,115,821
	: 3,103,153		: 3,104,973		: 3,113,501		: 3,092,496		: 3,077,408		: 3,105,765	238	: 3,094,059
	: 3,104,603		: 3,106,466		: 3,115,818		: 3,098,745		: 3,115,411	154	: 3,101,271		: 3,108,530
	: 3,107,596		: 3,110,595	37	: 3,078,780		: 3,106,469		: 3,107,171		: 3,107,171	.1	: 3,079,854
	: 3,112,685		: 3,110,596		: 3,085,489		: 3,108,168		: 3,113,877	155	: 3,087,822	.1	: 3,085,493
	: 3,113,500		: 3,113,024		: 3,095,799	4	: 3,086,864		: 3,089,773		: 3,113,871	.1	: 3,087,413
93	: 3,088,391		: 3,116,148		: 3,112,687		: 3,089,771		: 3,096,178	157	: 3,089,777	.5	: 3,078,782
94	: 3,072,037	49	: 3,078,162		: 3,115,082	6	: Re.25,337		: 3,096,179	159	: 3,099,566	239	: 3,083,634
	: 3,076,401		: 3,091,533	38	: 3,106,147	7	: 3,071,468		: 3,100,708		: 3,108,880		: 3,086,444
	: 3,086,438		: 3,113,866		: 3,114,307		: 3,076,708		: 3,109,738	161	: 3,093,487		: 3,086,445
	: 3,087,405	50	: 3,093,479	39	: 3,093,057		: 3,099,561	96	: 3,116,150		: 3,113,872	243	: 3,103,871
	: 3,087,406	52	: 3,079,255	40	: Re.25,352		: 3,114,638	98	: 3,082,093	166	: 3,090,689	251	: 3,101,041
	: 3,093,052		: 3,079,256		: 3,074,339	14	: 3,080,234		: 3,100,709	169	: 3,073,702	257	: 3,080,809
	: 3,093,053		: 3,112,198		: 3,076,402		: 3,102,031	100	: 3,071,473	171	: 3,077,410		: 3,081,691
	: 3,095,798	63	: 3,088,824		: 3,081,689		: 3,108,873		: 3,076,711		: 3,078,171		: 3,082,681
	: 3,096,701	66	: 3,071,465		: 3,082,676		: 3,111,408		: 3,103,438		: 3,081,174	259	: 3,078,783
	: 3,099,948		: 3,084,044		: 3,083,632	18	: 3,078,165		: 3,109,739		: 3,083,106		: 3,081,692
97	: 3,101,659	67	: 3,078,163		: 3,084,609		: 3,099,562		: 3,114,639		: 3,083,107		: 3,087,414
98	: 3,077,155		: 3,079,257		: 3,084,610	21	: 3,073,700	102	: 3,112,202		: 3,086,869		: 3,088,393
100	: 3,086,439		: 3,105,762		: 3,087,407	23	: 3,098,746	103	: 3,083,104		: 3,088,830	261	: 3,106,884
102	: 3,075,447	75	: 3,072,482		: 3,088,392	26	: 3,108,874		: 3,085,881		: 3,092,501	269	: 3,094,060
Class 96			: 3,076,707		: 3,092,009	28	: 3,086,865		: 3,086,868		: 3,095,307	275	: 3,084,613
			: 3,081,169		: 3,093,058	29	: 3,100,705		: 3,114,640	105	: 3,099,567		: 3,090,293
1	: Re.25,444		: 3,085,008		: 3,099,200		: 3,100,706		: 3,071,474		: 3,100,711		: 3,103,872
	: 3,072,479		: 3,102,812		: 3,099,949		: 3,112,201		: 3,114,641		: 3,102,034	277.1	: 3,106,885
	: 3,077,398	77	: 3,075,841		: 3,101,038	41	: 3,078,166	107	: 3,073,701		: 3,104,172	281	: 3,075,452
	: 3,079,253	78	: 3,086,862		: 3,103,155	43	: 3,078,166		: 3,076,712		: 3,108,005		: 3,087,415
	: 3,081,165		: 3,099,560		: 3,103,156	48	: 3,071,469		: 3,089,775		: 3,108,881		: 3,093,061
	: 3,082,085	83	: 3,091,534		: 3,103,157		: 3,082,089		: 3,100,710		: 3,113,873	282	: 3,078,784
	: 3,084,043		: 3,102,028		: 3,103,868		: 3,083,098		: 3,104,170		: 3,114,643		: 3,100,434
	: 3,092,493	84	: 3,091,535		: 3,103,869		: 3,099,563		: 3,112,203		: 3,116,152		: 3,113,503
	: 3,095,301		: 3,094,418		: 3,107,597		: 3,100,707	0	: 3,076,713		: 3,116,153	283	: 3,072,042
	: 3,097,095	87	: 3,071,466		: 3,108,529	50.5	: 3,079,262	108	: 3,098,747	172	: 3,082,096		: 3,074,340
	: 3,102,026		: 3,072,484		: 3,110,242	.5	: 3,092,497		: 3,100,152		: 3,092,502		: 3,085,494
	: 3,104,169		: 3,082,087		: 3,111,075	.5	: 3,104,974		: 3,113,030		: 3,102,818		: 3,085,495
	: 3,107,169		: 3,091,536		: 3,115,819	51	: 3,081,172	109	: 3,081,173	174	: 3,074,798		: 3,086,446
	: 3,110,591		: 3,112,199		: 3,079,853	52	: 3,082,090		: 3,092,499		: 3,087,823		: 3,088,394
	: 3,112,197		: 3,113,867	42	: 3,080,808		: 3,102,813		: 3,106,471		: 3,095,308		: 3,106,149
	: 3,113,022		: 3,079,258		: 3,083,633	54	: 3,076,709		: 3,113,870		: 3,113,874	285	: 3,075,453
	: 3,114,633	90	: 3,102,029		: 3,093,059	55	: 3,074,796	111	: 3,082,094	175	: 3,116,154		: 3,077,156
	: 3,116,147		: 3,109,736		: 3,094,915		: 3,105,763		: 3,097,949	178	: 3,080,238	286	: 3,107,600
2	: 3,107,170		: 3,112,200		: 3,103,870		: 3,108,875	116	: 3,072,489		: 3,100,712	287	: 3,076,404
3	: 3,077,399	91	: 3,108,872		: 3,107,598	56	: Re.25,322		: 3,075,842	179	: 3,094,420		: 3,092,011
	: 3,077,400		: 3,113,025	43	: 3,078,781		: 3,072,486		: 3,078,169	180	: 3,099,568		: 3,094,917
	: 3,087,815	93	: 3,100,150		: 3,085,490		: 3,078,167		: 3,078,170	182	: 3,087,824	288	: 3,083,450
11	: 3,095,302		: 3,102,030		: 3,101,662		: 3,080,235		: 3,079,263		: 3,088,831	289	: 3,085,496
20	: 3,114,634		: 3,087,818	46	: 3,075,450		: 3,083,099		: 3,089,776		: 3,110,599		: 3,089,404
22	: 3,113,864	100	: 3,077,403		: 3,075,451		: 3,090,688		: 3,091,539	187	: 3,075,843		: 3,094,918
27	: 3,071,464		: 3,079,259		: 3,082,677	59	: 3,080,236		: 3,097,950		: 3,084,051		: 3,095,800
	: 3,077,401		: 3,080,233		: 3,087,408		: 3,086,866		: 3,100,153		: 3,114,644		: 3,103,159
	: 3,080,230		: 3,092,495	57	: 3,106,148		: 3,096,177		: 3,105,764	188	: 3,108,882		: 3,103,873
	: 3,081,166	106	: 3,071,467		: 3,101,039	60	: 3,072,487		: 3,108,879	189	: 3,084,052		: 3,115,822
	: 3,085,877		: 3,084,045		: 3,110,239		: 3,074,797		: 3,111,410	192	: Re.25,499	293	: 3,111,079
	: 3,095,176	107	: 3,085,009	60	: 3,115,820		: 3,094,419	118	: Re.25,488		: 3,073,703	295	: 3,086,447
	: 3,105,761		: 3,085,010	62	: 3,105,432	63	: 3,097,947		: 3,071,475		: 3,078,172	302	: 3,098,424
	: 3,111,407		: 3,113,026	76	: 3,100,433	65	: 3,084,047		: 3,084,049		: 3,082,097		: 3,110,243
	: 3,114,635	108	: 3,086,863	82	: 3,072,039	66	: 3,071,470		: 3,085,015		: 3,085,884	305	: 3,074,341
	: 3,091,528		: 3,109,737	84	: 3,087,409	68	: 3,088,825		: 3,085,882		: 3,104,977	306	: 3,080,810
	: 3,091,529	109	: 3,081,170	88	: 3,084,611		: 3,106,470		: 3,093,480		: 3,111,412	307	: 3,092,012
	: 3,094,417		: 3,082,088	94	: 3,081,690	69	: 3,108,876		: 3,093,481	194	: 3,097,953	308	: 3,089,405
29	: 3,072,480		: 3,106,467		: 3,084,612	71	: 3,077,405		:				



339 : 3,109,359	71 : 3,084,620	37 : 3,083,636	148 : 3,094,065	378 : 3,083,643	25 : 3,098,442	64 : 3,072,056
340 : 3,085,497	73 : 3,078,788	3 : 3,103,166	3 : 3,096,710	3 : 3,097,598	3 : 3,098,443	3 : 3,103,171
3 : 3,088,395	75 : 3,086,452	3 : 3,111,896	3 : 3,106,154	3 : 3,107,609	3 : 3,100,446	65.4 : 3,112,703
3 : 3,089,407	3 : 3,103,874	38 : 3,097,593	149.1 : 3,106,155	3 : 3,085,507	3 : 3,105,437	66 : 3,103,888
3 : 3,096,706	3 : 3,107,605	3 : 3,110,247	2 : 3,071,070	3 : 3,096,713	3 : 3,109,371	67 : 3,081,704
3 : 3,106,150	3 : 3,113,507	3 : 3,112,692	2 : 3,079,859	3 : 3,113,514	3 : 3,110,258	70 : 3,091,178
341 : 3,081,694	90 : 3,085,503	40 : 3,115,091	2 : 3,081,699	380 : 3,071,071	3 : 3,111,087	3 : 3,094,935
345 : 3,087,416	3 : 3,111,892	41 : 3,091,174	2 : 3,083,639	3 : 3,099,213	3 : 3,111,898	3 : 3,095,815
347 : 3,085,498	93 : 3,082,683	3 : 3,094,920	2 : 3,095,808	384 : 3,085,508	27 : 3,095,812	3 : 3,099,961
353 : 3,071,065	3 : 3,092,017	3 : 3,115,826	2 : 3,099,209	393 : 3,113,515	3 : 3,106,892	3 : 3,107,618
3 : 3,097,588	3 : 3,092,018	43 : 3,080,813	2 : 3,103,881	394 : 3,079,860	28 : 3,078,799	2 : 3,075,465
3 : 3,106,151	3 : 3,100,436	3 : 3,099,954	2 : 3,106,156	395 : 3,091,176	3 : 3,082,691	2 : 3,078,801
355 : 3,085,499	3 : 3,111,081	44 : 3,071,068	2 : 3,106,157	401 : 3,093,071	3 : 3,090,308	2 : 3,078,803
3 : 3,087,417	3 : 3,111,893	3 : 3,090,296	2 : 3,106,158	1 : 3,087,423	3 : 3,094,932	2 : 3,086,468
386 : 3,087,418	94 : 3,094,062	3 : 3,094,921	2 : 3,108,535	1 : 3,101,668	3 : 3,094,933	2 : 3,086,469
3 : 3,109,360	97 : 3,090,295	3 : 3,094,922	2 : 3,113,511	1 : 3,103,168	3 : 3,096,714	2 : 3,088,408
390 : 3,091,170	3 : 3,095,805	47 : 3,111,084	2 : 3,113,512	2 : 3,086,462	3 : 3,099,957	2 : 3,088,409
393 : 3,084,615	98 : 3,103,163	49 : 3,091,175	2 : 3,115,829	3 : 3,075,460	3 : 3,100,447	2 : 3,088,410
397 : 3,092,013	3 : 3,108,533	56 : 3,077,828	4 : 3,088,402	3 : 3,099,214	3 : 3,101,669	2 : 3,089,421
400 : 3,091,171	106 : 3,086,453	57 : 3,101,046	4 : 3,093,068	415.1 : 3,095,811	3 : 3,107,613	2 : 3,092,028
402 : 3,094,061	107 : 3,103,164	65 : 3,110,248	4 : 3,096,711	1 : 3,103,169	3 : 3,109,372	2 : 3,093,076
403 : 3,115,084	108 : 3,073,237	66 : 3,078,789	4 : 3,109,366	1 : 3,107,610	3 : 3,113,519	2 : 3,098,448
407 : 3,078,786	115 : 3,073,238	79 : 3,110,249	4 : 3,109,367	1 : 3,108,538	30 : 3,106,159	2 : 3,099,962
3 : 3,101,043	3 : 3,098,429	88 : 3,107,606	5 : 3,076,406	1 : 3,110,255	34.1 : 3,087,427	2 : 3,101,055
3 : 3,107,602	118 : 3,106,152	90 : 3,115,827	152 : 3,098,432	1 : 3,112,698	1 : 3,114,317	2 : 3,106,160
408 : 3,097,589	120 : 3,110,244	91 : 3,077,829	154 : 3,099,956	416 : 3,097,599	1 : 3,114,318	2 : 3,106,161
419 : 3,087,416	121 : 3,086,454	92 : 3,093,066	157 : 3,098,433	425 : 3,084,626	4 : 3,105,438	2 : 3,111,089
420 : 3,073,236	127 : 3,093,065	93 : 3,072,045	172 : 3,083,640	3 : 3,089,415	37.5 : 3,084,628	2 : 3,111,901
421 : 3,075,454	129 : 3,115,087	3 : 3,072,046	177 : 3,072,050	3 : 3,094,068	6 : 3,081,702	71 : 3,090,311
3 : 3,077,826	131 : 3,086,455	3 : 3,072,047	3 : 3,081,700	3 : 3,108,539	6 : 3,081,702	3 : 3,102,479
3 : 3,081,695	138 : 3,075,456	3 : 3,077,158	178 : 3,098,434	426 : 3,098,438	6 : 3,102,477	3 : 3,112,704
3 : 3,100,435	139 : 3,110,245	3 : 3,077,830	179 : 3,093,069	3 : 3,113,516	6 : 3,104,612	72 : 3,078,802
3 : 3,104,605	142 : 3,082,684	3 : 3,082,687	180 : 3,099,210	3 : 3,111,899	6 : 3,111,899	74 : 3,115,094
3 : 3,106,886	3 : 3,094,063	3 : 3,085,504	181 : 3,084,621	8 : 3,107,614	8 : 3,107,614	75 : 3,103,172
3 : 3,108,532	3 : 3,114,310	3 : 3,086,457	3 : 3,102,471	8 : 3,110,259	8 : 3,110,259	78 : 3,102,480
3 : 3,113,504	3 : 3,115,088	3 : 3,087,420	192 : 3,114,313	1 : 3,075,461	38 : 3,078,800	3 : 3,106,893
423 : 3,084,616	3 : 3,115,828	3 : 3,087,421	207 : 3,099,211	3 : 3,102,474	3 : 3,107,615	79 : 3,073,241
3 : 3,092,014	3 : 3,115,823	3 : 3,088,400	210 : 3,073,240	3 : 3,109,369	39 : 3,087,428	3 : 3,076,410
3 : 3,093,062	3 : 3,111,082	3 : 3,088,401	3 : 3,094,924	3 : 3,112,699	3 : 3,089,418	82 : 3,077,160
3 : 3,096,707	152 : 3,104,608	3 : 3,089,413	212 : 3,098,435	3 : 3,086,463	3 : 3,089,419	84 : 3,095,816
425 : 3,086,448	155 : 3,082,685	3 : 3,090,297	216 : 3,092,021	3 : 3,113,517	3 : 3,097,602	91 : 3,097,603
3 : 3,106,887	3 : 3,097,590	3 : 3,090,298	3 : 3,092,021	4 : 3,114,315	3 : 3,103,883	92 : 3,093,077
3 : 3,113,505	3 : 3,097,591	3 : 3,092,020	3 : 3,094,066	3 : 3,115,813	41 : 3,085,509	3 : 3,093,077
426 : 3,084,617	3 : 3,103,875	3 : 3,094,064	3 : 3,113,513	7 : 3,088,403	3 : 3,087,429	5 : 3,080,817
427 : 3,081,696	3 : 3,106,153	3 : 3,094,923	217 : 3,095,809	3 : 3,097,600	3 : 3,090,309	5 : 3,081,705
3 : 3,084,618	158 : 3,105,434	3 : 3,099,206	3 : 3,112,696	3 : 3,115,832	3 : 3,094,934	5 : 3,093,078
3 : 3,085,500	162 : 3,089,409	3 : 3,100,440	218 : 3,076,407	2 : 3,088,404	42 : 3,074,344	5 : 3,106,162
3 : 3,090,294	3 : 3,091,173	3 : 3,101,664	3 : 3,094,067	2 : 3,093,072	3 : 3,085,510	5 : 3,107,619
3 : 3,091,172	3 : 3,111,894	3 : 3,103,878	3 : 3,108,536	2 : 3,110,256	3 : 3,092,026	5 : 3,113,521
3 : 3,103,161	168 : 3,072,043	3 : 3,106,889	226 : 3,099,212	2 : 3,111,086	3 : 3,093,073	5 : 3,114,319
3 : 3,103,162	171 : 3,071,066	3 : 3,107,607	227 : 3,072,051	8 : 3,098,439	3 : 3,099,958	93 : 3,100,448
435 : 3,109,361	3 : 3,105,435	3 : 3,108,534	3 : 3,094,925	3 : 3,098,440	3 : 3,102,478	94 : 3,111,902
443 : 3,088,396	173 : 3,095,806	3 : 3,110,250	228 : 3,084,622	10 : 3,084,627	3 : 3,115,835	95 : 3,095,817
445 : 3,076,405	179 : 3,073,239	3 : 3,110,251	3 : 3,084,623	3 : 3,086,464	43 : 3,076,409	98 : 3,073,242
446 : 3,086,449	3 : 3,100,437	3 : 3,111,085	3 : 3,102,472	3 : 3,094,928	3 : 3,088,405	3 : 3,099,963
3 : 3,092,015	192 : 3,086,456	3 : 3,115,092	232 : 3,090,302	13 : 3,098,441	3 : 3,089,420	3 : 3,107,620
3 : 3,098,427	195 : 3,109,363	3 : 3,078,790	233 : 3,102,473	14 : 3,109,370	3 : 3,095,813	3 : 3,109,374
3 : 3,098,428	214 : 3,100,438	3 : 3,115,828	235 : 3,072,052	16 : 3,099,215	3 : 3,098,444	3 : 3,109,375
3 : 3,099,951	3 : 3,103,876	100 : 3,072,048	248 : 3,092,022	3 : 3,102,475	3 : 3,103,170	
	3 : 3,115,089	3 : 3,090,299	3 : 3,098,436	18 : 3,094,929	3 : 3,105,439	
	3 : 3,115,824	102 : 3,112,693	252 : 3,101,050	3 : 3,115,834	44 : 3,086,466	
	3 : 3,077,827	103 : 3,101,047	269 : 3,083,641	3 : 3,115,834	45 : 3,103,884	
	3 : 3,089,410	105 : 3,099,955	3 : 3,087,422	20 : 3,071,072	46 : 3,090,310	
	3 : 3,115,090	110 : 3,078,791	3 : 3,090,303	3 : 3,075,462	49 : 3,071,073	
	223 : 3,083,635	111 : 3,085,505	279 : 3,097,595	3 : 3,078,797	3 : 3,080,815	
	232 : 3,106,888	3 : 3,113,509	283 : 3,080,814	3 : 3,089,416	3 : 3,088,406	
	3 : 3,085,501	115 : 3,086,458	287 : 3,115,830	3 : 3,094,930	3 : 3,092,027	
	3 : 3,104,606	3 : 3,096,709	288 : 3,096,712	3 : 3,100,443	3 : 3,093,074	
	3 : 3,114,308	122 : 3,102,469	292 : 3,101,049	3 : 3,101,051	3 : 3,094,071	
	3 : 3,115,085	3 : 3,103,167	3 : 3,112,697	3 : 3,104,611	3 : 3,095,814	
	7 : 3,092,016	123 : 3,107,609	297 : 3,086,459	3 : 3,107,611	3 : 3,098,445	
	14 : 3,107,603	3 : 3,090,300	3 : 3,092,023	3 : 3,107,612	3 : 3,099,959	
	19 : 3,084,619	295 : 3,111,895	3 : 3,092,024	3 : 3,110,257	3 : 3,101,052	
	3 : 3,095,802	296 : 3,104,609	3 : 3,106,890	3 : 3,112,700	3 : 3,103,885	
	3 : 3,099,203		3 : 3,089,416	21 : 3,072,054	3 : 3,104,613	
	21 : 3,102,466		3 : 3,099,207	3 : 3,075,463	3 : 3,108,540	
	22 : 3,086,450		3 : 3,099,365	6 : 3,100,444	3 : 3,110,260	
	26 : 3,086,451	1 : 3,115,825	3 : 3,113,510	22 : 3,086,465	3 : 3,111,900	
	3 : 3,088,397	3 : 3,089,411	125 : 3,101,048	3 : 3,087,424	3 : 3,112,702	
	3 : 3,093,063	4 : 3,089,412	3 : 3,103,879	3 : 3,090,306	3 : 3,115,836	
	27 : 3,102,467	3 : 3,112,688	126 : 3,078,792	3 : 3,091,177	50 : 3,072,055	
	28 : 3,099,204	6 : 3,097,592	3 : 3,082,688	3 : 3,099,216	3 : 3,080,816	
	30 : 3,101,663	3 : 3,109,364	3 : 3,098,431	3 : 3,102,476	3 : 3,081,703	
	31 : 3,074,343	19 : 3,088,398	127.1 : 3,078,793	3 : 3,112,701	3 : 3,085,511	
	35 : 3,107,604	3 : 3,095,807	1 : 3,115,093	3 : 3,114,316	3 : 3,086,467	
	37 : 3,093,064	20 : 3,105,436	128.2 : 3,112,694	23 : 3,075,464	3 : 3,088,407	
	3 : 3,111,080	21 : 3,071,067	4 : 3,097,594	3 : 3,076,408	3 : 3,093,075	
	3 : 3,114,309	23 : 3,088,399	129 : 3,079,858	3 : 3,078,798	3 : 3,094,072	
	39 : 3,075,455	24 : 3,104,610	3 : 3,081,698	3 : 3,094,066	3 : 3,098,446	
	3 : 3,094,919	3 : 3,114,312	131 : 3,075,458	3 : 3,097,601	3 : 3,099,960	
	42 : 3,101,044	26 : 3,098,430	3 : 3,099,208	24 : 3,077,834	3 : 3,103,886	
	43 : 3,085,502	27 : 3,075,457	132.5 : 3,077,831	3 : 3,079,861	3 : 3,113,520	
	48 : 3,115,086	32 : 3,100,439	5 : 3,077,832	3 : 3,082,689	51 : 3,098,447	
	49 : 3,087,419	35 : 3,072,044	5 : 3,077,833	3 : 3,087,425	3 : 3,110,261	
	3 : 3,089,408	3 : 3,081,697	5 : 3,078,794	3 : 3,089,417	3 : 3,111,088	
	3 : 3,109,362	3 : 3,092,019	5 : 3,083,637	3 : 3,092,025	52 : 3,096,715	
	50 : 3,079,856	3 : 3,102,468	5 : 3,083,638	3 : 3,100,445	3 : 3,105,440	
	3 : 3,095,803	3 : 3,103,165	134 : 3,090,301	3 : 3,103,882	54 : 3,109,373	
	3 : 3,096,708	3 : 3,103,877	136 : 3,103,880	3 : 3,113,518	3 : 3,110,262	
	53 : 3,079,857	3 : 3,112,695	137 : 3,112,695	25 : 3,082,690	56 : 3,103,887	
	3 : 3,095,804	3 : 3,112,690	144 : 3,102,470	3 : 3,087,426	57 : 3,101,053	
	3 : 3,104,607	3 : 3,112,691	147 : 3,102,471	3 : 3,090,307	60 : 3,101,054	
	3 : 3,105,433	36 : 3,080,812	3 : 3,072,049	3 : 3,094,070	61 : 3,107,616	
	3 : 3,113,506	37 : 3,082,686	3 : 3,093,067	3 : 3,094,931	3 : 3,107,617	
			378 : 3,078,796			



## Class 103—Con.

23	3,093,082	87	3,105,444	130	3,113,526	205	3,106,168	138	3,100,454	366	3,107,634	39	3,090,691
	3,097,606		3,110,263	133	3,089,424	208	3,088,417		3,108,546	367	3,079,874		3,096,185
	3,115,095		3,111,090	135	3,102,493	218	3,072,609	139	3,099,227	368	3,081,715		3,097,954
25	3,072,060		3,112,706	136	3,071,079	219	3,104,620	148	3,099,730		3,096,730		3,098,752
	3,073,244		3,112,707		3,072,066		3,072,070	152	3,087,440		3,099,230		3,103,440
	3,075,466		3,114,322		3,072,067		3,103,181	162	3,107,633		3,101,679		3,103,441
	3,087,431		3,114,323		3,076,414	220	3,090,324	172	3,072,073		3,101,680		3,103,442
	3,091,179		3,115,096		3,076,415	225	3,072,071		3,074,355		3,102,497		3,111,414
	3,093,083		3,115,839		3,084,632		3,089,429		3,074,356	369	3,071,085		3,112,207
	3,094,936		3,115,841		3,086,475	228	3,073,256		3,074,357		3,071,086	40	3,082,100
	3,104,614		3,115,841		3,098,451		3,089,430		3,076,418		3,072,077	41	3,085,886
	3,106,894	88	3,112,708		3,099,964		3,106,169		3,076,419		3,073,260	42	3,091,540
	3,114,320	89	3,083,644		3,102,494	230	3,076,417		3,078,811		3,074,359	45	3,103,443
	3,082,692		3,087,435		3,110,266	231	3,111,906		3,079,872		3,075,478	46	3,097,101
	3,087,432		3,115,842		3,112,709		3,081,709		3,081,712		3,078,812	47	3,074,805
37	3,074,345	93	3,071,076		3,113,527	232	3,075,475		3,083,650		3,078,813		3,080,240
	3,082,692	94	3,088,414	140	3,114,324		3,078,809		3,086,480		3,082,707		3,081,178
	3,090,312	96	3,095,820	142	3,101,059		3,089,431		3,088,419		3,089,436		3,082,101
	3,090,313		3,111,904	143	3,109,382		3,093,088		3,091,191		3,090,329	48	3,098,753
	3,096,716	97	3,106,165	144	3,072,068		3,100,452		3,092,038		3,092,043		3,108,885
	3,099,218		3,109,380		3,083,646	234	3,106,170		3,094,943		3,092,044		3,114,646
	3,101,056	102	3,076,411		3,086,476	235	3,082,698		3,094,944		3,093,092	49	3,079,265
	3,101,057	103	3,071,077	148	3,083,647	238	3,090,325		3,099,228		3,095,830		3,099,569
	3,107,623		3,079,866	149	3,079,868	243	3,099,224		3,106,172		3,098,455		3,115,415
	3,109,378		3,088,415		3,101,674	248	3,077,163		3,111,911		3,103,898	50	3,081,179
	3,112,705		3,088,416		3,101,675	255	3,073,257	173	3,103,896		3,114,335		3,085,887
38	3,072,061		3,090,319		3,103,178		3,087,438		3,110,268		3,114,336		3,095,311
	3,089,422		3,091,182		3,105,447	262	3,084,634		3,112,710		3,114,337	52	Re.25,312
	3,101,058		3,092,030		3,109,383		3,111,091	178	3,071,083		3,114,338		Re.25,456
	3,102,484		3,094,075	150	3,071,080		3,099,965		3,115,846		3,115,102		3,071,480
	3,102,485		3,095,821		3,080,825	272	3,071,081		3,115,847	376	3,073,261		3,073,708
	3,102,486		3,101,671		3,092,032			243	3,084,637		3,104,624		3,077,414
	3,102,487		3,107,625		3,093,086			247	3,077,165		3,108,547		3,081,180
	3,103,173		3,115,097		3,094,076				3,082,699		3,112,712		3,082,102
	3,103,890		3,115,843		3,096,721	2	3,095,826		3,085,516	379	3,098,456		3,084,054
	3,106,164	106	3,115,844		3,096,722	7	3,073,258		3,098,454	386	3,091,193		3,084,055
	3,106,895	108	3,073,249		3,100,451		3,091,187		3,113,529	392.5	3,082,708		3,094,423
39	3,082,693		3,098,450	151	3,075,471		3,101,676	248	3,080,826	397	3,100,458		3,096,186
41	3,071,074		3,099,221	152	3,074,351		3,103,182	250	3,081,713		3,102,498		3,113,877
	3,073,245		3,103,892		3,089,425		3,111,908	256	3,075,476	404	3,078,814	53	3,072,493
	3,077,837		3,076,412	111	3,095,824		3,111,908	258	3,097,611	409	3,087,441		3,088,833
	3,079,862		3,090,320		3,099,222		3,114,330	259	3,094,945	410	3,095,831		3,088,835
	3,090,314		3,096,718		3,107,630	12	3,071,082	260	3,096,729	411	3,089,437		3,106,474
	3,091,180	113	3,072,063	153	3,093,087		3,096,724	272	3,112,711	416	3,081,716	54	3,100,714
	3,097,607		3,078,806		3,095,825		3,099,225	279	3,103,897	422	3,088,420		3,113,033
	3,099,219		3,080,823		3,103,179	14	3,093,089			455	3,075,479		3,113,878
	3,103,174		3,082,694		3,114,325	17	3,114,331			458	3,094,946	55	3,082,103
	3,114,321		3,090,321		3,114,326	25	3,096,725						3,096,187
42	3,094,937		3,091,183	157	3,107,631	29	3,091,188						3,108,886
	3,102,488		3,091,184	158	3,092,033	44	3,079,871	101	3,072,074				3,110,601
	3,102,489		3,093,085		3,114,327	61	3,114,332	114	Re.25,501			56	3,079,266
	3,103,891		3,102,491	159	3,077,162	73	3,114,333	141	3,111,912	1	3,083,109		3,083,111
43	3,097,608		3,103,177	160	3,103,180	63	3,114,332	144	3,095,828		3,092,504		3,112,208
44	3,073,246		3,107,626	161	3,078,808	73	3,113,528	145	3,115,848		3,095,309	57	3,076,716
	3,075,467		3,115,098		3,081,708	88	3,074,353	148	3,074,358		3,096,182		3,085,888
	3,075,468	114	3,095,822		3,082,696		3,077,164	150	3,072,075		3,108,006		3,100,154
	3,080,820		3,105,445		3,084,633		3,078,810		3,092,039	2	3,089,778		3,102,037
	3,080,821		3,115,099		3,086,477		3,081,710		3,092,040	4	3,072,492	58	3,074,806
	3,087,433	115	3,082,695		3,087,432		3,089,432		3,094,079	10	3,071,479		3,075,846
	3,094,074		3,101,672		3,094,077		3,103,183	153	3,092,041		3,073,706		3,082,104
	3,107,624		3,107,627		3,099,223		3,103,895	155	3,086,482		3,074,799		3,093,495
45	3,091,181	117	3,073,250		3,101,060	89	3,084,635	159	3,086,483		3,086,870		3,106,475
46	3,079,863		3,074,350		3,106,167	91	3,088,418	163	3,095,829	14	3,086,871		3,111,415
	3,096,717		3,080,824		3,073,252		3,099,226	165	3,111,094		3,090,690		3,116,155
	3,103,175		3,084,631	162	3,073,253		3,101,677	174	3,108,714		3,093,491	59	3,082,105
	3,109,379		3,091,185		3,073,254		3,074,354		3,115,100		3,093,492		3,093,496
	3,113,522		3,095,823		3,075,472	93	3,074,354	197	3,072,076		3,093,493		3,093,497
49	3,077,838		3,097,609		3,079,869	94	3,091,189		3,080,828	15	3,081,175		3,094,424
	3,085,512		3,104,615		3,106,171		3,106,171		3,092,042		3,081,176		3,108,007
50	3,086,470	118	3,097,610		3,082,697		3,109,385		3,109,387		3,085,885		3,116,156
	3,094,938	120	3,103,893		3,089,426	95	3,081,711	199	3,104,622		3,096,183	61	3,086,876
52	3,090,315		3,106,897		3,089,427		3,101,678	206	3,079,873		3,102,821	62	3,078,173
	3,090,316		3,107,628		3,092,034	96	3,099,966	215	3,093,091	20	3,096,184		3,093,498
	3,095,819		3,107,629		3,092,035	98	3,094,940	221	3,091,192		3,098,751		3,100,155
53	3,074,346		3,109,381		3,092,036		3,102,496		3,110,269		3,111,413		3,108,887
	3,080,822		3,110,265		3,094,078	104	3,073,259	224.1	3,099,967	22	3,073,707		3,108,888
	3,113,523	121	3,111,905		3,096,723	107	3,096,726	247	3,075,477		3,074,800	64	3,079,267
54	3,088,413	123	3,079,867		3,107,632	108	3,086,478	248	3,080,829		3,086,872	65	3,080,242
	3,090,317	124	3,081,707		3,108,542		3,103,184		3,104,623	24	3,086,873		3,113,879
	3,106,896		3,071,078		3,108,543	110	3,072,072	253	3,082,700	27	3,075,844		3,080,243
57	3,079,864		3,072,064		3,108,544	111	3,084,636		3,100,455	30	3,074,801		3,116,157
58	3,099,220		3,073,251		3,110,267	113	3,114,334		3,100,456	31	3,075,845	69	3,103,444
87	3,071,075		3,075,470	163	3,104,618	120	3,091,190		3,100,457	34	3,079,264	72	3,106,476
	3,072,062		3,076,413	165	3,098,452	115	3,111,910		3,086,899	38.22	3,075,847		3,109,742
	3,073,247		3,077,839	171	3,075,473	121	3,083,649		3,109,388	2	3,093,494		3,115,416
	3,073,248		3,077,840	173	3,085,514	124	3,090,326		3,109,389	23	3,115,414	75	3,077,415
	3,074,347		3,078,807		3,108,545	128	3,100,453		3,110,270	3	3,074,802		3,095,312
	3,074,348		3,083,645	174	3,092,037	130	3,093,090	254	3,099,229	35	3,0		



98 : 3,082,106	288 : 3,091,544	53 : 3,095,837	171 : 3,094,953	95 : 3,104,635	252 : 3,106,902	120 : 3,077,171
99 : 3,092,505	289 : 3,099,570	54 : 3,114,339	178 : 3,088,425	102 : 3,104,636	253 : 3,108,557	121 : 3,089,450
101 : 3,085,022	290 : 3,105,768	55 : 3,101,063	179 : 3,110,274	103 : 3,082,720	254 : 3,109,399	122 : 3,099,238
102 : 3,114,648	291 : 3,087,827	56 : 3,079,876		104 : 3,082,721	255 : 3,115,856	123 : 3,113,542
109 : 3,094,426	292 : 3,087,828	57 : 3,079,877		105 : 3,112,718	256 : 3,113,539	124 : 3,083,663
110 : 3,100,715	293 : 3,087,829	58 : 3,092,046		106 : 3,111,919	257 : 3,079,881	125 : 3,110,278
111 : 3,072,494	294 : 3,107,173	59 : 3,094,950		107 : 3,094,084	258 : 3,081,723	126 : 3,084,650
112 : 3,108,008	295 : 3,092,507	60 : 3,099,969		108 : 3,095,842	259 : 3,084,648	127 : 3,092,059
118 : 3,076,717	296 : 3,072,495	61 : 3,113,532		109 : 3,104,637	260 : 3,115,111	128 : 3,094,093
120 : 3,100,156	297 : 3,073,711	62 : 3,115,105		110 : 3,111,920	261 : 3,071,091	129 : 3,100,471
121 : 3,116,158	298 : 3,080,248	63 : 3,103,185		111 : 3,109,399	262 : 3,079,882	130 : 3,091,202
122 : 3,073,709	299 : 3,085,893	64 : 3,115,106		112 : 3,108,443	263 : 3,100,469	131 : 3,077,849
123 : 3,081,181	300 : 3,073,712	65 : 3,097,614		113 : 3,086,486	264 : 3,111,921	132 : 3,080,843
124 : 3,110,602	301 : 3,076,719	66 : 3,099,232		114 : 3,098,459	265 : 3,094,090	133 : 3,110,279
125 : 3,112,209	302 : 3,079,269	67 : 3,084,639		115 : 3,099,971	266 : 3,099,237	134 : 3,094,958
126 : 3,080,244	303 : 3,086,877	68 : 3,100,459		116 : 3,074,363	267 : 3,077,847	
127 : 3,095,313	304 : 3,112,210	69 : 3,104,625		117 : 3,112,719	268 : 3,110,276	
128 : 3,108,889	305 : 3,085,894	70 : 3,107,636		118 : 3,115,854	269 : 3,112,721	
129 : 3,081,182	306 : 3,110,606	71 : 3,094,951		119 : 3,115,853	270 : 3,082,724	
130 : 3,111,416	307 : 3,094,428	72 : 3,083,652		120 : 3,075,483		
131 : 3,071,482	308 : 3,083,115	73 : 3,092,053		121 : 3,081,724		
132 : 3,071,483	309 : 3,100,718	74 : 3,108,552		122 : 3,083,656		
133 : 3,107,172	310 : 3,100,719	75 : 3,083,657		123 : 3,083,656		
134 : 3,084,056	311 : 3,100,719	76 : 3,084,646		124 : 3,085,526		
135 : 3,079,956	312 : 3,108,892	77 : 3,090,334		125 : 3,090,334		
136 : 3,106,477		78 : 3,087,444		126 : 3,091,202		
137 : 3,071,484		79 : 3,100,462		127 : 3,094,085		
138 : 3,097,100		80 : 3,113,534		128 : 3,094,085		
139 : 3,075,849				129 : 3,101,685		
140 : 3,090,694				130 : 3,103,904		
141 : 3,104,979				131 : 3,104,638		
142 : 3,110,603				132 : 3,105,449		
143 : 3,076,718				133 : 3,077,170		
144 : 3,082,107				134 : 3,085,528		
145 : 3,109,743				135 : 3,078,818		
146 : 3,082,108				136 : 3,085,529		
147 : 3,108,890				137 : 3,090,336		
148 : 3,075,850				138 : 3,092,056		
149 : 3,091,541				139 : 3,093,103		
150 : 3,100,716				140 : 3,106,177		
151 : 3,113,880				141 : 3,114,341		
152 : 3,091,542				142 : 3,081,725		
153 : 3,077,416				143 : 3,082,725		
154 : 3,082,109				144 : 3,113,540		
155 : 3,082,110				145 : 3,071,093		
156 : 3,100,717				146 : 3,080,839		
157 : 3,111,417				147 : 3,108,558		
158 : 3,081,183				148 : 3,072,085		
159 : 3,099,744				149 : 3,075,485		
160 : 3,088,836				150 : 3,094,091		
161 : 3,084,057				151 : 3,094,956		
162 : 3,097,102				152 : 3,095,843		
163 : 3,071,485				153 : 3,103,193		
164 : 3,081,184				154 : 3,115,857		
165 : 3,083,112				155 : 3,115,858		
166 : 3,108,891				156 : 3,085,530		
167 : 3,081,185				157 : 3,102,502		
168 : 3,085,889				158 : 3,101,065		
169 : 3,081,186				159 : 3,111,100		
170 : 3,096,189				160 : 3,080,840		
171 : 3,102,822				161 : 3,085,531		
172 : 3,085,890				162 : 3,103,194		
173 : 3,083,113				163 : 3,072,086		
174 : 3,088,837				164 : 3,097,620		
175 : 3,095,314				165 : 3,098,461		
176 : 3,081,187				166 : 3,109,400		
177 : 3,092,506				167 : 3,114,342		
178 : 3,102,400				168 : 3,104,640		
179 : 3,105,767				169 : 3,092,057		
180 : 3,083,114				170 : 3,085,532		
181 : 3,074,807				171 : 3,089,449		
182 : 3,085,891				172 : 3,101,689		
183 : 3,093,500				173 : 3,108,559		
184 : 3,094,427				174 : 3,112,722		
185 : 3,096,190				175 : 3,108,560		
186 : 3,114,649				176 : 3,112,723		
187 : 3,096,191				177 : 3,086,488		
188 : 3,110,604				178 : 3,103,906		
189 : 3,080,245				179 : 3,073,268		
190 : 3,085,892				180 : 3,079,883		
191 : 3,091,543				181 : 3,114,340		
192 : 3,073,710				182 : 3,077,169		
193 : 3,096,192				183 : 3,103,190		
194 : 3,110,605				184 : 3,077,846		
195 : 3,102,041				185 : 3,092,055		
196 : 3,080,246				186 : 3,085,527		
197 : 3,097,957				187 : 3,107,639		
198 : 3,080,247				188 : 3,074,367		
199 : 3,082,111				189 : 3,083,659		
200 : 3,075,851				190 : 3,097,619		
201 : 3,082,112				191 : 3,087,447		
202 : 3,082,113				192 : 3,090,335		
203 : 3,084,058				193 : 3,081,721		
204 : 3,087,826				194 : 3,089,447		
205 : 3,088,838				195 : 3,094,089		
206 : 3,088,839				196 : 3,093,101		
207 : 3,096,193				197 : 3,083,660		
208 : 3,100,157				198 : 3,103,191		
209 : 3,106,478				199 : 3,083,661		
210 : 3,113,881				200 : 3,103,192		
211 : 3,081,188				201 : 3,081,722		
212 : 3,081,189				202 : 3,084,647		
213 : 3,084,059				203 : 3,087,448		
214 : 3,085,023				204 : 3,087,449		



## Class 114—Con.

72	: 3,087,453	230	: 3,108,563	30	: 3,089,456	173	: 3,106,187	36.4	: 3,087,832	65.2	: 3,091,547	107	: 3,097,962
	: 3,111,104	235	: 3,071,099	31	: 3,072,091		: 3,107,648		: 3,104,980	66	: 3,089,783		: 3,079,276
74	: 3,071,094		: 3,081,732		: 3,088,431				: 3,079,270		: 3,090,700		: 3,092,511
	: 3,072,087		: 3,081,733		: 3,103,909				: 3,079,271	67	: 3,074,811		: 3,096,205
	: 3,072,088		: 3,082,731	34	: 3,093,108				: 3,090,697	68	: 3,081,193		: 3,108,013
	: 3,076,423		: 3,085,542		: 3,106,183				: 3,109,748		: 3,083,120	2	: 3,108,014
	: 3,082,726		: 3,085,543		: 3,111,930				: 3,074,809		: 3,085,027	111	: 3,084,069
	: 3,083,668		: 3,086,490	50	: 3,091,212				: 3,076,721		: 3,095,318	113	: 3,072,498
	: 3,083,669		: 3,086,491	57	: 3,074,372				: 3,080,254		: 3,115,420		: 3,081,194
	: 3,085,538		: 3,089,453	60	: 3,072,092				: 3,108,896		: 3,107,182		: 3,109,751
	: 3,083,669		: 3,092,067		: 3,083,681				: 3,111,423		: 3,096,202	114	: 3,082,119
	: 3,087,454		: 3,094,096		: 3,092,069				: 3,075,854	37	: 3,073,717		: 3,085,028
	: 3,092,063		: 3,098,463	63	: 3,077,852				: 3,076,722	70	: 3,087,834		: 3,115,421
	: 3,094,963		: 3,109,406		: 3,077,853				: 3,079,272		: 3,089,784	115	: 3,076,724
	: 3,113,544		: 3,110,331		: 3,085,546				: 3,096,198		: 3,091,548	118	: 3,083,123
	: 3,114,344		: 3,113,547		: 3,099,244				: 3,102,045		: 3,098,758		: 3,116,161
75	: 3,083,670	238	: 3,106,905		: 3,105,457				: 3,113,884		: 3,077,421	119.2	: 3,106,485
76	: 3,109,402		: 3,108,562		: 3,113,551				: 3,072,496		: 3,084,064		: 3,074,812
77	: 3,111,925	240	: 3,110,282		: 3,113,552				: 3,089,780		: 3,082,115		: 3,095,320
79	: 3,114,345				: 3,082,733				: 3,114,650		: 3,085,898		: 3,076,725
89	: 3,085,539				: 3,097,624				: 3,114,651		: 3,085,899		: 3,079,277
91	: 3,099,976				: 3,099,245				: 3,073,713		: 3,086,879		: 3,096,206
102	: 3,090,340				: 3,077,176				: 3,088,842		: 3,087,833		: 3,078,183
105	: 3,084,656				: 3,077,854				: 3,101,272		: 3,089,782		: 3,079,278
111	: 3,103,908				: 3,091,213				: 3,102,042		: 3,091,545		: 3,085,906
112	: 3,092,064				: 3,094,969				: 3,071,486		: 3,093,502		: 3,088,848
124	: 3,083,671				: 3,101,068				: 3,086,878		: 3,097,104		: 3,089,786
125	: 3,083,672				: 3,109,409				: 3,090,695		: 3,102,046		: 3,104,177
	: 3,083,673				: 3,087,456				: 3,092,080		: 3,107,773		: 3,106,160
	: 3,083,674				: 3,079,886				: 3,110,607		: 3,109,749		: 3,106,486
	: 3,094,094				: 3,092,070				: 3,113,883		: 3,111,420		: 3,081,195
	: 3,097,622				: 3,112,727				: 3,096,195		: 3,073,716		: 3,082,120
	: 3,103,198				: 3,114,347				: 3,080,249		: 3,074,810		: 3,085,907
	: 3,109,403				: 3,114,348				: 3,085,025		: 3,106,480		: 3,088,849
126	: 3,089,452				: 3,077,177				: 3,071,487		: 3,075,854		: 3,097,963
139	: 3,110,281				: 3,077,178				: 3,078,176		: 3,106,481		: 3,108,900
140	: 3,080,845				: 3,079,887				: 3,088,843		: 3,091,546		: 3,073,722
141	: 3,074,368				: 3,084,658				: 3,095,315		: 3,079,273		: 3,081,196
144	: 3,105,453				: 3,100,472				: 3,104,175		: 3,096,199		: 3,085,908
	: 3,111,105				: 3,101,069				: 3,108,893		: 3,101,274		: 3,088,849
145	: 3,076,424				: 3,102,508				: 3,110,608		: 3,102,047		: 3,090,703
150	: 3,073,275				: 3,104,644				: 3,073,714		: 3,104,981		: 3,110,616
152	: 3,082,727				: 3,104,645				: 3,089,781		: 3,113,885		: 3,109,752
162	: 3,085,540				: 3,105,458				: 3,083,116		: 3,072,497		: 3,072,499
163	: 3,101,693				: 3,106,184				: 3,076,720		: 3,075,855		: 3,107,175
166	: 3,082,728				: 3,113,553				: 3,109,746		: 3,075,856		: 3,074,813
	: 3,115,112				: 3,114,349				: 3,111,418		: 3,078,179		: 3,078,184
199	: 3,091,207				: 3,115,861				: 3,095,316		: 3,080,255		: 3,094,435
	: 3,106,904				: 3,115,862				: 3,080,250		: 3,083,118		: 3,097,108
201	: 3,074,369				: 3,088,432				: 3,080,251		: 3,088,844		: 3,101,277
	: 3,090,341				: 3,093,109				: 3,083,117		: 3,099,572		: 3,102,826
202	: 3,090,342				: 3,103,910				: 3,084,061		: 3,101,275		: 3,108,015
	: 3,092,065				: 3,107,645				: 3,094,429		: 3,108,010		: 3,074,814
	: 3,095,847				: 3,108,566				: 3,103,445		: 3,111,424		: 3,100,721
	: 3,104,643				: 3,102,506				: 3,105,770		: 3,113,886		: 3,082,121
	: 3,114,346				: 3,073,278				: 3,106,479		: 3,115,418		: 3,087,836
203	: 3,072,089				: 3,084,657				: 3,109,747		: 3,093,503		: 3,085,029
206	: 3,094,095				: 3,086,493				: 3,080,252		: 3,100,158		: 3,101,278
	: 3,111,926				: 3,090,348				: 3,074,808		: 3,110,610		: 3,107,279
208	: 3,071,095				: 3,085,499				: 3,108,895		: 3,115,419		: 3,108,016
	: 3,071,096				: 3,095,851				: 3,097,958		: 3,071,490		: 3,101,278
	: 3,082,729				: 3,105,459				: 3,078,177		: 3,071,491		: 3,108,017
	: 3,101,694				: 3,107,646				: 3,090,696		: 3,078,180		: 3,085,909
	: 3,111,106				: 3,109,410				: 3,102,043		: 3,082,116		: 3,108,910
	: 3,111,107				: 3,109,411				: 3,102,823		: 3,079,274		: 3,090,704
210	: 3,071,097				: 3,109,412				: 3,111,419		: 3,113,035		: 3,091,552
	: 3,074,370				: 3,107,105				: 3,112,211		: 3,112,213		: 3,091,553
	: 3,082,730				: 3,077,855				: 3,071,489		: 3,086,882		: 3,092,512
	: 3,083,675				: 3,084,660				: 3,097,959		: 3,096,200		: 3,085,909
	: 3,101,067				: 3,086,494				: 3,102,044		: 3,097,961		: 3,096,207
	: 3,106,180				: 3,091,214				: 3,112,212		: 3,101,276		: 3,096,208
	: 3,106,181				: 3,092,071				: 3,073,715		: 3,088,845		: 3,100,722
211	: 3,081,730				: 3,092,072				: 3,110,609		: 3,077,417		: 3,108,017
218	: 3,090,343				: 3,094,970				: 3,080,253		: 3,077,418		: 3,106,487
	: 3,093,106				: 3,094,971				: 3,093,501		: 3,077,419		: 3,108,017
	: 3,112,726				: 3,106,185				: 3,087,830		: 3,077,420		: 3,110,617
	: 3,113,545				: 3,106,186				: 3,096,196		: 3,094,431		: 3,116,162
	: 3,115,113				: 3,110,284				: 3,105,771		: 3,085,026		: 3,079,279
219	: 3,077,175				: 3,115,863				: 3,085,896		: 3,112,214		: 3,087,837
	: 3,079,884				: 3,073,281				: 3,098,755		: 3,102,048		: 3,079,280
	: 3,107,642				: 3,073,282				: 3,101,273		: 3,081,190		: 3,084,070
	: 3,109,404				: 3,104,646				: 3,104,176		: 3,085,900		: 3,086,887
	: 3,109,405				: 3,087,457				: 3,075,853		: 3,090,698		: 3,101,295
	: 3,113,546				: 3,108,567				: 3,082,114		: 3,100,159		: 3,103,448
220	: 3,106,182				: 3,115,115				: 3,084,062		: 3,112,215		: 3,093,504
221	: 3,071,098				: 3,073,283				: 3,095,317		: 3,106,482		: 3,085,911
	: 3,092,066				: 3,106,906				: 3,096,197		: 3,078,181		: 3,111,427
	: 3,098,462				: 3,073,284				: 3,097,103		: 3,090,699		: 3,116,163
	: 3,103,199				: 3,077,856				: 3,115,417		: 3,096,201		: 3,077,422
	: 3,111,927				: 3,094,098				: 3,078,178		: 3,099,573		: 3,078,185
222	: 3,085,541				: 3,102,509				: 3,085,897		: 3,106,483		: 3,080,259
	: 3,088,429				: 3,103,911				: 3,084,063		: 3,108,011		: 3,074,815
227	: 3,094,964				: 3,105,460				: 3,087,831		: 3,110,611		: 3,077,423
230	: 3,073,272				: 3,107,647				: 3,094,430		: 3,116,160		: 3,084,071
	: 3,074,371				: 3,111,931				: 3,098,756		: 3,094,432		: 3,095,323
	: 3,081,731				: 3,090,349				: 3,098,757		: 3,081,191		: 3,098,760
	: 3,083,676				: 3,102,094				: 3,105,772		: 3,081,192		: 3,103,449
	: 3,090,344				: 3,089,458				: 3,099,571		: 3,086,883		: 3,091,554
	: 3,095,848				: 3,094,972				: 3,102,824		: 3,097,106		: 3,082,122
	: 3,101,695				: 3,102,510				: 3,111,421		: 3,110,612		: 3,085,903
	: 3,103,200				: 3,081,734				: 3,1				



148	: 3,077,424	232	: 3,093,511	408	: 3,108,024	48	: 3,109,413	17	: 3,072,102	38	: 3,082,743	34	: 3,114,353
	: 3,104,984		: 3,105,775		: 3,112,227	49	: 3,104,647	18	: 3,097,628		: 3,083,693	37	: 3,105,465
152	: 3,080,260		: 3,110,623	410	: 3,078,824	51	: 3,076,433		: 3,106,908		: 3,083,694	95	: 3,115,121
154	: 3,082,123		: 3,112,223		: 3,083,685		: 3,083,687		: 3,111,116		: 3,084,675	156	: 3,091,225
	: 3,090,705				: 3,088,434		: 3,086,499		: 3,115,118		: 3,084,676	225	: 3,081,747
155	: 3,076,726	<b>Class 118</b>		413	: 3,102,829		: 3,089,461	19	: 3,088,439		: 3,085,556		: 3,104,654
	: 3,081,198	1	: 3,088,433		: 3,076,430		: 3,094,100	20	: 3,101,074		: 3,088,441	235	: 3,088,443
	: 3,083,119	2	: 3,071,106		: 3,078,825		: 3,104,649	22	: 3,076,437		: 3,088,442		: 3,097,631
	: 3,093,506		: 3,077,857	420	: 3,091,217		: 3,108,571		: 3,076,438		: 3,090,359		: 3,105,466
	: 3,097,964		: 3,078,821	425	: 3,110,627		: 3,114,350		: 3,094,102		: 3,090,360		: 3,106,193
156	: 3,081,199		: 3,078,827	500	: 3,113,041	11:	: 3,097,627	33	: 3,081,739		: 3,093,115		: 3,115,122
161	: 3,073,723		: 3,086,495	504	: 3,088,435	12:	: 3,112,731		: 3,087,462		: 3,093,116	236	: 3,107,656
	: 3,079,281		: 3,090,350	505	: 3,091,218	11:	: 3,113,556		: 3,089,464		: 3,093,117	240	: 3,089,467
	: 3,084,073		: 3,104,986		: 3,099,583	52	Re 25,336	38	: 3,099,251		: 3,093,118	356	: 3,105,467
	: 3,108,018		: 3,106,491	621	: 3,090,353		: 3,077,182	42:03	: 3,071,112	40	Re 25,334	379	: 3,095,862
	: 3,110,618	6	: 3,072,095	627	: 3,104,185		: 3,077,862	.03:	: 3,071,113		: 3,072,105	392	: 3,089,468
162	: 3,097,109		: 3,112,224		: 3,114,654		: 3,087,461	.03:	: 3,073,286		: 3,074,384		: 3,101,699
	: 3,097,110	7	: 3,077,858	637	: 3,079,890		: 3,089,462	.03:	: 3,075,496		: 3,072,105	406	: 3,081,748
	: 3,097,111		: 3,079,888		: 3,081,737		: 3,090,354	.03:	: 3,077,185	41	: 3,072,106	407	: 3,101,699
163	: 3,083,124		: 3,082,734		: 3,091,219		: 3,092,077	.06:	: 3,083,689		: 3,092,082		: 3,102,513
200	: 3,111,428		: 3,095,325		: 3,098,765		: 3,093,110	.03:	: 3,084,670		: 3,072,106	408	: 3,101,699
201	: 3,075,859		: 3,101,281		: 3,105,777		: 3,094,973	.03:	: 3,084,671		: 3,075,500		: 3,103,918
	: 3,078,186		: 3,111,429	638	: 3,113,042		: 3,101,070	.06:	: 3,090,357		: 3,075,501	448	: 3,081,750
	: 3,083,125	8	: 3,079,889		: 3,096,213		: 3,103,913	.03:	: 3,092,080		: 3,075,502		: 3,086,503
	: 3,091,555	9	: 3,110,624	<b>Class 119</b>			: 3,105,463	.06:	: 3,094,104		: 3,076,442	451	: 3,082,750
	: 3,093,507	11	: 3,075,493			1	: 3,108,572	.03:	: 3,095,859		: 3,078,828		: 3,086,504
	: 3,096,209		: 3,095,326				: 3,111,114	.06:	: 3,096,742		: 3,079,898		: 3,094,106
	: 3,097,112	19	: 3,097,967			1	: 3,076,431	.03:	: 3,101,075		: 3,079,899		: 3,105,468
	: 3,101,280		: 3,102,052				: 3,084,666	.03:	: 3,103,205		: 3,080,853	1	: 3,092,086
	: 3,108,019	31.5	: 3,083,682				: 3,085,550	.03:	: 3,112,734		: 3,081,744	456	: 3,088,444
	: 3,109,753	.5	: 3,089,459			53	: 3,074,376	.1	: 3,077,184		: 3,082,744	459	: 3,076,445
202	: 3,108,020	33	: 3,078,822				: 3,102,511	.1	: 3,079,894		: 3,082,745	477	: 3,103,207
204	: 3,084,074		: 3,082,735			54	: 3,074,377	.12:	: 3,079,895		: 3,083,695	478	: 3,072,109
	: 3,102,827	40	: 3,101,282			56	: 3,088,437	.16:	: 3,083,690		: 3,083,696		: 3,098,469
205	: 3,107,176	43	: 3,112,225				: 3,115,117	.16:	: 3,093,113		: 3,087,468		: 3,110,289
211	: 3,074,816	48	: 3,103,450				: 3,115,866	.16:	: 3,094,105		: 3,087,469		: 3,115,123
	: 3,075,860		: 3,114,653	2	: 3,086,497	57	: 3,085,552	.12:	: 3,107,654		: 3,087,470	479	: 3,095,863
	: 3,075,861	49	: 3,086,496	3	: 3,076,432		: 3,099,980	.2	: 3,085,554		: 3,087,471		: 3,095,864
	: 3,076,727		: 3,097,113			59	: 3,103,203	.4	: 3,074,380		: 3,092,083		: 3,096,743
	: 3,082,124		: 3,104,180			61	: 3,082,739	.4	: 3,075,497		: 3,093,121		: 3,096,744
	: 3,088,850	.5	: 3,075,494				: 3,099,981	.4	: 3,082,740	42	: 3,083,697		: 3,110,290
	: 3,093,508	.5	: 3,098,763	4	: 3,103,202	62	: 3,077,863	.4	: 3,094,103		: 3,092,084		: 3,110,291
	: 3,107,177	50	: 3,084,661			71	: 3,081,738	.4	: 3,099,252	45	: 3,075,503		: 3,111,936
	: 3,108,904		: 3,084,662				: 3,113,554	.4	: 3,100,477		: 3,077,864	480	: 3,102,514
212	: 3,071,495		: 3,104,987	5	: 3,091,220		: 3,090,355	.4	: 3,106,190	46	: 3,082,746		: 3,105,469
	: 3,072,500	52	: 3,105,776			72	: 3,093,111	.4	: 3,106,909		: 3,086,502	491	: 3,089,469
	: 3,079,282	55	: 3,098,764				: 3,113,555	.4	: 3,113,558	.4	: 3,072,107	498	: 3,077,866
	: 3,080,261	58	: 3,108,022	1.5	: 3,079,891		: 3,110,287	.4	: 3,115,868	48	: 3,072,108		: 3,081,751
	: 3,085,912	60	: 3,089,460	14.01	: 3,077,180	73	: 3,103,914	45.4	: 3,087,463		: 3,077,186		: 3,081,752
	: 3,085,913	62	: 3,106,492	.03:	: 3,077,860		: 3,106,189	.4	: 3,095,860		: 3,083,698		: 3,104,655
	: 3,086,888	66	: 3,080,846	.05:	: 3,092,073	74	: 3,086,500	46	: 3,087,464	50	: 3,078,829		: 3,112,736
	: 3,090,706	68	: 3,112,226	.08:	: 3,092,074	75	: 3,076,434		: 3,087,465	61	: 3,090,361	499	: 3,106,911
	: 3,099,575		: 3,116,166	.04:	: 3,095,854		: 3,095,856		: 3,089,465		: 3,092,085		: 3,112,737
	: 3,099,576	70	: 3,104,181	.04:	: 3,103,912	77	: 3,076,435	50	: 3,115,119	62	: 3,080,854	504	: 3,109,415
	: 3,108,021		: 3,111,430	.07:	: 3,111,112		: 3,112,733	89	: 3,114,352	63	: 3,090,362		
	: 3,113,039	101	: 3,095,327	.08:	: 3,115,116	78	: 3,101,071	93	: 3,083,691		: 3,091,222	<b>Class 123</b>	
213	: 3,115,423	105	: 3,111,431	.11:	: 3,100,475	79	: 3,079,892		: 3,097,629	68	: 3,081,745	1	: 3,074,386
	: 3,081,200	106	: 3,083,683	.17:	: 3,111,113	81	: 3,092,078	94	: 3,099,253		: 3,082,747		: 3,087,472
	: 3,087,838	109	: 3,085,547	.36:	: 3,071,108		: 3,108,573	95	: 3,092,081		: 3,083,699		: 3,087,472
	: 3,091,556	111	: 3,096,212	.46:	: 3,082,738	82	: 3,103,915		: 3,115,869	85	: 3,084,677		: 3,098,470
	: 3,093,509	118	: 3,084,665	.49:	: 3,099,246	95	: 3,090,356	96	: 3,090,358	121	: 3,075,504		: 3,102,515
	: 3,102,051	125	: 3,110,625	.46:	: 3,111,933	96	: 3,088,438		: 3,106,191		: 3,090,363		: 3,106,194
	: 3,108,905	126	: 3,080,847	.54:	: 3,072,096		: 3,104,650		: 3,106,910	123	: 3,082,748	7	: 3,071,120
	: 3,113,040		: 3,113,890	.54:	: 3,094,099	98	: 3,084,669		: 3,075,498	129	: 3,077,865	8	: 3,075,505
	: 3,115,424	204	: 3,104,182	.52:	: 3,096,740	99	: 3,099,249	102	: 3,113,559	147	: 3,074,385		: 3,077,867
215	: 3,081,201	211	: 3,107,181	15	: 3,092,075	100	: 3,085,553	108		157	: 3,071,118		: 3,081,753
	: 3,089,787	212	: 3,092,513		: 3,097,625	103	: 3,092,079	<b>Class 121</b>			: 3,093,122		: 3,096,745
	: 3,094,436	215	: 3,108,023		: 3,098,465		: 3,094,101	1	: 3,076,439	158	: 3,082,749		: 3,096,746
	: 3,095,324	223	: 3,090,351		: 3,107,649		: 3,103,204		: 3,076,440		: 3,090,364		: 3,096,747
	: 3,106,488	233	: 3,099,580	.5	: 3,099,247	106	: 3,072,098	1		164	: 3,079,900		: 3,097,632
	: 3,110,619	235	: 3,084,664	.6	: 3,080,850		: 3,096,741	7	: 3,074,381		: 3,081,746		: 3,102,516
216	: 3,074,817	236	: 3,081,735	17	: 3,077,181	109	: 3,095,857		: 3,082,741	<b>Class 122</b>			: 3,102,517
	: 3,081,202		: 3,104,183		: 3,086,498	111	: 3,074,378	10	: 3,078,827	1	: 3,103,917		: 3,102,518
	: 3,096,210	243	: 3,099,581		: 3,087,458	112	: 3,113,557		: 3,085,555		: 3,108,575		: 3,102,519
217	: 3,100,723	246	: 3,083,684		: 3,087,459	114	: 3,099,250	11	: 3,082,742	4	: 3,080,855		: 3,102,520
	: 3,106,489	249	: 3,080,848		: 3,107,650	121	: 3,100,476		: 3,083,692		: 3,101,697		: 3,108,578
	: 3,107,178	252	: 3,080,849	18	: 3,074,375	137	: 3,115,867	21	: 3,071,114	6	: 3,078,830	12	: 3,101,700
	: 3,109,754		: 3,107,182	19	: 3,084,667	143	: 3,083,688		: 3,081,740		: 3,108,576		: 3,106,912
	: 3,110,620	255	: 3,084,665		: 3,091,221		: 3,101,696		: 3,081,741	7	: 3,095,861	13	: 3,115,124
	: 3,112,221	258	: 3,109,755		: 3,099,978	151	: 3,095,858		: 3,081,742		: 3,106,192		: 3,071,121
	: 3,112,222	259	: 3,097,968		: 3,108,569	152	: 3,099,982		: 3,084,672		: 3,115,120		: 3,073,288
	: 3,113,889	268	: 3,082,736	20	: 3,077,861		: 3,072,099		: 3,086,501	17	: 3,089,466	16	: 3,074,387
	: 3,116,165		: 3,095,328		: 3,084,668		: 3,095,855		: 3,072,100		: 3,091,223		: 3,076,446
218	: 3,071,496		: 3,101,283		: 3,105,462	157	: 3,072,101	22	: 3,072,103	20	: 3,104,651		: 3,098,471
	: 3,110,621	301	: 3,102,053		: 3,106,188		: 3,074,379	28	: 3,084,673	24	: 3,091,224		: 3,101,076
221	: 3,088,851		: 3,107,183	21	: 3,075,495		: 3,076,436						



<b>Class 123—Con.</b>		103	: 3,072,110 : 3,072,111 : 3,081,757 : 3,092,090 : 3,103,210 : 3,104,657 119 Re. 25,492 : 3,072,112 : 3,073,293 : 3,074,390 : 3,076,447 : 3,077,871 : 3,078,833 : 3,087,480 : 3,088,447 : 3,089,474 41 : 3,088,445 08: 3,082,753 08: 3,090,365 08: 3,105,472 12: Re. 25,481 1 : 3,080,857 16: 3,081,754 12: 3,094,975 15: 3,096,748 31: 3,092,088 42: 3,115,125 52: 3,078,831 54: 3,083,701 69: 3,073,290 65: 3,078,832 69: 3,079,902 65: 3,091,226 61: 3,099,983 73: 3,074,389 77: 3,081,755 72: 3,105,473 77: 3,115,126 82: 3,077,187 8 : 3,086,505 85: 3,086,506 84: 3,087,473 86: 3,087,474 82: 3,115,127 42 : 3,090,366 43 : 3,075,506 44 : 3,077,870 46 : 3,077,188 : 3,081,756 : 3,082,754 : 3,106,913 51 : 3,071,122 : 3,084,678 54 : 3,114,355 55 : 3,088,446 : 3,095,865 : 3,111,947 56 : 3,073,291 : 3,075,507 59 : 3,105,474 : 3,109,416 65 : 3,077,189 : 3,103,209 : 3,113,561 73 : 3,083,702 : 3,104,656 : 3,107,659 : 3,114,356 76 : 3,092,089 79 : 3,071,123 : 3,097,633 90 : 3,073,292 : 3,079,903 : 3,082,755 : 3,086,507 : 3,087,475 : 3,087,476 : 3,087,477 : 3,087,478 : 3,087,479 : 3,089,472 : 3,089,473 : 3,090,367 : 3,090,368 : 3,091,227 : 3,094,107 : 3,096,749 : 3,096,750 : 3,098,472 : 3,098,473 : 3,101,077 : 3,105,475 : 3,106,195 : 3,108,580 : 3,109,417 : 3,109,418 : 3,111,118 : 3,111,119 : 3,112,739 : 3,112,740 : 3,115,128 102 : 3,080,858 : 3,099,254 103 : 3,071,124	188 : 3,102,524 : 3,106,199 : 3,110,298 : 3,114,361 191 : 3,094,977 196 : 3,095,866 : 3,115,874 197 : 3,092,092 198 : 3,101,702  <b>Class 124</b> 2 : 3,075,511 : 3,094,110 : 3,098,474 : 3,101,703 4 : 3,092,093 5 : 3,095,867 : 3,115,129 6 : 3,108,582 7 : 3,094,111 8 : 3,093,127 : 3,097,635 11 : 3,077,875 : 3,080,859 : 3,087,481 : 3,089,476 : 3,102,525 : 3,103,212 13 : 3,077,876 : 3,109,419 15 : 3,111,121 16 : 3,084,680 17 : 3,071,127 19 : 3,111,938 : 3,114,362 20 : 3,099,256 : 3,101,704 21 : 3,102,526 22 : 3,108,583 23 : 3,082,756 : 3,085,561 24 : 3,108,584 26 : 3,088,450 27 : 3,088,451 : 3,102,527 29 : 3,094,112 30 : 3,103,213 35 : 3,072,115 43 : 3,088,452  <b>Class 125</b> 3 : Re. 25,410 6 : 3,073,295 11 : 3,072,116 : 3,075,512 : 3,075,513 : 3,077,877 : 3,078,835 : 3,079,905 : 3,079,906 : 3,079,907 : 3,081,762 : 3,086,508 : 3,093,128 : 3,101,705 : 3,102,528 : 3,102,529 13 : 3,113,563 15 : 3,103,922 17 : 3,092,094 20 : 3,074,392 21 : 3,098,475 23 : 3,086,509 : 3,089,477 : 3,095,868 : 3,098,476 : 3,100,481 : 3,101,706 24 : 3,087,482 : 3,110,299 26 : 3,080,860 : 3,087,483 30 : 3,105,484 : 3,113,564 35 : 3,086,510 : 3,089,478  <b>Class 126</b> 9 : 3,105,483 : 3,109,420 21 : 3,074,393 : 3,081,763 : 3,089,478 : 3,090,371 25 : 3,079,909 : 3,082,757 : 3,085,562 : 3,090,372	25 : 3,095,869 : 3,101,080 30 : 3,094,113 38 : 3,080,861 39 : 3,078,836 : 3,096,753 41 : 3,090,373 : 3,098,477 : 3,114,363 42 : 3,084,681 59 : 3,107,662 5 : 3,105,484 62 : 3,080,862 65 : 3,093,129 85 : 3,083,703 : 3,094,978 : 3,107,663 : 3,111,122 90 : 3,099,257 : 3,109,421 91 : 3,079,910 : 3,113,565 92 : 3,087,484 93 : 3,099,258 : 3,106,914 96 : 3,085,563 99 : 3,102,530 104 : 3,111,939 109 : 3,110,300 110 : 3,073,296 : 3,078,837 : 3,078,838 : 3,082,758 : 3,090,374 : 3,092,095 : 3,094,979 : 3,105,485 : 3,109,422 : 3,115,130 113 : 3,073,297 : 3,087,485 : 3,092,096 : 3,102,531 : 3,104,660 116 : 3,076,449 : 3,084,682 : 3,103,923 : 3,103,924 : 3,106,200 : 3,111,940 120 : 3,096,754 121 : 3,085,564 : 3,094,980 135 : 3,082,759 137 : 3,111,123 179 : 3,078,839 190 : 3,091,232 : 3,099,259 191 : Re. 25,326 : 3,072,117 : 3,096,755 : 3,114,364 194 : 3,090,375 : 3,092,097 : 3,113,566 208 : 3,110,301 247 : 3,075,514 261 : 3,074,394 263 : 3,079,911 : 3,094,981 : 3,101,707 270 : 3,085,565 : 3,089,480 : 3,102,532 : 3,105,486 : 3,106,201 271 : 3,076,450 : 3,077,190 2 : 3,082,760 2 : 3,095,870 2 : 3,108,586 2 : 3,112,742 3 : 3,105,487 273 : 3,088,453 288 : 3,094,114 290 : 3,084,683 295 : 3,089,481 303 : 3,102,533 335 : 3,086,511 340 : 3,106,202 343.5 : 3,080,863 5 : 3,086,512 5 : 3,091,233 5 : 3,092,098 5 : 3,098,478 5 : 3,106,915 345 : 3,111,941 350 : 3,090,376 360 : 3,078,840 : 3,109,423 362 : 3,081,764 : 3,111,942 363 : 3,110,302	386 : 3,110,303 390 : 3,079,912 : 3,079,913  <b>Class 127</b> 19 : 3,114,655 30 : 3,085,914 32 : 3,103,451 33 : 3,078,187 : 3,097,969 38 : 3,073,724 : 3,087,839 : 3,114,656 43 : 3,100,725 46 : 3,073,725 : 3,074,819 : 3,074,820 : 3,090,707 : 3,097,114 : 3,108,907 48 : 3,097,970 : 3,113,043 : 3,113,044 50 : 3,089,789 : 3,098,766 : 3,113,045 55 : 3,078,188 : 3,095,329 63 : 3,074,821 : 3,098,767 67 : 3,072,501 : 3,079,283 69 : 3,086,890 : 3,101,284 : 3,102,054 : 3,105,778  <b>Class 128</b> 1 : 3,071,128 : 3,076,451 : 3,083,704 : 3,084,684 : 3,089,482 : 3,099,260 : 3,099,261 : 3,101,081 : 3,106,203 : 3,111,943 2 : 3,074,395 : 3,074,396 : 3,081,765 : 3,088,454 : 3,095,871 : 3,097,636 : 3,097,637 : 3,115,131 05: 3,075,515 05: 3,076,452 05: 3,078,841 08: 3,081,766 07: 3,082,761 05: 3,083,705 05: 3,085,567 05: 3,086,513 05: 3,086,514 08: 3,086,515 08: 3,087,488 05: 3,090,377 05: 3,095,872 05: 3,095,873 07: 3,097,638 08: 3,097,639 05: 3,099,262 05: 3,101,082 05: 3,102,534 05: 3,103,214 05: 3,104,661 05: 3,107,664 1 : 3,083,706 1 : 3,085,566 1 : 3,087,486 1 : 3,087,487 1 : 3,089,483 1 : 3,091,234 1 : 3,094,115 4 : 3,090,378 6 : 3,117,129 : 3,075,516 : 3,081,767 : 3,089,484 : 3,090,379 : 3,091,235 : 3,096,756 : 3,100,482 9 : 3,110,304 10 : 3,082,762 17 : 3,110,305 23 : 3,086,516 24 : 3,094,116 : 3,102,535 1 : 3,075,517	25 : 3,071,130 : 3,075,518 : 3,079,914 : 3,100,483 28 : 3,094,117 29 : 3,071,131 : 3,073,298 : 3,077,191 : 3,079,915 : 3,079,916 : 3,080,864 : 3,083,707 : 3,088,455 : 3,088,456 : 3,089,485 : 3,090,380 : 3,091,236 : 3,099,985 : 3,101,708 : 3,105,488 : 3,106,204 : 3,106,916 : 3,114,365 30 : 3,078,842 32 : 3,094,982 33 : 3,071,132 : 3,077,865 : 3,085,568 : 3,088,457 : 3,092,099 : 3,092,100 : 3,113,567 36 : 3,096,757 39 : 3,083,708 : 3,094,118 40 : 3,094,983 41 : 3,094,119 : 3,096,758 : 3,103,925 49 : 3,075,519 52 : 3,078,843 : 3,104,662 57 : 3,077,878 : 3,081,768 : 3,083,709 : 3,088,458 : 3,095,874 60 : 3,091,237 : 3,107,665 65 : 3,081,769 66 : 3,075,520 : 3,086,517 : 3,088,459 : 3,092,101 : 3,099,986 69 : 3,111,944 70 : 3,092,102 75 : 3,075,521 : 3,086,518 : 3,103,215 : 3,105,489 : 3,108,587 : 3,114,366 76 : 3,108,588 5 : 3,074,397 5 : 3,082,763 78 : 3,071,133 : 3,094,984 : 3,095,875 : 3,097,640 80 : 3,084,685 : 3,086,520 : 3,086,521 : 3,086,522 : 3,093,130 : 3,109,424 81 : 3,094,985 : 3,110,306 83 : 3,114,367 84 : 3,087,489 : 3,088,460 : 3,090,381 : 3,094,986 85 : 3,093,131 87 : 3,072,118 : 3,074,398 : 3,075,522 : 3,114,368 89 : 3,110,307 90 : 3,089,486 91 : 3,085,569 92 : 3,076,453 : 3,094,120 : 3,102,536 : 3,103,926 : 3,112,746 : 3,107,666 : 3,111,945 : 3,112,743 94 : 3,073,299 : 3,096,759 : 3,103,216 : 3,108,589	95 : 3,091,238 : 3,096,760 96 : 3,097,641 98 : 3,080,865 99 : 3,078,844 : 3,077,879 132 : 3,074,399 : 3,085,570 : 3,092,103 133 : 3,082,764 : 3,084,686 : 3,115,132 134 : 3,093,132 : 3,098,479 : 3,100,484 136 : 3,073,300 : 3,082,765 : 3,089,487 : 3,096,761 : 3,103,217 : 3,107,667 : 3,112,744 141 : 3,077,880 : 3,078,845 : 3,109,425 142 : 3,071,134 : 3,073,301 : 3,076,454 : 3,078,846 : 3,085,571 : 3,092,104 : 3,099,987 : 3,100,485 : 3,102,537 : 3,106,205 : 3,107,669 : 3,111,946 : 3,112,745 144 : 3,077,881 : 3,082,766 145 : 3,084,687 : 3,081,768 : 3,083,709 : 3,088,458 : 3,095,874 : 3,092,105 : 3,095,876 : 3,097,642 : 3,101,709 151 : 3,102,538 152 : 3,097,643 153 : 3,086,523 : 3,088,461 156 : 3,073,303 : 3,073,304 : 3,077,882 : 3,085,572 : 3,089,488 : 3,113,568 157 : 3,097,644 159 : 3,083,710 165 : 3,074,400 166 : 3,073,305 171 : 3,103,218 172 : 3,082,768 : 3,086,524 173 : 3,107,670 : 3,108,590 : 3,115,133 184 : 3,099,263 188 : 3,106,917 190 : 3,096,762 191 : 3,075,523 : 3,090,382 : 3,111,947 192 : 3,115,134 194 : 3,097,645 203 : 3,106,918 214 : 3,074,401 : 3,074,402 : 3,075,524 : 3,078,847 : 3,087,490 : 3,091,239 : 3,092,106 : 3,097,646 : 3,098,480 : 3,100,486 : 3,101,083 : 3,101,710 : 3,103,928 : 3,105,490 : 3,110,308 : 3,112,746 215 : 3,072,120 : 3,073,306 : 3,089,481 : 3,099,264 : 3,089,489 216 : 3,090,383
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216	: 3.092.107 : 3.093.133 : 3.094.987 : 3.094.988 : 3.114.369 : 3.072.121 : 3.075.525 : 3.076.455 : 3.080.866 : 3.084.688 : 3.089.490 : 3.089.491 : 3.091.240 : 3.092.108 : 3.094.121 : 3.094.989 : 3.101.084 : 3.101.711 : 3.101.712 : 3.102.539 : 3.108.591 : 3.108.592 : 3.110.309 : 3.110.310 : 3.112.747 : 3.114.370 : 3.115.135 : 3.115.136 : 3.115.137 : 3.115.875 : 3.098.482 : 3.098.483 : 3.071.135 : 3.073.307 : 3.076.457 : 3.081.770 : 3.082.769 : 3.090.384 : 3.093.134 : 3.094.122 : 3.096.763 : 3.097.647 : 3.099.988 : 3.104.663 : 3.110.311 : 3.075.526 : 3.100.487 : 3.104.664 : 3.107.671 : 3.071.136 : 3.086.525 : 3.102.540 : 3.085.573 : 3.109.426 : 3.096.764 : 3.078.848 : 3.082.770 : 3.113.569 : 3.072.122 : 3.074.403 : 3.075.527 : 3.086.526 : 3.095.877 : 3.079.918 : 3.109.427 : 3.085.574 : 3.086.527 : 3.090.385 : 3.101.713 : 3.103.929 : 3.115.876 : 3.089.492 : 3.084.689 : 3.091.241 : 3.104.665 : 3.114.371 : 3.075.528 : 3.079.919 : 3.079.920 : 3.087.491 : 3.084.690 : 3.071.137 : 3.086.528 : 3.106.206 : 3.084.691 : 3.115.138 : 3.074.404 : 3.076.458 : 3.075.192 : 3.081.771 : 3.089.493 : 3.100.488 : 3.072.123 : 3.072.124 : 3.077.193 : 3.089.494 : 3.109.428 : 3.113.570 : 3.079.921 : 3.101.714 : 3.102.541 : 3.103.930	287 : 3.073.308 : 3.110.772 : 3.096.765 : 3.110.312 : 3.092.109 : 3.094.990 : 3.096.766 : 3.071.138 : 3.073.309 : 3.076.459 : 3.076.460 : 3.078.849 : 3.084.692 : 3.085.575 : 3.088.462 : 3.088.463 : 3.088.464 : 3.095.878 : 3.097.648 : 3.105.491 : 3.106.207 : 3.111.948 : 3.115.877 : 3.079.922 : 3.095.879 : 3.098.484 : 3.074.405 : 3.092.110 : 3.072.125 : 3.077.883 : 3.074.406 : 3.089.495 : 3.097.649 : 3.073.310 : 3.074.077 : 3.081.773 : 3.089.496 : 3.093.135 : 3.100.489 : 3.072.126 : 3.076.461 : 3.104.666 : 3.101.715 : 3.088.465 : 3.083.711 : 3.101.085 : 3.086.529 : 3.074.408 : 3.108.593 : 3.108.594 : 3.086.530 : 3.090.386 : 3.105.492 : 3.086.531 : 3.105.493 : 3.114.372 : 3.074.409 : 3.094.123 : 3.073.311 : 3.077.194 : 3.080.867 : 3.106.919 : 3.111.124 : 3.094.124 : 3.084.693 : 3.071.139 : 3.087.492 : 3.100.490 : 3.108.595 : 3.109.429 : 3.111.125 : 3.112.748 : 3.114.373 : 3.087.493 : 3.088.466 : 3.113.571 : 3.115.139 : 3.092.111 : 3.112.749 : 3.085.576 : 3.101.716 : 3.096.767 : 3.084.694 : 3.103.219 : 3.108.596 : 3.074.410 : 3.091.242 : 3.097.650 : 3.075.529 : 3.092.112 : 3.077.195 : 3.107.672 : 3.115.140 : 3.085.577 : 3.095.880 : 3.078.850 : 3.096.768 : 3.108.597 : 3.109.430 : 3.077.884 : 3.083.712 : 3.093.136	443 : 3.093.137 : 3.110.313 : 3.093.138 : 3.099.265 : 3.098.485 : 3.087.494 : 3.077.196 : 3.101.717 : 3.093.139 : 3.114.374 : 3.109.431 : 3.075.530 : 3.077.197 : 3.094.125 : 3.115.141 : 3.077.198 : 3.094.991 : 3.075.531 : 3.082.771 : 3.090.387 : 3.076.463 : 3.078.851 : 3.071.140 : 3.077.885 : 3.112.750 : 3.115.878 : 3.078.852 : 3.108.598 : 3.101.718 : 3.075.532 : 3.076.464 : 3.098.486 : 3.112.751 : 3.097.651 : 3.108.599 : 3.087.495 : 3.113.572 : 3.094.126 : 3.080.868 : 3.099.266 : 3.115.879 : 3.080.869 : 3.073.312 : 3.094.992 : 3.096.769 : 3.108.600 : 3.095.881 : 3.092.113 : 3.115.880 : 3.087.496 : 3.103.931 : 3.086.532 : 3.085.578 : 3.077.886 : 3.081.774 : 3.084.695 : 3.099.267	5 : 3.098.491 : 3.100.491 : 3.101.720 : 3.110.314 : 3.112.752 : 3.113.574 : 3.093.141 : 3.109.433 : 3.109.434 : 3.079.924 : 3.092.115 : 3.092.116 : 3.101.721 : 3.103.932 : 3.105.496 : 3.106.921 : 3.115.142 : 3.073.316 : 3.079.925 : 3.082.772 : 3.084.696 : 3.087.499 : 3.112.753	Class 131 2 : 3.100.492 : 3.106.209 : 3.112.754 4 : 3.081.776 : 3.091.243 : 3.102.543 7 : 3.080.870 : 3.109.435 : 3.111.950 8 : 3.112.755 9 : 3.079.926 10 : 3.081.777 : 3.087.500 : 3.093.142 : 3.103.220 : 3.103.221 : 3.110.315 : 3.113.575 11 : Re.25.355 17 : 3.076.728 : 3.076.729 : 3.082.125 : 3.095.882 : 3.097.653 : 3.106.210 : 3.106.211 : 3.106.212 : 3.109.436 : 3.111.127 : 3.111.951 : 3.115.882 20 : 3.088.467 21 : Re.25.476 : 3.089.497 : 3.094.127 : 3.096.770 : 3.113.576 35 : 3.105.497 36 : 3.096.771 56 : 3.108.601 64 : 3.084.697 66 : 3.088.468 : 3.096.772 : 3.105.498 84 : 3.074.413 : 3.074.414 : 3.091.244 : 3.095.883 88 : 3.095.884 : 3.097.654 94 : 3.077.889 : 3.080.871 : 3.081.778 : 3.091.245 : 3.093.143 : 3.094.128 : 3.099.989 96 : 3.103.222 110 : 3.092.117 133 : 3.105.499 136 : 3.101.722 140 : 3.092.119 : 3.081.779 : 3.085.580 : 3.086.533 : 3.098.492 : 3.110.326 : 3.115.883 143 : 3.096.773 144 : 3.085.581 145 : 3.074.415 170 : 3.080.872 174 : 3.073.317 175 : 3.100.493 176 : 3.106.922 186 : 3.104.668 194 : 3.079.927	194 : 3.084.698 195 : 3.091.246 201 : 3.079.928 203 : 3.098.493 207 : 3.097.655 : 3.115.884 208 : 3.079.929 : 3.079.930 : 3.093.144 : 3.101.723 : 3.105.500 209 : 3.089.498 225 : 3.079.931 232 : 3.112.756 235 : 3.093.145 : 3.094.993 237 : 3.108.602 : 3.113.577 238 : 3.094.129 240 : 3.099.270 246 : 3.079.932 : 3.110.316 256 : 3.078.854 : 3.107.674 : 3.111.128 259 : 3.071.141	Class 132 1 : 3.097.656 5 : 3.077.891 : 3.081.780 7 : 3.086.534 : 3.093.146 9 : 3.088.466 : 3.101.724 : 3.103.933 : 3.105.501 : 3.109.437 31 : 3.109.438 33 : 3.083.715 : 3.103.934 : 3.107.675 34 : 3.094.994 : 3.108.603 37 : 3.106.923 39 : 3.097.657 : 3.099.990 : 3.108.604 40 : 3.074.416 : 3.092.118 : 3.105.502 : 3.105.503 : 3.106.213 41 : 3.073.318 : 3.086.535 : 3.090.389 : 3.091.247 : 3.101.725 : 3.102.527 42 : 3.079.933 : 3.080.873 : 3.101.726 43 : 3.078.855 : 3.087.501 : 3.087.502 : 3.087.503 45 : 3.115.143 46 : 3.081.781 : 3.084.699 : 3.099.271 48 : 3.071.142 : 3.072.127 : 3.082.773 : 3.106.214 : 3.111.129 : 3.111.130 49 : 3.104.995 50 : 3.076.465 73 : 3.073.319 : 3.077.892 6 : 3.081.782 75.5 : 3.093.147 79 : 3.073.320 : 3.088.470 : 3.092.119 : 3.099.272 82 : 3.103.224 84 : 3.081.783 : 3.094.130 : 3.099.273 : 3.103.935 88.7 : 3.071.143 92 : 3.094.996 : 3.106.216 93 : 3.078.856 : 3.101.727 103 : 3.091.248 114 : 3.101.086 119 : 3.077.199 136 : 3.088.471	Class 133 1 : 3.076.466 4 : 3.099.274 5 : 3.077.893 : 3.106.924 6 : 3.100.494 8 : 3.079.934 : 3.086.536 : 3.090.390 : 3.093.148 Class 134 1 : 3.071.497 : 3.087.840 : 3.089.790 : 3.091.557 : 3.092.514 : 3.099.584 : 3.105.779 : 3.108.025 3 : 3.072.502 : 3.073.726 : 3.080.262 4 : 3.079.284 : 3.080.263 5 : 3.102.055 6 : 3.099.585 : 3.115.425 7 : 3.071.498 : 3.074.822 : 3.100.726 8 : 3.072.503 : 3.084.075 : 3.104.989 9 : 3.102.056 10 : 3.078.190 : 3.079.285 : 3.086.891 12 : 3.079.286 13 : 3.100.727 15 : 3.090.708 : 3.091.558 : 3.096.214 : 3.097.971 16 : 3.094.437 17 : 3.104.186 18 : 3.074.823 21 : 3.089.791 : 3.073.727 : 3.089.792 : 3.104.187 22 : 3.080.264 : 3.084.076 : 3.085.915 : 3.085.916 23 : 3.102.057 24 : 3.080.265 : 3.113.046 25 : Re.25.486 : 3.076.730 : 3.083.126 : 3.092.515 26 : 3.071.499 : 3.078.189 27 : 3.085.917 : 3.087.841 28 : 3.074.824 : 3.081.203 : 3.097.972 : 3.114.657 30 : 3.085.918 : 3.115.426 37 : 3.084.077 38 : 3.106.929 41 : 3.074.825 44 : 3.108.605 45 : 3.079.935 : 3.102.545 46 : 3.071.144 : 3.078.857 : 3.083.716 : 3.094.997 : 3.099.275 47 : 3.092.120 : 3.106.925 48 : 3.076.467 56 : 3.094.998 : 3.106.926 57 : 3.072.128 : 3.072.129 : 3.073.321 : 3.078.858 : 3.083.717 : 3.085.582 : 3.087.504 : 3.088.472 : 3.104.669 : 3.105.504	57 : 3.108.606 58 : 3.073.322 : 3.088.473 : 3.092.121 : 3.092.122 : 3.095.885 : 3.103.225 : 3.106.217 : 3.107.676 : 3.115.144 60 : Re.25.421 61 : 3.086.537 : 3.090.390 : 3.082.774 66 : 3.078.859 69 : 3.074.068 : 3.078.860 70 : 3.073.323 : 3.098.494 72 : 3.103.936 73 : 3.079.936 74 : 3.104.670 : 3.099.439 76 : 3.074.417 : 3.074.418 : 3.106.927 77 : 3.073.324 : 3.098.495 79 : 3.096.775 : 3.106.928 81 : 3.097.658 93 : 3.092.124 94 : 3.103.226 95 : 3.115.145 96 : 3.078.861 98 : 3.094.131 99 : 3.072.130 : 3.101.728 : 3.103.227 102 : 3.076.468 104 : 3.090.391 105 : 3.087.505 : 3.111.952 107 : 3.099.276 : 3.111.953 109 : 3.085.583 111 : 3.082.775 : 3.083.718 : 3.086.538 : 3.103.937 : 3.103.938 113 : 3.088.474 115 : 3.080.874 : 3.084.701 122 : 3.071.145 123 : 3.072.131 : 3.096.775 125 : 3.090.392 : 3.092.125 127 : 3.071.677 129 : 3.111.131 130 : 3.075.533 132 : 3.094.999 134 : 3.103.939 137 : 3.072.132 : 3.085.584 : 3.115.146 138 : 3.075.534 : 3.114.375 140 : 3.103.940 141 : 3.089.499 143 : 3.099.991 : 3.101.087 144 : 3.084.702 145 : 3.101.729 : 3.113.579 148 : 3.073.325 : 3.086.539 149 : 3.093.149 151 : 3.101.088 152 : 3.082.776 156 : 3.089.500 157 : 3.083.719 158 : 3.082.777 164 : 3.095.000 166 : 3.079.937 : 3.082.778 : 3.098.496 : 3.099.277 167 : 3.075.535 : 3.086.540 : 3.095.001 : 3.101.730 168 : 3.104.672 : 3.104.672 : 3.081.785 : 3.085.585 : 3.090.393 : 3.111.954 174 : 3.082.779 : 3.096.776 : 3.110.317 176 : 3.077.200
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## Class 134—Con.

176 : 3,115,885  
182 : 3,099,992  
183 : 3,072,133  
186 : 3,101,089  
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198 : 3,108,608  
199 : 3,081,784

## Class 135

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4 : 3,082,780  
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5 : 3,075,536  
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3,095,886  
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3,102,547  
6 : 3,106,218  
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16 : 3,091,249  
22 : 3,073,327  
3,074,419  
50 : 3,074,420

## Class 136

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3,110,629  
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3,116,169  
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27 : 3,084,207  
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36 : 3,071,637  
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Class 137  
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5 : 3,086,551  
515.5 : 3,097,666  
516.15 : 3,073,339  
11 : 3,109,451  
29 : 3,071,153

516.29 : 3,075,547  
29 : 3,091,254  
25 : 3,095,900  
519.5 : 3,113,587  
521 : 3,084,711  
522 : 3,082,788  
3,095,901  
523 : 3,078,869  
525 : 3,077,204  
3,077,205  
3,079,946  
1 : 3,072,145  
3 : 3,085,591  
3 : 3,099,288  
3 : 3,099,998  
3 : 3,115,893  
527.8 : 3,074,429  
529 : 3,101,739  
533.11 : 3,105,516  
29 : 3,092,139  
534 : 3,078,870  
540 : 3,105,517  
543.23 : 3,099,999  
545 : 3,079,947  
546 : 3,078,871  
552 : 3,072,146  
554 : 3,095,902  
556 : 3,085,592  
557 : 3,103,952  
561 : 3,115,157  
563 : 3,089,514  
3,110,320  
564.5 : 3,084,712  
3,094,142  
5 : 3,109,452  
565 : 3,073,340  
3,101,739  
567 : 3,100,506  
3,115,158  
568 : 3,079,948  
569 : 3,075,548  
3,096,785  
571 : 3,100,000  
576 : 3,115,894  
583 : 3,084,713  
3,114,389  
588 : 3,094,143  
3,100,507  
589 : 3,084,714  
590 : 3,109,453  
592 : 3,077,206  
594 : 3,092,140  
3,101,095  
595 : 3,074,430  
3,115,895  
596 : 3,099,289  
3,101,740  
14 : 3,094,146  
1 : 3,100,001  
16 : 3,108,612  
15 : 3,110,321  
13 : 3,113,580  
2 : 3,096,786  
597 : 3,072,147  
3,075,549  
3,080,886  
3,098,503  
3,114,390  
598 : 3,106,221  
599 : 3,075,550  
1 : 3,079,949  
1 : 3,083,728  
1 : 3,107,689  
1 : 3,109,454  
2 : 3,114,391  
601 : 3,084,715  
3,095,010  
3,107,690  
604 : 3,077,900  
605 : 3,078,872  
3,093,157  
606 : 3,079,950  
3,115,159  
607 : 3,082,789  
3,099,290  
608 : 3,071,154  
3,092,141  
3,111,139  
609 : 3,073,341  
3,075,551  
3,074,428  
3,084,710  
3,086,550  
3,092,138  
3,098,502  
3,106,220  
3,109,450  
3,072,144  
5 : 3,086,551  
515.5 : 3,097,666  
516.15 : 3,073,339  
11 : 3,109,451  
29 : 3,071,153  
11 : 3,092,142



614.19: 3,107,691	628 : 3,074,434	118 : 3,111,964	126 : 3,083,738	106 : 3,094,151	360 : 3,109,463	208 : 3,082,801	
.11: 3,113,589	: 3,087,511	119 : 3,090,400	: 3,111,144	109 : 3,077,907	361 : 3,074,445	: 3,086,569	
.2 : 3,094,145	: 3,096,790	120 : 3,071,161	: 3,111,966	115 : 3,082,798	: 3,107,705	: 3,088,504	
615 : 3,073,343	: 3,098,507	121 : 3,082,795	127 : 3,081,798	118 : 3,091,264	362 : 3,084,722	: 3,093,170	
: 3,085,593	: 3,101,096	122 : 3,080,891	: 3,095,910	119 : 3,092,152	366 : 3,097,674	: 3,096,799	
: 3,086,552	: 3,108,616	: 3,083,736	: 3,110,325	123.5 : 3,104,686	383 : 3,091,265	: 3,097,676	
: 3,114,392	630.15: 3,078,875	: 3,091,261	128 : 3,100,003	124 : 3,077,211	387 : 3,093,167	: 3,098,512	
: 3,075,552	.15: 3,102,555	: 3,094,147	144 : 3,114,396	: 3,095,912	: 3,096,797	: 3,098,513	
: 3,075,553	.22: 3,111,141	: 3,115,898	145 : 3,109,462	: 3,095,913	392 : 3,113,599	: 3,100,514	
: 3,081,793	636.1 : 3,073,347	124 : 3,111,143	147 : 3,083,739	: 3,096,796	<b>Class 142</b>		
: 3,083,729	.1 : 3,107,695	125 : 3,106,940	161 : 3,114,397	: 3,108,620	17 : 3,086,566	209 : 3,073,363	
: 3,083,730	.3 : Re 25,494	: 3,115,164	165 : 3,077,210	147 : 3,075,562	53 : 3,078,884	: 3,078,887	
: 3,089,516	637 : 3,088,490	128 : 3,080,892	: 3,094,148	: 3,079,958	<b>Class 143</b>		
: 3,091,255	.3 : 3,086,554	: 3,088,495	185 : 3,096,794	: 3,083,743	6 : 3,073,360	216 : 3,073,364	
621 : 3,077,901	.4 : 3,098,508	: 3,104,682	188 : 3,075,560	: 3,106,945	17 : 3,092,154	267 : 3,104,690	
: 3,088,488	778 : 3,089,518	: 3,106,941	: 3,081,799	: 3,107,701	18 : 3,104,687	281 : 3,098,514	
622 : 3,072,148	: 3,089,519	129 : 3,112,771	: 3,103,954	: 3,114,400	8 : 3,079,961	288 : 3,080,899	
: 3,075,554	: 3,090,401	130 : 3,107,698	: 3,114,398	<b>Class 141</b>	17 : 3,111,146	310 : 3,093,171	
: 3,076,476	779 : 3,085,595	131 : 3,073,351	190 : 3,097,669	1 : 3,087,517	19 : 3,072,158	311 : 3,101,757	
: 3,076,477	784 : 3,080,890	: 3,085,596	: 3,110,327	3 : 3,103,956	22 : 3,073,361	312 : 3,089,524	
: 3,077,207	: 3,084,716	: 3,086,556	191 : 3,115,903	8 : 3,081,801	24 : 3,084,723	314 : 3,102,564	
: 3,078,873	785 : 3,073,348	: 3,107,697	192 : 3,107,699	10 : 3,106,230	32 : 3,092,156	316 : 3,074,448	
: 3,080,887	786 : 3,074,435	132 : 3,109,460	195 : 3,079,955	11 : 3,111,967	36 : 3,085,602	318 : 3,077,908	
: 3,081,794	788 : 3,072,150	133 : 3,086,557	196 : 3,089,522	12 : 3,103,957	37 : 3,093,168	320 : 3,090,411	
: 3,083,731	: 3,078,876	137 : 3,109,461	198 : 3,082,796	20 : 3,106,946	38 : 3,080,895	321 : 3,099,301	
: 3,090,400	790 : 3,071,158	138 : 3,089,520	232 : 3,099,294	21 : 3,111,968	43 : 3,078,885	326 : 3,078,888	
: 3,091,256	: 3,082,792	: 3,112,772	243 : 3,101,098	22 : 3,107,700	44 : 3,086,567	327 : 3,101,105	
.5 : 3,072,149	791 : 3,090,402	139 : 3,101,744	: 3,101,748	26 : 3,111,145	45 : 3,080,896	3107,708	
: 3,088,489	793 : 3,079,953	140 : 3,071,162	247 : 3,074,440	27 : 3,095,914	46 : 3,086,567	<b>Class 145</b>	
.5 : 3,093,158	795 : 3,083,734	: 3,073,352	257 : 3,086,561	31 : 3,073,357	52 : 3,115,166	1 : 3,106,233	
623 : 3,073,344	802 : 3,074,436	: 3,093,160	: 3,101,099	57 : 3,090,408	58 : 3,084,724	17 : 3,084,729	
: 3,073,345	: 3,088,491	141 : 3,078,880	257 : 3,086,561	59 : 3,073,358	68 : 3,085,603	25 : 3,095,021	
: 3,079,951	<b>Class 138</b>		: 3,095,016	61 : 3,105,525	72 : 3,080,897	29 : 3,089,525	
: 3,080,888	30 : 3,075,558	143 : 3,091,262	: 3,108,618	67 : 3,094,153	85 : 3,111,147	34 : 3,082,803	
: 3,080,889	: 3,076,479	145 : 3,087,515	: 3,108,619	68 : 3,095,019	99 : 3,105,529	35 : 3,101,106	
: 3,089,517	: 3,077,208	157 : 3,086,559	262 : 3,107,700	69 : 3,086,563	108 : 3,084,725	36 : 3,088,506	
624.13: 3,073,346	31 : 3,074,437	158 : 3,089,521	263 : 3,112,774	76 : 3,115,905	118 : 3,088,501	50 : 3,108,623	
.11: 3,075,555	: 3,084,717	175 : 3,076,481	329 : 3,101,749	80 : 3,071,169	125 : 3,071,170	52 : 3,115,168	
.18: 3,078,874	: 3,088,493	176 : 3,106,227	334 : 3,110,328	81 : 3,086,566	126 : 3,086,568	61 : 3,093,172	
.14: 3,082,790	: 3,100,509	177 : 3,081,795	336.4 : 3,102,558	82 : 3,076,485	133 : 3,091,266	75 : 3,080,900	
.14: 3,083,732	: 3,115,897	178 : 3,102,556	338 : 3,083,740	83 : 3,087,518	135 : 3,111,970	108 : 3,114,402	
.14: 3,092,143	32 : 3,097,667	<b>Class 139</b>	353 : 3,099,295	86 : 3,112,776	141 : 3,091,267	129 : 3,113,600	
.13: 3,096,787	37 : 3,075,559	1 : 3,095,015	370 : 3,095,911	88 : 3,094,154	151 : 3,088,502	<b>Class 146</b>	
.14: 3,098,504	: 3,088,494	7 : 3,072,152	371 : 3,103,236	92 : 3,101,752	157 : 3,101,754	1 : 3,084,730	
.15: 3,098,505	: 3,092,147	13 : 3,071,163	383 : Re 25,332	96 : 3,103,958	158 : 3,097,675	2 : 3,115,169	
.14: 3,105,518	: 3,076,480	25 : 3,102,553	384 : 3,090,400	102 : 3,100,513	159 : 3,101,104	3 : 3,115,170	
.13: 3,111,140	38 : 3,071,159	33 : 3,106,228	387 : 3,095,017	103 : 3,107,704	162 : 3,109,460	4 : 3,077,909	
625 : 3,071,155	39 : 3,076,480	39 : 3,073,354	391 : 3,110,905	107 : 3,106,947	166 : 3,082,799	6 : 3,073,366	
.11: 3,074,431	: 3,105,520	44 : 3,100,510	396 : 3,093,163	116 : 3,097,671	168 : 3,082,799	13 : 3,074,449	
.11: 3,076,478	: 3,115,963	46 : 3,083,737	399 : 3,077,906	131 : 3,103,959	169 : 3,083,744	16 : 3,105,532	
.12: 3,077,902	40 : 3,071,160	55 : 3,103,953	402 : 3,091,263	140 : 3,093,165	174 : 3,092,157	28 : 3,080,901	
.18: 3,085,594	38 : 3,071,159	58 : 3,085,597	413 : 3,104,684	142 : 3,073,359	177 : 3,092,157	42 : 3,078,889	
.11: 3,096,788	39 : 3,076,480	59 : 3,096,792	420 : 3,100,004	147 : 3,097,672	181 : 3,081,803	43 : 3,088,508	
.19: 3,098,506	41 : 3,079,954	66 : 3,101,745	426 : 3,071,165	160 : 3,103,960	188 : 3,078,883	47 : 3,093,174	
.17: 3,105,519	43 : 3,078,877	68 : 3,101,746	<b>Class 140</b>	171 : 3,105,526	207 : 3,076,486	49 : 3,085,605	
.16: 3,108,614	45 : 3,072,151	75 : 3,115,899	1 : 3,071,166	181 : 3,081,803	208 : 3,088,500	52 : 3,072,162	
.18: 3,109,457	46 : 3,073,350	82 : 3,106,229	2 : 3,110,329	198 : 3,078,883	209 : 3,075,563	55 : 3,103,240	
.18: 3,114,393	: 3,093,159	85 : 3,115,900	3 : 3,112,775	207 : 3,076,486	232 : 3,079,960	55 : 3,104,691	
.24: 3,071,157	: 3,111,142	88 : 3,106,942	33 : 3,106,228	208 : 3,088,500	248 : 3,101,753	<b>Class 144</b>	
.28: 3,074,432	89 : 3,077,904	91 : 3,074,438	39 : 3,073,354	209 : 3,075,563	253 : 3,106,231	1 : 3,072,159	
.27: 3,075,556	: 3,105,520	92 : 3,071,164	44 : 3,100,510	232 : 3,079,960	272 : 3,097,673	2 : 3,096,798	
.21: 3,082,791	90 : 3,091,259	107 : 3,100,511	55 : 3,103,953	248 : 3,101,753	275 : 3,105,527	3 : 3,099,298	
.27: 3,092,145	92 : 3,101,097	109 : 3,101,747	58 : 3,085,597	253 : 3,106,231	282 : 3,090,409	4 : 3,088,507	
.25: 3,095,903	94 : 3,091,260	110 : 3,072,154	66 : 3,101,745	272 : 3,097,673	286 : 3,102,561	5 : 3,099,302	
.28: 3,095,904	: 3,111,142	122 : 3,077,905	75 : 3,115,899	282 : 3,090,409	293 : 3,072,157	6 : 3,088,508	
.25: 3,101,742	89 : 3,077,904	128 : 3,080,892	82 : 3,106,229	286 : 3,102,561	295 : 3,074,443	7 : 3,115,171	
.24: 3,102,554	90 : 3,091,259	132 : 3,085,598	85 : 3,115,900	293 : 3,072,157	302 : 3,115,907	8 : 3,115,914	
.25: 3,103,233	92 : 3,101,097	137 : 3,088,495	88 : 3,113,597	302 : 3,115,907	307 : 3,115,907	9 : 3,115,915	
.2 : 3,104,679	94 : 3,091,260	143 : 3,091,262	90 : 3,071,168	309 : 3,099,299	309 : 3,099,299	10 : 3,115,916	
.27: 3,107,692	96 : 3,078,879	145 : 3,090,401	92.2 : 3,086,562	310 : 3,100,410	311 : 3,100,410	11 : 3,115,917	
.23: 3,110,322	: 3,087,512	147 : 3,091,260	: 3,085,598	311 : 3,100,410	312 : 3,100,410	12 : 3,115,918	
.23: 3,115,160	97 : 3,084,719	148 : 3,090,401	: 3,088,491	312 : 3,100,410	313 : 3,100,410	13 : 3,115,919	
.31: 3,115,161	: 3,101,743	149 : 3,091,260	: 3,089,519	313 : 3,100,410	314 : 3,100,410	14 : 3,115,920	
.31: 3,075,557	: 3,103,235	150 : 3,092,155	: 3,090,401	314 : 3,100,410	315 : 3,100,410	15 : 3,115,921	
.33: 3,083,733	99 : 3,086,555	151 : 3,092,148	: 3,091,260	315 : 3,100,410	316 : 3,100,410	16 : 3,115,922	
.38: 3,086,553	107 : 3,095,908	152 : 3,093,164	: 3,092,155	316 : 3,100,410	317 : 3,100,410	17 : 3,115,923	
.3 : 3,092,144	109 : 3,087,513	153 : 3,094,149	: 3,093,165	317 : 3,100,410	318 : 3,100,410	18 : 3,115,924	
.33: 3,095,905	113 : 3,113,595	154 : 3,095,016	: 3,100,005	318 : 3,100,410	319 : 3,100,410	19 : 3,115,925	
.31: 3,110,323	114 : 3,087,514	155 : 3,096,795	: 3,101,100	319 : 3,100,410	320 : 3,100,410	20 : 3,115,926	
.4 : 3,071,156	115 : 3,105,522	156 : 3,097,696	: 3,102,560	320 : 3,100,410	321 : 3,100,410	21 : 3,115,927	
.49: 3,079,952	107 : 3,095,908	157 : 3,098,520	: 3,103,596	321 : 3,100,410	322 : 3,100,410	22 : 3,115,928	
.47: 3,092,146	109 : 3,087,513	158 : 3,099,292	: 3,106,944	322 : 3,100,410	323 : 3,100,410	23 : 3,115,929	
.41: 3,115,896	113 : 3,113,595	159 : 3,100,511	: 3,113,596	323 : 3,100,410	324 : 3,100,410	24 : 3,115,930	
.5 : 3,112,768	114 : 3,087,514	160 : 3,101,746	: 3,107,696	324 : 3,100,410	325 : 3,100,410	25 : 3,115,931	
.69: 3,095,011	115 : 3,105,522	161 : 3,102,557	: 3,097,696				



## Class 146 - Con.

56 : 3,078,890  
 59 : 3,090,414  
 68 : 3,082,805  
   : 3,115,916  
 70.1 : 3,101,759  
 72 : 3,099,303  
 73 : 3,080,903  
   : 3,087,522  
   : 3,092,160  
   : 3,112,780  
 76 : 3,085,606  
   : 3,086,570  
   : 3,100,009  
   : 3,101,107  
   : 3,106,948  
   : 3,109,467  
   : 3,110,332  
 78 : 3,077,215  
   : 3,078,891  
   : 3,091,269  
   : 3,096,801  
   : 3,109,468  
   : 3,109,469  
   : 3,114,403  
   : 3,115,172  
 81 : 3,072,163  
   : 3,080,904  
   : 3,088,509  
   : 3,111,972  
 86 : 3,102,567  
 88 : 3,072,164  
   : 3,077,910  
   : 3,096,802  
   : 3,106,235  
 94 : 3,099,304  
 95 : 3,088,510  
   : 3,107,709  
   : 3,115,917  
 98 : 3,072,165  
   : 3,079,964  
   : 3,082,806  
 102 : 3,092,161  
 103 : 3,099,305  
 106 : 3,087,523  
 107 : 3,103,241  
 115 : 3,075,564  
 117 : 3,077,911  
   : 3,095,916  
 123 : 3,078,892  
   : 3,083,746  
 124 : 3,085,607  
 130 : 3,100,515  
 138 : 3,101,760  
 150 : 3,071,171  
   : 3,075,565  
 151 : 3,107,710  
 153 : 3,078,893  
   : 3,089,526  
 155 : 3,086,571  
 158 : 3,101,761  
 160 : 3,083,747  
 162 : 3,108,625  
   : 3,109,470  
 164 : 3,077,216  
 169 : 3,112,781  
 182 : 3,076,487  
   : 3,076,488  
   : 3,076,489  
   : 3,099,306  
   : 3,109,471  
   : 3,109,472  
   : 3,115,173  
 189 : 3,081,806  
 192 : 3,095,022  
   : 3,108,626  
 203 : 3,091,270  
   : 3,099,307  
   : 3,107,711  
 215 : 3,106,236  
 221.5 : 3,080,905  
   : 3,077,217  
   : 3,089,527  
 232 : 3,115,174  
 234 : 3,115,175  
 235 : 3,115,176  
 238 : 3,105,566  
   : 3,102,568  
 241 : 3,105,533  
 242 : 3,112,782  
 253 : 3,098,515  
   : 3,102,569  
 279 : 3,078,894  
 293 : 3,104,692

## Class 148

1.5 : 3,072,504  
 .5 : 3,074,826  
 .5 : 3,076,731  
 .5 : 3,076,732  
 .5 : 3,079,287

31.57 : 3,116,181  
   57 : 3,116,182  
 32.5 : 3,104,189  
 33 : 3,072,507  
   : 3,078,195  
   : 3,078,196  
   : 3,085,032  
   : 3,085,033  
   : 3,086,892  
   : 3,088,856  
   : 3,089,793  
   : 3,089,794  
   : 3,092,521  
   : 3,092,522  
   : 3,093,517  
   : 3,095,332  
   : 3,096,219  
   : 3,097,976  
   : 3,098,774  
   : 3,099,588  
   : 3,100,166  
   : 3,104,991  
   : 3,104,992  
   : 3,116,174  
   : 3,088,853  
   : 3,116,175  
   2 : 3,115,430  
   3 : 3,087,842  
   4 : 3,094,440  
   6.14 : 3,072,505  
   16 : 3,074,827  
   15 : 3,076,733  
   16 : 3,076,734  
   1 : 3,077,425  
   16 : 3,079,288  
   15 : 3,082,128  
   11 : 3,085,034  
   14 : 3,085,035  
   15 : 3,090,709  
   1 : 3,092,523  
   16 : 3,094,441  
   14 : 3,097,117  
   15 : 3,097,118  
   14 : 3,097,977  
   14 : 3,097,978  
   15 : 3,100,728  
   15 : 3,101,286  
   16 : 3,101,287  
   16 : 3,102,830  
   15 : 3,104,993  
   1 : 3,108,026  
   15 : 3,109,757  
   1 : 3,114,660  
   14 : 3,116,177  
   15 : 3,116,178  
   24 : 3,082,129  
   21 : 3,090,710  
   2 : 3,096,220  
   2 : 3,098,775  
   2 : 3,112,231  
   2 : 3,113,051  
   2 : 3,116,176  
   9 : 3,088,854  
   11.5 : 3,078,191  
   5 : 3,084,080  
   5 : 3,103,453  
   5 : 3,113,052  
   5 : 3,113,053  
   12 : 3,094,442  
   3 : 3,102,060  
   3 : 3,102,831  
   3 : 3,100,729  
   3 : 3,103,454  
   4 : 3,088,855  
   4 : 3,116,180  
   13 : 3,071,500  
   4 : 3,092,524  
   3 : 3,100,730  
   3 : 3,106,495  
   3 : 3,111,433  
   3 : 3,113,893  
   1 : 3,074,828  
   1 : 3,111,434  
   14 : 3,084,081  
   16 : 3,105,780  
   5 : 3,078,192  
   18 : 3,072,506  
   20.3 : 3,096,221  
   3 : 3,099,589  
   23 : 3,086,893  
   3 : 3,099,590  
   26 : 3,076,735  
   3 : 3,078,193  
   3 : 3,097,979  
   29 : 3,113,054  
   31 : 3,078,194  
   3 : 3,093,519  
   55 : 3,073,728  
   5 : 3,074,829  
   57 : 3,085,036  
   55 : 3,096,222  
   57 : 3,100,167  
   55 : 3,108,912

## Class 149

1 : 3,094,443  
 2 : 3,103,456  
   : 3,072,509  
   : 3,074,830  
   : 3,092,525  
   : 3,077,912  
   : 3,108,916  
   : 3,097,678  
 30 : 3,110,333  
   : 3,111,151  
 35 : 3,085,610  
   : 3,086,572  
   : 3,111,152  
 37 : 3,110,334  
 39 : 3,078,898  
 40 : 3,101,762  
 42 : 3,083,748  
   : 3,110,335  
 48 : 3,111,153  
 52 : 3,111,172  
   : 3,072,166  
   : 3,072,167  
   : 3,079,967  
   : 3,081,807  
   : 3,085,611  
   : 3,085,612  
   : 3,087,524  
   : 3,101,109  
   : 3,109,474  
   : 3,110,336  
   : 3,111,154

40 : 3,104,996  
 41 : 3,092,528  
   : 3,113,059  
 42 : 3,109,762  
 43 : 3,090,714  
 46 : 3,093,522  
   : 3,103,457  
 47 : 3,110,639  
   : 3,113,060  
 59 : 3,083,127  
 60 : 3,091,559  
   : 3,097,120  
   : 3,097,121  
 74 : 3,116,187  
 76 : 3,096,223  
 88 : 3,116,188  
 91 : 3,088,858  
 92 : 3,073,731  
   : 3,086,896  
   : 3,097,122  
   : 3,110,640  
   : 3,111,439  
   : 3,116,189  
 96 : 3,078,200  
   : 3,106,498  
 97 : 3,102,834  
 98 : 3,093,523  
   : 3,103,458  
   : 3,104,190  
   : 3,110,641  
 100 : 3,086,897  
   : 3,097,123  
   : 3,116,190  
 105 : 3,108,917  
 109 : 3,113,895

## Class 150

.5 : 3,107,712  
 1 : 3,074,450  
   : 3,074,451  
   : 3,074,452  
   : 3,078,895  
   : 3,079,965  
   : 3,085,608  
   : 3,097,677  
   : 3,109,473  
   5 : 3,101,108  
   6 : 3,078,896  
 2.1 : 3,073,367  
 3 : 3,099,308  
 4 : 3,102,570  
 4 : 3,105,534  
 9 : 3,095,023  
 11 : 3,079,966  
   : 3,084,731  
 13 : 3,078,897  
 28 : 3,085,609  
   : 3,108,627  
 29 : 3,077,912  
   : 3,093,176  
   : 3,097,678  
 30 : 3,110,333  
   : 3,111,151  
 35 : 3,085,610  
   : 3,086,572  
   : 3,111,152  
 37 : 3,110,334  
 39 : 3,078,898  
 40 : 3,101,762  
 42 : 3,083,748  
   : 3,110,335  
 48 : 3,111,153  
 52 : 3,111,172  
   : 3,072,166  
   : 3,072,167  
   : 3,079,967  
   : 3,081,807  
   : 3,085,611  
   : 3,085,612  
   : 3,087,524  
   : 3,101,109  
   : 3,109,474  
   : 3,110,336  
   : 3,111,154

## Class 151

7 : 3,079,968  
   : 3,093,177  
   : 3,102,571  
   : 3,115,918  
   8 : 3,105,516  
 20 : 3,087,525  
 21 : 3,079,969  
   : 3,102,572  
 23 : 3,105,535  
   : 3,091,271  
 25 : 3,072,168  
   : 3,077,218  
   : 3,101,763  
 36 : 3,097,679  
 37 : 3,078,899

41.75 : 3,073,368  
   73 : 3,078,900  
   73 : 3,079,970  
   73 : 3,081,808  
   76 : 3,081,809  
   75 : 3,082,807  
   72 : 3,085,613  
   75 : 3,091,272  
   73 : 3,092,162  
   73 : 3,093,178  
   73 : 3,103,962  
   75 : 3,110,337  
   75 : 3,110,338  
   75 : 3,114,404  
   76 : 3,115,177  
   54 : 3,077,913  
   68 : 3,100,517  
   69 : 3,093,179  
   3 : 3,114,405

## Class 152

41 : 3,072,169  
   : 3,090,415  
 153 : 3,113,604  
 155 : 3,095,917  
 175 : 3,080,906  
 176 : 3,087,526  
 179 : 3,079,971  
 187 : 3,091,273  
   : 3,107,713  
 188 : 3,105,536  
 204 : 3,111,973  
 208 : 3,095,918  
   : 3,112,783  
 209 : 3,094,157  
   : 3,095,024  
   : 3,104,693  
   : 3,115,919  
 210 : 3,078,901  
   : 3,098,516  
 211 : Re. 25,374  
   : 3,113,605  
   : 3,115,178  
 212 : 3,084,732  
 213 : 3,073,369  
   : 3,078,902  
   : 3,079,972  
   : 3,114,406  
   : 3,114,407  
 214 : 3,111,974  
 216 : 3,071,173  
   : 3,079,973  
   : 3,089,528  
   : 3,089,529  
   : 3,093,180  
   : 3,112,784  
 217 : 3,088,511  
 218 : 3,073,370  
   : 3,091,274  
   : 3,106,949  
   : 3,115,920  
 221 : 3,092,163  
 222 : 3,107,714  
 225 : 3,109,475  
 226 : 3,087,527  
 229 : 3,085,614  
 230 : 3,103,242  
 236 : 3,095,919  
 237 : 3,074,453  
   : 3,096,803  
 239 : 3,072,170  
   : 3,092,164  
   : 3,111,155  
   : 3,111,155  
 241 : 3,095,025  
 288 : 3,089,530  
 313 : 3,112,785  
 323 : 3,114,408  
 330 : 3,073,371  
   : 3,077,219  
   : 3,077,914  
   : 3,087,528  
   : 3,089,531  
   : 3,106,950  
   : 3,107,715  
   : 3,114,409

331 : 3,097,680  
 334 : 3,106,951  
 339 : 3,110,339  
 340 : 3,085,615  
 341 : 3,074,454  
 347 : 3,090,416  
   : 3,100,518  
 350 : 3,081,810  
 352 : 3,074,455  
   : 3,097,681  
 354 : 3,074,456  
   : 3,090,417  
   : 3,108,628  
   : 3,115,179  
 355 : 3,077,915  
   : 3,081,811  
   : 3,085,616

355 : 3,095,026  
   : 3,095,027  
 357 : 3,101,110  
 361 : 3,083,749  
   : 3,093,181  
   : 3,111,975  
   : 3,115,921  
 362 : 3,072,171  
   : 3,107,718  
   : 3,111,976  
 367 : 3,080,907  
   : 3,101,764  
   : 3,088,512  
   : 3,113,606  
 410 : 3,106,237  
 415 : 3,079,974  
 416 : 3,099,309  
   : 3,101,111  
   : 3,102,573  
 427 : 3,074,457  
   : 3,077,220  
   : 3,087,529  
   : 3,106,953  
 429 : 3,097,682

## Class 153

1 : 3,071,174  
   : 3,074,458  
   : 3,075,567  
   : 3,076,499  
   : 3,083,750  
   : 3,086,573  
   : 3,086,574  
   : 3,087,530  
   : 3,089,532  
   : 3,091,275  
   : 3,091,276  
   : 3,093,182  
   : 3,096,804  
   : 3,097,683  
   : 3,098,517  
   : 3,101,765  
   : 3,101,766  
 212 : 3,111,156  
 213 : 3,111,157  
   : 3,115,922  
   5 : 3,082,808  
   2 : 3,071,175  
   : 3,072,172  
   : 3,074,459  
   : 3,076,491  
   : 3,087,531  
   : 3,092,165  
   : 3,093,183  
   : 3,094,158  
   : 3,095,028  
   : 3,096,805  
   : 3,097,684  
   : 3,103,243  
   : 3,111,977  
   3 : 3,083,751  
   6 : 3,080,908  
   10 : 3,102,574  
   12 : 3,071,176  
   13 : 3,083,752  
   16 : 3,078,903  
   : 3,111,158  
   : 3,112,786  
   17 : 3,080,909  
   21 : 3,074,460  
   : 3,074,461  
   : 3,081,812  
   : 3,090,418  
   : 3,091,277  
   : 3,094,159  
   : 3,102,575  
   : 3,109,476  
   : 3,110,340  
   24 : 3,078,904  
   32 : 3,074,462  
   : 3,074,463  
   : 3,088,513  
   : 3,091,278  
   : 3,091,160  
   : 3,103,963  
   331 : 3,097,680  
   334 : 3,110,341  
   339 : 3,111,159  
   340 : 3,082,809  
   341 : 3,074,454  
   347 : 3,107,716  
   : 3,113,607  
   38 : 3,073,372  
   : 3,112,787  
   39 : 3,072,173  
   : 3,075,568  
   : 3,100,110  
   : 3,105,537  
   40 : 3,074,464  
   : 3,096,806  
   : 3,096,807  
   46 : 3,077,221

## Class 154

2.2 : 3,086,898  
 2 : 3,095,336  
 4 : 3,100,168  
 6 : 3,082,133  
 74 : 3,081,205  
 7 : 3,089,799  
 7 : 3,094,446  
 43 : 3,073,732  
   : 3,074,832  
   : 3,074,833  
   : 3,078,201  
   : 3,079,289  
   : 3,111,158  
   : 3,080,266  
   : 3,080,267  
   : 3,081,206  
   : 3,082,134  
   : 3,084,085  
   : 3,085,919  
   : 3,085,920  
   : 3,085,921  
   : 3,087,845  
   : 3,090,715  
   : 3,093,524  
   : 3,115,271  
 44 : 3,081,207  
   : 3,092,529  
   : 3,092,530  
   : 3,097,124  
   : 3,085,922  
   : 3,095,337  
   9 : 3,075,862  
   9 : 3,077,426  
   9 : 3,078,202  
   9 : 3,083,128  
   9 : 3,085,037  
   9 : 3,086,899  
   9 : 3,096,224  
   46 : 3,072,511  
   : 3,072,512  
   : 3,073,733  
   : 3,074,834  
   : 3,075,863  
   : 3,077,427  
   40 : 3,074,464  
   : 3,096,806  
   : 3,096,807  
   46 : 3,077,221

48 : 3,073,373  
   : 3,073,374  
   : 3,083,753  
   : 3,096,808  
   : 3,107,717  
   53 : 3,084,733  
   54 : 3,079,975  
   : 3,103,965  
   : 3,113,608  
   60 : 3,091,279  
   63 : 3,105,538  
   : 3,109,477  
   64 : 3,074,465  
   : 3,082,810  
   : 3,084,734  
   : 3,090,419  
   5 : 3,106,954  
   66 : 3,081,813  
   : 3,099,310  
   67 : 3,071,177  
   : 3,087,529  
   : 3,096,809  
   : 3,101,112  
   70 : 3,089,533  
   : 3,095,029  
   : 3,104,694  
   73 : 3,083,754  
   : 3,091,280  
   : 3,099,311  
   : 3,103,244  
   : 3,105,539  
   79 : 3,078,905  
   : 3,083,755  
   : 3,098,518  
   : 3,103,245  
   : 3,109,479  
   80 : 3,077,916  
   5 : 3,072,174  
   5 : 3,078,906  
   5 : 3,086,575  
   81 : 3,072,175  
   : 3,073,375  
   : 3,078,907  
   85 : 3,076,492  
   86 : 3,078,908  
   : 3,078,909  
   : 3,079,976  
   : 3,102,576  
   92 : 3,101,767  
   94 : 3,100,519



46.8 : 3.082.135	167 : 3.086.902	378 : 3.104.997	11 : 3.101.769	125 : 3.082.814	193 : 3.108.631	72 : 3.081.219
8 : 3.089.800	3.089.804	380 : 3.099.596	3.111.979	3.086.583	196 : 3.090.430	78 : 3.085.039
47 : 3.089.801	3.092.533	382 : 3.074.466	12 : 3.110.342	3.090.423	3.102.581	3.100.732
49 : 3.074.835	3.113.066	383 : 3.093.530	13.6 : 3.079.980	3.100.521	3.106.240	86 : 3.088.861
3.075.865	3.116.192	384 : 3.114.667	27.4 : 3.076.494	3.111.161	206 : 3.101.777	103 : 3.084.091
50 : 3.077.428	169 : 3.112.234	394 : 3.081.814	4 : 3.078.913	131 : 3.091.285	3.102.582	3.106.508
51 : 3.095.339	172 : 3.099.595	400 : 3.075.570	4 : 3.091.281	3.107.721	3.111.165	108 : 3.080.271
52 : 3.091.560	173 : 3.105.786	3.093.531	4 : 3.095.921	3.112.790	209 : 3.102.583	3.100.733
1 : 3.076.736	174 : 3.083.131	401 : 3.111.443	4 : 3.111.980	3.115.926	215 : 3.109.483	3.102.836
1 : 3.090.716	3.104.191	403 : 3.082.811	28 : 3.071.182	140 : 3.104.698	235 : 3.096.816	3.102.837
2 : 3.098.778	175 : 3.072.518	3.112.237	3.071.183		231 : 3.086.585	112 : 3.096.228
53.5 : 3.073.734	3.082.140	405 : 3.071.179	3.072.176		236 : 3.076.500	113 : Re 25.335
6 : 3.091.561	178 : 3.108.028	408 : 3.097.984	3.074.470		3.086.586	3.072.522
54 : 3.072.513	180 : 3.095.343	416 : 3.077.917	3.074.471		243 : 3.099.313	3.104.197
57 : 3.081.209	3.106.501	3.097.985	3.076.495		262 : 3.092.174	116 : 3.103.461
	181 : 3.084.089	3.107.192	3.079.981		298 : 3.104.700	117 : 3.072.523
	184 : 3.094.449	3.111.444	3.079.982		300 : 3.102.584	121 : 3.111.452
	187 : 3.089.805	3.111.445	3.082.813		301 : 3.115.927	135 : 3.096.229
	189 : 3.082.141	3.113.902	3.083.758		330 : 3.084.738	3.097.989
	192 : 3.081.213	417 : 3.105.788	3.086.579		3.110.646	3.097.990
1.17 : 3.113.609	3.111.442	420 : 3.077.918	3.088.516		3.115.433	136 : 3.103.462
3 : 3.113.896	196 : 3.071.502	425 : Re 25.457	3.091.282		13 : 3.087.533	137 : 3.096.230
8 : 3.072.514	197 : 3.074.839	430 : 3.093.532	3.096.810		15 : 3.097.126	145 : 3.093.533
3.074.836	3.082.142	432 : 3.108.921	3.096.811		17 : 3.075.578	146 : 3.093.534
3.081.210	3.114.666	433 : 3.086.576	3.106.238		48 : 3.079.985	3.095.345
3.095.340	200 : 3.072.519	441 : 3.079.978	3.109.480		3.087.534	3.097.127
9 : 3.081.211	209 : 3.094.450	443 : 3.089.535	3.111.160		3.113.063	3.101.294
13 : 3.075.866	3.104.192	446 : 3.076.493	3.113.610		49 : 3.073.380	3.104.198
14 : 3.105.783	211 : 3.097.982	461 : 3.106.505	3.107.720		3.082.816	3.114.670
17 : 3.082.136	212 : 3.107.189	468 : 3.108.922	3.090.420			3.116.199
2 : 3.095.341	213 : 3.072.520	473 : 3.077.222	3.073.376			151 : 3.116.200
3 : 3.102.061	215 : 3.113.898	475 : 3.111.446	3.086.580			152 : 3.100.734
3.105.784	3.116.193	479 : 3.089.536	3.090.421			3.102.838
3.107.188	219 : 3.107.190	484 : 3.113.903	3.101.771			154 : 3.095.346
18 : 3.078.203	222 : 3.088.860	492 : 3.108.033	3.073.377			155 : 3.076.740
3.082.137	3.105.787	494 : 3.094.453	3.074.472			3.102.063
3.108.918	3.110.643	495 : 3.086.577	3.077.921			3.113.064
3.108.919	228 : 3.098.779	497 : 3.080.910	3.085.619			3.114.671
19 : 3.083.129	3.100.172	3.097.986	3.085.620			3.108.926
20 : 3.072.515	229 : 3.082.143	3.111.447	3.086.581			156 : 3.080.272
3.100.169	233 : 3.080.270	499 : 3.112.238	3.092.167			3.094.454
3.100.170	234 : 3.083.132	500 : 3.085.617	3.095.030			3.096.231
3.106.499	244 : 3.082.144	3.116.194	3.115.923			3.097.991
21 : 3.092.531	3.107.191	502 : 3.075.571	3.073.378			3.098.786
26 : 3.088.859	245 : 3.074.840	3.110.645	3.094.162			3.114.672
28 : 3.110.642	3.091.562	505 : 3.074.467	3.112.788			158 : 3.082.145
29 : 3.102.835	246 : 3.083.133	3.075.572	3.075.576			3.084.092
32 : 3.115.431	247 : 3.078.207	3.092.534	3.079.983			3.102.064
33 : 3.082.138	3.083.134	3.108.923	3.088.514			159 : 3.092.537
38 : 3.073.735	249 : 3.094.451	513 : 3.075.573	3.103.966			164 : 3.097.169
3.096.225	251 : 3.106.502	515 : 3.083.757	3.106.956			3.112.241
3.097.125	264 : 3.089.806	517 : 3.078.910	3.107.719			3.113.065
47 : 3.115.432	269 : 3.079.292	518 : 3.080.911	3.102.577			168 : 3.077.430
48 : 3.076.737	272 : 3.071.503	519 : 3.071.180	3.102.578			3.079.296
51 : 3.079.291	3.081.214	3.106.506	3.115.924			3.084.093
58 : 3.085.923	3.090.717	521 : 3.081.815	3.091.283			171 : 3.087.851
69 : 3.074.837	273 : 3.086.903	527 : 3.107.193	3.090.422			172 : 3.085.040
71 : 3.094.447	3.113.899	530 : 3.085.618	3.097.687			3.096.232
3.099.593	275 : 3.094.452	541 : 3.113.904	3.084.735			175 : 3.087.852
3.111.440	276 : 3.109.763	542 : 3.079.979	3.089.537			3.102.065
72 : 3.075.867	280 : 3.087.848	548 : 3.077.223	3.078.914			179 : 3.112.242
75 : 3.085.924	3.098.780	566 : 3.095.344	3.078.915			181 : 3.074.843
78 : 3.094.448	285 : 3.085.925	575 : 3.116.195	3.081.818			3.095.347
79 : 3.093.525	3.093.528	577 : 3.098.782	3.089.538			184 : 3.115.438
82 : Re 25.493	286 : 3.081.215	579 : 3.098.783	3.095.031			193 : 3.096.233
3.075.868	290 : 3.106.503	3.100.173	3.101.772			198 : 3.086.905
83 : 3.072.517	295 : 3.075.870	581 : 3.078.911	3.114.410			199 : 3.071.504
85 : 3.093.526	296 : 3.081.216	3.113.905	3.113.611			3.093.535
87 : 3.080.269	298 : 3.110.644	582 : 3.078.912	3.076.496			201 : 3.111.453
88 : 3.087.846	299 : 3.084.090	3.108.034	3.105.541			209 : 3.102.066
91 : 3.106.500	307 : 3.073.736	3.109.764	3.077.922			216 : 3.092.538
97 : 3.095.342	310 : 3.082.139	3.112.235	3.091.284			3.095.348
98 : Re 25.463	320 : 3.086.904	3.108.030	3.099.312			3.098.787
99 : 3.075.869	322 : 3.075.871	335 : 3.096.226	3.088.515			217 : 3.091.563
3.093.527	324 : 3.087.850	342 : 3.103.459	3.096.812			223 : 3.075.872
104 : 3.074.838	325 : 3.074.841	345 : 3.071.178	3.076.497			225 : 3.112.243
107 : 3.071.501	3.079.293	3.093.529	3.086.582			236 : 3.085.623
108 : 3.089.802	328 : 3.081.217	330 : 3.108.029	3.101.773			3.095.349
122 : 3.087.847	331 : 3.076.738	332 : 3.079.294	3.078.916			237 : 3.076.501
128 : 3.105.785	334 : 3.079.295	335 : 3.092.527	3.083.759			3.085.624
130 : Re 25.349	336 : 3.102.832	337 : 3.078.205	3.101.774			3.096.234
132 : 3.078.204	338 : 3.079.296	339 : 3.078.206	3.073.379			246 : 3.081.820
133 : 3.101.289	340 : 3.078.207	341 : 3.078.208	3.080.912			255 : 3.097.992
137 : 3.078.205	342 : 3.103.459	343 : 3.078.209	3.084.736			3.097.993
3.101.290	344 : 3.078.210	345 : 3.078.211	3.092.169			259 : 3.077.924
140 : 3.078.206	346 : 3.083.756	347 : 3.078.212	3.092.170			3.092.539
143 : 3.083.130	348 : 3.084.086	349 : 3.078.213	3.092.171			274 : 3.098.788
3.084.086	350 : 3.092.527	351 : 3.106.504	3.092.172			297 : 3.087.538
152 : 3.099.594	352 : 3.092.528	353 : 3.079.977	3.102.580			3.085.623
153 : 3.082.139	354 : 3.071.178	355 : 3.089.534	3.113.612			3.095.349
3.089.803	356 : 3.083.756	357 : 3.089.535	3.083.761			237 : 3.076.501
155 : 3.086.900	358 : 3.084.087	359 : 3.089.536	3.083.762			3.085.624
3.113.897	359 : 3.084.088	360 : 3.089.537	3.083.763			3.096.234
3.114.665	361 : 3.084.089	361 : 3.089.538	3.083.764			246 : 3.081.820
157 : 3.092.532	362 : 3.084.090	362 : 3.089.539	3.083.765			255 : 3.097.992
3.100.731	363 : 3.084.091	363 : 3.089.540	3.083.766			3.097.993
3.111.441	364 : 3.084.092	364 : 3.089.541	3.083.767			259 : 3.077.924
159 : 3.077.429	365 : 3.084.093	365 : 3.089.542	3.083.768			3.092.539
3.086.901	366 : 3.084.094	366 : 3.089.543	3.083.769			274 : 3.098.788
164 : 3.081.212	367 : 3.084.095	367 : 3.089.544	3.083.770			297 : 3.087.538
165 : 3.100.171	368 : 3.084.096	368 : 3.089.545	3.083.771			3.085.623
166 : 3.084.087	369 : 3.084.097	369 : 3.089.546	3.083.772			3.095.349
167 : 3.084.088	370 : 3.084.098	370 : 3.089.547	3.083.773			237 : 3.076.501
		371 : 3.089.548	3.083.774			3.085.624
		372 : 3.089.549	3.083.775			3.096.234
		373 : 3.089.550	3.083.776			246 : 3.081.820
		374 : 3.089.551	3.083.777			255 : 3.097.992
		375 : 3.089.552	3.083.778			3.097.993
		376 : 3.089.553	3.083.779			259 : 3.077.924
		377 : 3.089.554	3.083.780			3.092.539
		378 : 3.089.555	3.083.781			274 : 3.098.788
		379 : 3.089.556	3.083.782			297 : 3.087.538
		380 : 3.089.557	3.083.783			3.085.623
		381 : 3.089.558	3.083.784			3.095.349
		382 : 3.089.559	3.083.785			237 : 3.076.501
		383 : 3.089.560	3.083.786			3.085.624
		384 : 3.089.561	3.083.787			3.096.234
		385 : 3.089.562	3.083.788			246 : 3.081.820
		386 : 3.089.563	3.083.789			255 : 3.097.992
		387 : 3.089.564	3.083.790			3.097.993
		388 : 3.089.565	3.083.791			259 : 3.077.924
		389 : 3.089.566	3.083.792			3.092.539
		390 : 3.089.567	3.083.793			274 : 3.098.788
		391 : 3.089.568	3.083.794			297 : 3.087.538
		392 : 3.089.569	3.083.795			3.085.623
		393 : 3.089.570	3.083.796			3.095.349
		394 : 3.089.571	3.083.797			237 : 3.076.501
		395 : 3.089.572	3.083.798			3.085.624



Class 162—Con.		179	3081,824	39	3,087,545	100	3,107,730	224	3,086,593	30	3,084,096	52	3,097,133
360	3,080,913	180	3,077,928		3,104,705	105	3,072,193		3,087,551		3,084,097		3,102,072
367	3,077,925	181	3,073,385		3,105,545		3,077,932		3,089,546		3,084,098		3,104,201
	3,115,439		3,106,958		3,113,622	114	3,080,922		3,090,443		3,085,044		3,104,202
371	3,097,995	182	3,081,825	41	3,077,929		3,083,768		3,094,170		3,085,045	53	3,071,507
372	3,111,455				3,108,634		3,100,531		3,095,040		3,085,930		3,074,846
373	3,084,740				3,108,635		3,109,490		3,096,825		3,087,855		3,075,876
374	3,096,235				3,072,192	115	3,079,996		3,097,699		3,088,863		3,080,282
393	3,090,432				3,075,581	117.5	3,075,583		3,115,187		3,089,808		3,080,283
404	3,082,820				3,077,930	.6	3,095,039		3,115,188		3,091,564		3,080,284
					3,080,920	.6	3,115,935	225	3,111,171		3,091,565		3,081,224
					3,083,766	118	3,094,168	226	3,071,193		3,091,566		3,081,225
					3,089,542	119	3,115,185		3,086,594		3,092,543		3,082,150
					3,097,694	120	3,080,923		3,100,537		3,092,544		3,082,151
					3,115,183		3,083,769	227	3,099,318		3,094,456		3,085,933
					3,101,115		3,085,627	235	3,095,041		3,094,457		3,085,934
					3,103,975		3,112,795	236	3,080,925		3,095,351		3,085,935
					3,104,706		3,112,796	237	3,100,538		3,095,352		3,085,936
					3,108,636	123	3,091,293	240	3,115,189		3,096,237		3,088,864
					3,111,988	124	3,083,770	241	3,072,195		3,096,238		3,089,813
					3,115,931		3,108,638		3,072,196		3,096,239		3,092,547
					3,073,387	125	3,100,532		3,080,926		3,097,129		3,096,240
					3,076,508		3,100,533		3,092,182		3,097,130		3,097,134
					3,098,523		3,102,592		3,100,016		3,098,001		3,098,005
					3,075,582	46	3,102,593		3,104,718		3,099,597		3,098,006
					3,083,767		3,102,594		3,108,639		3,101,297		3,099,599
					3,087,546	127	3,087,548	243	3,073,393		3,102,069		3,102,073
					3,092,181	128	Re 25,323		3,087,552		3,102,070		3,102,074
					3,095,038		3,098,526		3,095,042		3,102,840		3,105,790
					3,099,316	130	3,101,783		3,104,719		3,102,841		3,105,791
					3,100,015	133	3,105,553				3,102,842		3,111,457
					3,103,976	134	Re 25,381				3,105,004	1	3,075,877
					3,104,707		3,075,584				3,107,200	1	3,076,745
					3,104,708		3,079,997				3,108,037	1	3,080,285
					3,110,347		3,082,824	13	3,113,066		3,108,038	1	3,085,937
					3,114,420		3,094,169	17	3,087,853		3,110,648	1	3,087,856
					3,098,524		3,106,961		3,102,839		3,113,067	1	3,088,865
					3,100,529	135	3,097,696	22	3,071,505		3,113,068	1	3,088,866
					3,100,530		3,115,186		3,072,524		3,113,069	1	3,088,867
					3,073,388	138	3,097,697		3,074,844		3,113,070	1	3,098,007
					3,091,290		3,114,421		3,075,873		3,114,673	1	3,107,201
					3,095,926	142	3,087,549		3,077,431	31	3,072,525	1	3,110,649
					3,104,709		3,104,713		3,077,432		3,079,297	2	3,087,857
					3,104,710	145	3,111,169		3,078,209		3,081,221	54	3,095,355
					3,105,546	146	3,083,771		3,078,210		3,086,906		3,106,511
					3,115,932	150	3,096,823		3,080,273		3,090,720	55	3,071,508
					3,111,989	151	3,086,591		3,080,274		3,097,131		3,071,509
					3,074,482	153	3,100,534		3,080,275		3,108,927		3,072,528
					3,080,241		3,104,714		3,080,276	32	3,080,278		3,073,740
					3,106,245	155	3,090,440		3,081,220	33	3,071,506		3,073,741
					3,114,416	156	3,102,595		3,083,135		3,077,433		3,074,847
					3,073,389	158	3,101,784		3,084,094		3,078,213		3,074,848
					3,106,246	162	3,089,544		3,084,095		3,079,298		3,077,434
					3,107,728		3,090,441		3,085,041		3,080,279		3,081,226
					3,113,623		3,097,698		3,085,042		3,081,222		3,084,099
					3,101,116		3,100,535		3,085,043		3,085,044		3,084,100
					3,104,711		3,104,715		3,085,928		3,085,931		3,088,868
					3,114,417	163	3,095,930		3,085,929		3,086,907		3,088,869
					3,115,933	164	3,075,585		3,088,862		3,089,809		3,090,724
					3,090,436	165	3,104,716		3,089,807		3,090,721		3,090,725
					3,094,166	169	3,105,554		3,090,719		3,092,545		3,091,568
					3,111,990	170	3,072,194		3,092,541		3,094,458		3,092,548
					3,112,794	172	3,073,391		3,092,542		3,097,132		3,098,008
					3,086,589	65	3,074,483		3,093,536		3,098,002		3,105,006
					3,105,547		3,109,491		3,093,537		3,098,003		3,108,040
					3,105,548		3,109,492		3,094,455		3,100,174		3,108,041
					3,105,549	173	3,071,191		3,095,350		3,100,175		3,109,773
					3,105,550		3,087,550		3,096,236		3,102,071		3,114,674
					3,106,960	66	3,111,170		3,097,128		3,104,200	56	3,080,286
					3,107,729		3,105,555		3,097,996		3,105,005		3,088,870
					3,071,188	174	3,079,998		3,097,997		3,108,039		3,089,814
					3,080,921		3,083,772		3,097,999		3,109,772	57	3,102,075
					3,086,590		3,083,773		3,097,999		3,109,773		3,105,792
					3,090,437	177	3,079,999		3,102,067		3,109,774	58	3,071,510
					3,098,525	185	3,082,825		3,102,068		3,109,775		3,086,909
					3,099,317		3,100,536		3,103,464		3,111,456		3,089,815
					3,115,933	137	3,083,774		3,104,199	39	3,076,742		3,091,569
					3,101,117		3,085,628		3,105,000		3,081,223		3,098,790
					3,109,488		3,104,717		3,105,001		3,113,908		3,103,466
					3,071,189	192	3,090,442		3,105,002	42	3,074,845		3,103,467
					3,073,390	193	3,091,294		3,105,003		3,080,280		3,105,007
					3,102,590	201	3,083,775		3,106,509		3,086,908		3,105,793
					3,076,509	202	3,114,422		3,106,510		3,089,811		3,108,042
					3,089,543	204	3,109,493		3,108,036		3,090,722		3,108,043
					3,071,190	206	3,089,545		3,109,770		3,091,567		3,113,073
					3,090,438		3,101,119		3,109,771		3,092,546	59	3,071,511
					3,090,439	207	3,111,991		3,112,244		3,098,789	60	3,081,227
					3,095,927	210	3,096,824		3,116,201	43	3,095,353	63	3,102,128
					3,095,928	212	3,080,924	24	3,078,211	46	3,076,743	65	Re 25,502
					3,097,695	214	3,078,922		3,083,136		3,082,149		3,071,512
					3,101,118		3,088,521		3,087,854		3,090,723		3,072,529
					3,102,591		3,105,556		3,101,296		3,098,004		3,072,530
					3,105,552	216	3,074,484		3,098,000		3,103,465		3,072,531
					3,115,934	217	3,071,192		3,073,738	27	3,113,071		3,073,742
					3,078,921		3,074,485		3,073,739	30	3,113,072		3,073,743
					3,109,489		3,077,933		3,075,874		3,085,047		3,073,744
					3,107,931		3,077,731		3,075,875		3,072,526		3,073,745
					3,084,745		3,074,486		3,076,741		3,076,744		3,074,849
					3,087,547	222	3,073,392		3,078,212	49.5	3,080,281		3,074,850
					3,094,167		3,075,586		3,080,277	51.5	3,072,527		3,075,878
					3,095,929		3,078,923		3,082,147	52	3,085,932		3,075,879
					3,108,637	99	3,108,637		3,082,148		3,089,812		3,075,880
					3,104,712	100	3,104,712		3,086,592		3,095,354		3,075,881



65	: 3,076,746	74	: 3,085,944	87.1	: 3,103,468	160.25	: 3,102,597	265	: 3,098,529	17	: 3,112,356	102	: 3,073,889
	: 3,077,435		: 3,096,246	.1	: 3,109,778	.22	: 3,104,721		: 3,108,643		: 3,113,993		: 3,098,115
	: 3,078,214		: 3,098,792	HS	: 3,088,877	.25	: 3,107,733	268	: 3,084,749	18	: 3,085,128		: 3,098,893
	: 3,079,300		: 3,099,600		: 3,088,878	.25	: 3,109,496	273	: 3,077,935		: 3,096,391		: 3,115,542
	: 3,080,287		: 3,100,736		: 3,092,555	.26	: 3,109,497		: 3,106,970		: 3,101,387	105	: 3,102,160
	: 3,080,288		: 3,100,737		: 3,098,013	.2	: 3,115,939	297	: 3,088,526	19	: 3,082,288		: 3,105,871
	: 3,081,228		: 3,105,796		: 3,100,739	.32	: 3,080,920		: 3,092,187	24	: 3,084,208	109	: 3,090,825
	: 3,081,229		: 3,105,797	90	: 3,075,885	.32	: 3,086,595	298	: 3,080,930	25	: 3,077,510	110	: 3,072,737
	: 3,081,230		: 3,109,774		: 3,084,105	.31	: 3,091,295	302	: 3,078,929		: 3,080,446		: 3,075,040
	: 3,081,231		: 3,111,458		: 3,090,728	.32	: 3,095,044	307	: 3,099,322		: 3,094,583		: 3,087,007
	: 3,082,152		: 3,112,246		: 3,098,795	.32	: 3,103,249	316	: 3,090,449		: 3,108,153		: 3,109,053
	: 3,082,153		: 3,115,440		: 3,072,537	.45	: 3,092,186	317	: 3,101,790	26	: 3,098,113	112	: 3,105,108
	: 3,083,139		: 3,089,820	6	: 3,100,180	.43	: 3,095,932	328	: 3,082,830	31	: 3,096,392	115	: 3,098,116
	: 3,083,140		: 3,091,573	75	: 3,081,235	.47	: 3,103,978		: 3,075,587	32	: 3,091,655		: 3,106,603
	: 3,084,101		: 3,102,077		: 3,083,143	.46	: 3,109,498	371	: 3,111,175	34	: 3,099,703	116	: 3,092,685
	: 3,084,102		: 3,079,301	77	: 3,085,048	.5	: 3,074,489	379	: 3,110,349	37	: 3,109,879	117	: 3,082,292
	: 3,085,938		: 3,105,010		: 3,095,356	.51	: 3,105,558	386	: 3,106,971	35	: 3,073,886		: 3,086,071
	: 3,085,939		: 3,073,747	78	: 3,104,205	.58	: 3,106,248	387	: 3,076,511		: 3,106,601	118	: 3,109,881
	: 3,085,940		: 3,074,851		: 3,105,013	.53	: 3,106,965	390	: 3,103,980		: 3,109,050	120	: 3,077,514
	: 3,085,941		: 3,075,883		: 3,105,798	.51	: 3,111,172	395	: 3,074,491		: 3,109,880		: 3,078,333
	: 3,086,910		: 3,076,748		: 3,112,247	.6	: 3,073,395	413	: 3,104,723	36	: 3,089,915		: 3,105,872
	: 3,086,911		: 3,078,215		: 3,116,208	.6	: 3,077,228	421	: 3,077,231	40	: 3,107,272	121	: 3,112,357
	: 3,086,912		: 3,079,302		: 3,080,291		: 3,085,632	445	: 3,101,791		: 3,111,552	124	: 3,103,549
	: 3,086,913		: 3,080,292		: 3,083,142		: 3,111,173	448	: 3,076,512		: 3,111,553	127	: 3,088,995
	: 3,087,858		: 3,089,821		: 3,088,871		: 3,100,539	450	: 3,077,232		: 3,113,173		: 3,102,161
	: 3,087,859		: 3,089,821		: 3,096,247		: 3,109,499	455	: 3,080,931	42	: 3,113,994	128	: 3,079,460
	: 3,088,871		: 3,096,247		: 3,097,141		: 3,072,201	456	: 3,077,232		: 3,073,887		: 3,091,658
	: 3,088,872		: 3,097,140		: 3,097,141		: 3,086,598		: 3,086,598		: 3,083,258		: 3,110,757
	: 3,088,873		: 3,097,141		: 3,097,142		: 3,091,296		: 3,091,296	47	: 3,082,289	135	: 3,087,008
	: 3,089,816		: 3,097,142		: 3,097,143		: 3,094,172	457	: 3,107,736		: 3,098,892		: 3,087,009
	: 3,089,817		: 3,097,143		: 3,098,011		: 3,106,249	474	: 3,106,254	48	: 3,115,539		: 3,102,922
	: 3,089,818		: 3,099,601		: 3,100,178		: 3,106,514	491	: 3,078,930	49	: 3,082,290	138	: 3,078,334
	: 3,089,819		: 3,105,011		: 3,105,012		: 3,106,514		: 3,094,173	50,64	: 3,105,867		: 3,078,335
	: 3,090,726		: 3,105,012		: 3,106,514		: 3,106,514		: 3,095,933	52	: 3,081,374		: 3,086,072
	: 3,091,571		: 3,105,012		: 3,106,514		: 3,106,514	531	: 3,094,174		: 3,084,209		: 3,099,704
	: 3,091,572		: 3,105,012		: 3,106,514		: 3,106,514	540	: 3,097,704		: 3,086,070		: 3,100,241
	: 3,092,549		: 3,105,012		: 3,106,514		: 3,106,514	546	: 3,091,297		: 3,087,981		: 3,107,273
	: 3,092,550		: 3,105,012		: 3,106,514		: 3,106,514	548	: 3,107,737		: 3,087,982		: 3,113,997
	: 3,092,551		: 3,105,012		: 3,106,514		: 3,106,514	556	: 3,087,557		: 3,091,656		: 3,113,998
	: 3,093,538		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,122		: 3,100,813	140	: 3,110,758
	: 3,093,539		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	54	: 3,114,792	141	: 3,076,863
	: 3,093,540		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	58	: 3,098,114		: 3,076,864
	: 3,093,541		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	59	: 3,094,584	142	: 3,086,073
	: 3,093,542		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,101,388	146	: 3,073,890
	: 3,093,543		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,113,995		: 3,076,865
	: 3,093,544		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,106,602		: 3,080,448
	: 3,094,460		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	60	: 3,073,888	148	: 3,086,074
	: 3,094,461		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,084,210	149	: 3,076,866
	: 3,094,462		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,110,753	151	: 3,077,515
	: 3,094,463		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,113,174		: 3,104,277
	: 3,096,241		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	67	: 3,113,996		: 3,109,882
	: 3,096,242		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	68	: 3,087,983		: 3,113,999
	: 3,096,243		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,091,657	152	: 3,086,075
	: 3,096,244		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,072,734		: 3,109,054
	: 3,097,135		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,076,862		: 3,109,055
	: 3,097,136		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,077,511	153	: 3,095,470
	: 3,097,137		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,083,259		: 3,097,259
	: 3,097,138		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,096,393		: 3,116,362
	: 3,097,139		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,103,547	156	: 3,101,389
	: 3,098,009		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,105,868	158	: Re.25,341
	: 3,098,010		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,105,869		: 3,071,640
	: 3,098,791		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	.5	: 3,100,240		: 3,084,211
	: 3,100,176		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,072,735		: 3,090,826
	: 3,100,177		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	69	: 3,108,154	159	: 3,085,129
	: 3,101,298		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123	70	: 3,110,754	160	: 3,095,471
	: 3,102,076		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,077,512	161	: 3,073,891
	: 3,102,843		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,087,006	163	: 3,104,278
	: 3,104,203		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,088,993	166	: 3,098,117
	: 3,104,204		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,114,793	169	: 3,076,867
	: 3,105,008		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,115,540	172	: 3,090,827
	: 3,105,009		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,116,360	178	: 3,098,894
	: 3,105,794		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,080,447	179	: 3,076,053
	: 3,105,795		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,104,275		: 3,081,375
	: 3,106,512		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,077,513		: 3,115,543
	: 3,106,513		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,082,291	182	: 3,076,868
	: 3,107,202		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,094,585		: 3,104,279
	: 3,108,044		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,089,916		: 3,110,759
	: 3,108,045		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,078,331	194	: 3,114,000
	: 3,110,650		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,079,458	211	: 3,110,760
	: 3,113,074		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,111,554		
	: 3,113,075		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,105,870		
	: 3,114,675		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,093,703		
	: 3,114,676		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,075,038	1	: 3,100,542
	: 3,116,202		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,083,260	2	: 3,080,005
	: 3,116,203		: 3,105,012		: 3,106,514		: 3,106,514		: 3,101,123		: 3,097,257		: 3,083,778
	: 3,117,436		:										



## Class 175—Con.

45	: 3,077,233	334	: 3,094,177	81	: 3,089,555	5.1	: 3,078,337	6.6	: 3,113,179	70	: 3,073,898	15	: 3,071,651
	: 3,100,019	337	: 3,105,563	86	: 3,089,556	.1	: 3,081,376	.7	: 3,078,340		: 3,086,080		: 3,072,747
50	: 3,115,197	339	: 3,099,324	87	: 3,074,495	.1	: 3,081,377	.7	: 3,092,687		: 3,110,768		: 3,072,748
	: 3,115,942		: 3,102,601	92	: 3,110,351	.1	: 3,081,378	.7	: 3,109,888	71	: 3,072,744		: 3,073,902
51	: 3,078,932	340	: Re.25,452	96	: 3,093,202	.1	: 3,103,550	.7	: 3,109,889	73	: 3,105,112		: 3,073,903
55	: 3,076,513		: 3,084,751	98	: 3,098,537	.1	: 3,104,280	.8	: 3,078,341	88	: 3,078,344		: 3,073,904
	: 3,106,258		: 3,096,834	103	: 3,085,641	.1	: 3,106,604	.8	: 3,082,294	108	: 3,098,898		: 3,076,057
56	: 3,074,492		: 3,113,630	107	: 3,103,252	.1	: 3,107,274	.8	: 3,087,986				: 3,079,464
	: 3,096,833	371	: 3,115,200	108	: 3,097,711	.1	: 3,109,883	.8	: 3,090,829				: 3,080,453
	: 3,105,560		: 3,096,835	109	: 3,115,943	.1	: 3,116,363	.8	: 3,090,830				: 3,082,296
58	: 3,112,799		: 3,112,804	116	: 3,107,743	.2	: 3,087,011	.8	: 3,090,831	1	: 3,071,647		: 3,083,267
65	: 3,087,558	372	: 3,086,601	117	: 3,082,832	.2	: 3,092,686	.8	: 3,091,661		: 3,071,648		: 3,084,222
67	: 3,081,828	374	: 3,098,535	118	: 3,108,901	.2	: 3,096,394	.8	: 3,096,398		: 3,072,745		: 3,084,223
	: 3,112,800	376	: 3,081,829	120	: 3,075,595	.2	: 3,098,895	.8	: 3,097,262		: 3,073,899		: 3,086,083
68	: 3,111,998	383	: 3,075,593		: 3,090,453	.2	: 3,099,706	.8	: 3,107,276		: 3,073,900		: 3,087,992
	: 3,111,999	386	: 3,072,205		: 3,093,203	.2	: 3,100,815	.8	: 3,109,060		: 3,073,901		: 3,087,993
69	: 3,094,175	388	: 3,094,178		: 3,112,807	.2	: 3,109,056	.8	: 3,109,892		: 3,075,044		: 3,087,994
	: 3,111,178	393	: 3,111,179	123	: 3,102,603	.2	: 3,109,884	.8	: 3,111,555		: 3,075,045		: 3,087,995
72	: 3,102,599	394	: 3,094,177	126	: 3,078,935	.2	: 3,110,761	.8	: 3,113,180		: 3,076,870		: 3,087,996
	: 3,107,739	398	: 3,106,972		: 3,097,712	.4	: 3,073,894	.8	: 3,114,002		: 3,079,463		: 3,088,998
73	: 3,098,534	400	: 3,089,552		: 3,097,713	.4	: 3,075,041	.8	: 3,114,797		: 3,082,295		: 3,089,920
76	: 3,092,188	401	: 3,094,180		: 3,109,975	.4	: 3,076,869	.8	: 3,115,545		: 3,083,264		: 3,089,921
77	: 3,085,636	403	: 3,103,982	127	: 3,082,833	.4	: 3,077,516	.1	: 3,072,740	7.1	: Re.25,468		: 3,090,836
	: 3,085,637	404	: 3,084,752	131	: 3,090,454	.4	: 3,078,338	.1	: 3,083,262		: 3,083,266		: 3,091,664
	: 3,092,189	407	: 3,077,938	134	: 3,082,834	.4	: 3,078,339	.1	: 3,085,131		: 3,084,221		: 3,095,479
78	: 3,107,740	410	: 3,071,201	137	: 3,109,505	.4	: 3,079,461	.1	: 3,097,263		: 3,087,015		: 3,096,401
85	: 3,089,549		: 3,080,009	141	: 3,078,937	.4	: 3,086,076	.1	: 3,100,242		: 3,087,988		: 3,099,714
	: 3,099,323		: 3,088,535	144	: 3,101,802	.4	: 3,087,985	.1	: 3,108,155		: 3,087,989		: 3,099,715
92	: 3,094,176		: 3,096,836	147	: 3,073,403	.4	: 3,093,704	.1	: 3,110,765		: 3,088,996		: 3,099,716
93	: 3,077,234	412	: 3,075,594		: 3,081,833	.4	: 3,093,705	.1	: 3,111,556		: 3,088,997		: 3,100,243
101	: 3,077,936		: 3,099,325		: 3,095,057	.4	: 3,095,472	.2	: 3,077,517		: 3,092,688		: 3,100,819
107	: 3,074,493	413	: 3,106,973	149	: 3,091,302	.4	: 3,096,395	.2	: 3,078,342		: 3,094,587		: 3,102,167
	: 3,076,514	419	: 3,100,545	151	: 3,092,193	.4	: 3,097,260	.2	: 3,091,662		: 3,095,476		: 3,103,555
	: 3,077,937	422	: 3,101,799	154	: 3,092,194	.4	: 3,098,118	.2	: 3,098,120		: 3,095,477		: 3,103,556
	: 3,083,779			156	: 3,096,839	.4	: 3,098,896	.2	: 3,102,163		: 3,097,264		: 3,105,117
	: 3,088,529			157	: 3,093,204	.4	: 3,100,816	.2	: 3,102,924		: 3,097,265		: 3,108,158
	: 3,112,801			159	: 3,106,976	.4	: 3,102,923	.2	: 3,109,890		: 3,098,121		: 3,109,069
108	: 3,108,645	3	: 3,116,209	163	: 3,092,195	.4	: 3,103,551	.2	: 3,114,798		: 3,098,122		: 3,109,896
114	: 3,072,203	19	: 3,116,210	165	: 3,077,940	.4	: 3,103,552	.2	: 3,114,799		: 3,100,818		: 3,109,897
122	: 3,107,741		: 3,116,211	169	: 3,082,835	.4	: 3,103,553	.2	: 3,115,546		: 3,101,390		: 3,111,557
123	: 3,073,396	39	: 3,116,212	170	: 3,092,196	.4	: 3,105,109	.3	: 3,080,450		: 3,101,391		: 3,112,367
	: 3,080,007	78	: 3,116,213	172	: 3,075,596	.4	: 3,106,605	.3	: 3,081,380		: 3,102,165		: 3,112,368
124	: 3,088,530	84	: 3,116,214		: 3,075,597	.4	: 3,107,275	.3	: 3,084,216		: 3,102,928		: 3,112,369
129	: 3,085,638			176	: 3,081,834	.4	: 3,109,885	.3	: 3,087,012		: 3,105,113		: 3,112,370
133	: 3,080,008			177	: 3,101,803	.4	: 3,109,886	.3	: 3,090,832		: 3,105,876		: 3,114,004
147	: 3,090,450			178	: 3,104,496	.4	: 3,109,887	.3	: 3,109,061		: 3,105,877		: 3,116,371
152	: 3,115,198	1	: 3,081,830	179	: 3,072,209	.4	: 3,112,359	.3	: 3,115,547		: 3,106,609		: 3,116,372
	: 3,115,199		: 3,089,553	184	: 3,093,205	.4	: 3,112,360	.5	: 3,072,741		: 3,106,610		: 3,116,373
155	: 3,086,600		: 3,091,301		: 3,106,977	.4	: 3,113,177	.5	: 3,072,742		: 3,107,277	.55	: 3,071,652
165	: 3,089,550		: 3,093,200	187	: 3,103,253	.4	: 3,114,001	.5	: 3,095,474		: 3,108,157	.55	: 3,078,345
170	: 3,071,199		: 3,094,181	190	: 3,105,565	.4	: 3,114,794	.5	: 3,096,399		: 3,109,066	.55	: 3,090,837
173	: 3,092,190		: 3,094,182	198	: 3,104,728	.4	: 3,114,795	.5	: 3,102,925		: 3,109,893	.55	: 3,091,665
201	: 3,073,397		: 3,101,800	200	: 3,115,202	.4	: 3,114,796	.5	: 3,104,281		: 3,110,769	.55	: 3,102,929
	: 3,088,531		: 3,108,647	208	: 3,091,303	.4	: 3,115,544	.5	: 3,109,062		: 3,110,770	.55	: 3,104,284
207	: 3,071,200		: 3,109,502		: 3,094,183	.4	: 3,116,364	.5	: 3,109,891		: 3,110,771	.55	: 3,109,070
213	: 3,090,451	2	: 3,103,983		: 3,108,649	.6	: 3,071,643	.6	: 3,087,987		: 3,112,365	.55	: 3,116,374
215	: 3,075,589	3	: 3,085,640		: 3,115,203	.6	: 3,072,738	.85	: 3,078,343		: 3,113,181	16	: 3,092,691
219	: 3,078,933		: 3,095,054	209	: 3,107,744	.6	: 3,085,130	.82	: 3,084,217		: 3,115,548		: 3,111,558
226	: 3,092,191		: 3,108,648		: 3,115,944	.6	: 3,093,706	.82	: 3,087,014		: 3,116,366		: 3,114,005
227	: 3,095,934		: 3,113,631	210	: 3,078,936	.6	: 3,099,707	.85	: 3,095,475		: 3,116,367	17	: 3,073,905
230	: 3,072,204	4	: 3,086,603		: 3,080,936	.6	: 3,116,365	.87	: 3,100,817		: 3,116,368		: 3,087,019
	: 3,088,532	12	: 3,077,236		: 3,084,753	.6	: 3,073,895	.8	: 3,104,282		: 3,116,369		: 3,091,666
	: 3,105,561		: 3,081,831		: 3,084,754	.8	: 3,079,462	.85	: 3,109,063	.5	: 3,071,649		: 3,100,244
236	: 3,103,981		: 3,097,709		: 3,092,197	.8	: 3,080,449	.9	: 3,086,078	.5	: 3,077,518	18	: 3,073,906
238	: 3,113,629		: 3,098,536		: 3,097,714	.8	: 3,091,659	.9	: 3,086,079	.5	: 3,105,114		: 3,073,907
244	: 3,095,049		: 3,106,259		: 3,106,978	.8	: 3,096,397	.9	: 3,087,013	.5	: 3,114,800		: 3,078,346
	: 3,104,725	16	: 3,115,201		: 3,106,979	.8	: 3,103,554	.9	: 3,098,897	.2	: 3,087,990		: 3,078,347
253	: 3,092,192	24	: 3,109,503	211	: 3,094,184	.8	: 3,113,178	.92	: 3,104,283		: 3,089,919		: 3,079,465
254	: 3,095,050	25	: 3,093,201		: 3,100,546	.6	: 3,072,739	.9	: 3,105,110		: 3,092,689		: 3,085,133
258	: 3,097,706	30	: 3,072,206		: 3,103,984	.6	: 3,073,896	17	: 3,072,743		: 3,092,690		: 3,086,084
	: 3,097,707	37	: 3,100,720		: 3,105,564	.6	: 3,105,873		: 3,084,218		: 3,094,588		: 3,087,020
260	: 3,074,494	41	: 3,090,452	212	: 3,092,198	.6	: 3,106,606		: 3,102,926	18	: 3,102,926		: 3,087,021
	: 3,097,708	46	: 3,112,805	225	: 3,087,561	.6	: 3,110,762		: 3,112,362		: 3,099,123		: 3,087,022
268	: 3,105,562	52	: 3,083,780	228	: 3,093,206	.6	: 3,110,763	19	: 3,080,451		: 3,106,611		: 3,087,023
270	: 3,095,051		: 3,089,554	229	: 3,081,835	.5	: 3,076,054		: 3,089,918		: 3,109,067		: 3,087,997
285	: 3,077,235	53	: 3,073,398		: 3,091,304	.5	: 3,089,917	22	: 3,083,263	.5	: 3,076,871		: 3,093,708
	: 3,112,802		: 3,073,399	230	: 3,077,941	.5	: 3,097,261		: 3,105,111	.5	: 3,090,834		: 3,096,402
290	: 3,101,124		: 3,095,055		: 3,084,755	.5	: 3,109,057	23	: 3,084,219		: 3,076,056		: 3,096,403
295	: 3,075,590	54	: 3,112,000	233	: 3,107,745	.6	: 3,071,644		: 3,093,707	3	: 3,072,746		: 3,098,125
297	: 3,087,559	56	: 3,073,400	239	: 3,097,966	.6	: 3,071,645	24	: 3,108,156		: 3,087,991		: 3,099,717
	: 3,088,533	59	: 3,112,806		: 3,101,804	.6	: 3,071,646	25	: 3,110,766		: 3,095,478		: 3,099,718
308	: 3,102,600	60	: 3,086,604	245	: 3,077,237	.6	: 3,075,042	26	: 3,073,897		:		



22 : 3,088,999	100.2 : 3,086,089	6.3 : 3,075,598	82 : 3,096,845	33 : 3,074,505	13 : 3,076,522	6 : 3,094,190
: 3,101,392	: 3,087,026	: 3,114,424	: 3,098,538	: 3,077,945	14 : 3,095,945	: 3,095,063
: 3,115,553	: 3,091,668	: 3,100,547	: 3,106,981	: 3,077,946	: 3,099,332	: 3,095,948
26 : 3,102,930	: 3,091,669	: 3,100,548	: 3,110,353	: 3,077,947	: 3,112,009	: 3,096,849
27 : 3,099,719	: 3,092,692	: 3,111,181	: 3,110,354	: 3,078,948	: 3,100,552	: 3,096,850
: 3,101,393	: 3,093,709	: 3,112,001	: 3,110,355	: 3,080,014	: 3,111,193	: 3,096,851
: 3,111,561	: 3,095,482	7 : 3,078,938	: 3,111,184	: 3,080,937	27 : 3,071,204	: 3,100,027
.54 : 3,086,085	: 3,097,267	: 3,078,939	: 3,111,185	: 3,080,938	28 : 3,075,610	: 3,106,262
.54 : 3,102,931	: 3,098,126	: 3,078,940	: 3,112,004	: 3,087,565	33.6 : 3,072,216	: 3,111,195
.54 : 3,114,008	: 3,102,170	: 3,082,836	.1 : 3,072,210	: 3,087,566	43 : 3,095,946	: 3,112,813
28 : 3,080,454	: 3,105,880	: 3,088,536	.1 : 3,077,239	: 3,087,567	46 : 3,085,649	7 : 3,071,208
32 : 3,095,480	: 3,106,617	: 3,090,455	.1 : 3,081,837	: 3,087,568	48 : 3,088,542	: 3,074,509
35 : 3,073,908	: 3,107,279	: 3,095,938	.1 : 3,084,758	: 3,087,569	52 : 3,090,465	: 3,075,615
37 : 3,103,557	: 3,107,280	: 3,097,718	.1 : 3,085,646	: 3,087,570	63 : 3,072,217	: 3,076,523
40 : 3,091,667	: 3,109,898	: 3,101,125	.1 : 3,086,608	: 3,087,571	: 3,085,650	: 3,076,524
: 3,094,589	: 3,114,009	: 3,106,260	.1 : 3,088,538	: 3,087,572	: 3,110,359	: 3,080,016
41 : 3,087,998	: 3,114,011	: 3,106,261	.1 : 3,090,460	: 3,087,573	82 : 3,082,843	: 3,082,844
: 3,105,118	: 3,107,914	8 : 3,078,941	: 3,092,202	: 3,087,574	: 3,114,433	: 3,085,653
: 3,110,773	.3 : 3,108,160	: 3,109,506	.1 : 3,099,328	: 3,087,575	84 : 3,113,637	: 3,086,614
42 : 3,087,024	.41 : 3,073,916	: 3,114,425	.1 : 3,099,329	: 3,087,576	88 : 3,083,784	15 : 3,073,415
: 3,087,025	.41 : 3,073,915	9.22 : 3,092,200	.1 : 3,099,330	: 3,087,577	89 : 3,083,785	18 : 3,112,013
: 3,089,000	.4 : 3,075,052	.24 : 3,101,805	.1 : 3,100,021	: 3,087,578	90 : 3,099,333	27 : 3,084,763
: 3,096,404	.41 : 3,075,053	.22 : 3,106,980	.1 : 3,109,507	: 3,090,463	93 : 3,107,749	: 3,091,306
: 3,113,185	.41 : 3,075,054	.5 : 3,083,781	.1 : 3,114,427	: 3,092,203	103 : 3,081,839	45 : 3,077,948
51 : 3,075,047	.41 : 3,077,521	.5 : 3,096,840	.1 : 3,114,428	: 3,093,208	106 : 3,115,211	55 : 3,071,209
76 : 3,082,297	.41 : 3,077,522	.54 : 3,111,182	89 : 3,075,604	: 3,094,188	106 : 3,106,986	: 3,074,510
82 : 3,076,058	.4 : 3,081,383	.62 : 3,074,499	: 3,075,605	: 3,095,943	: 3,112,010	: 3,076,525
: 3,078,348	.41 : 3,084,228	10 : 3,090,456	: 3,101,809	: 3,096,847	108 : 3,115,212	: 3,076,526
: 3,101,394	.41 : 3,087,027	: 3,115,204	90 : 3,088,539	: 3,103,254	113 : 3,084,759	: 3,078,959
: 3,105,119	.41 : 3,088,000	11 : 3,087,562	.6 : 3,086,609	: 3,103,255	118 : 3,093,209	: 3,085,654
: 3,105,120	.41 : 3,089,922	: 3,094,185	.6 : 3,108,651	: 3,103,987	119 : 3,108,657	: 3,086,615
84 : 3,075,048	.4 : 3,094,590	13 : 3,096,841	Class 181	: 3,104,731	120 : 3,078,950	: 3,086,616
: 3,076,059	.41 : 3,102,171	14 : 3,074,500	.5 : Re.25,401	: 3,106,983	: 3,109,512	: 3,113,638
: 3,087,999	.41 : 3,108,161	: 3,074,501	.5 : 3,071,203	: 3,111,188	: 3,112,811	: 3,115,949
: 3,089,001	.41 : 3,115,554	: 3,075,599	.5 : 3,072,211	: 3,112,810	126 : 3,083,786	: 3,115,950
: 3,090,838	101 : 3,113,186	: 3,078,942	.5 : 3,073,406	: 3,113,634	: 3,106,987	56 : 3,086,617
: 3,103,558	107 : 3,072,754	: 3,089,557	.5 : 3,073,407	: 3,115,948	127 : 3,074,507	81 : 3,078,960
: 3,106,616	: 3,076,061	: 3,090,457	.5 : 3,075,606	: 3,109,510	129 : 3,074,508	105 : 3,097,722
86 : 3,071,653	: 3,095,483	: 3,090,458	.5 : 3,075,607	: 3,092,204	131 : 3,096,848	: 3,101,812
90 : 3,072,749	: 3,098,127	19 : 3,090,459	.5 : 3,075,608	: 3,094,189	134 : 3,075,611	106 : 3,100,028
: 3,073,909	: 3,102,172	: 3,094,186	.5 : 3,076,518	: 3,107,747	: 3,078,951	: 3,101,129
: 3,073,910	: 3,104,290	22 : 3,077,942	.5 : 3,076,519	: 3,110,357	: 3,111,194	: 3,106,263
: 3,076,872	: 3,116,376	24 : 3,083,782	.5 : 3,077,944	: 3,092,205	: 3,112,011	
: 3,078,349	: 3,109,721	25 : 3,100,020	.5 : 3,078,947	42 : 3,113,635	139 : 3,095,947	Class 185
: 3,079,466	: 3,100,820	26 : 3,099,326	.5 : 3,080,010	43 : 3,113,636	141 : 3,091,305	27 : 3,077,949
: 3,089,002	: 3,082,298	: 3,110,352	.5 : 3,081,838	44 : 3,075,609	: 3,095,061	37 : 3,112,814
: 3,089,003	: 3,084,229	27 : 3,073,404	.5 : 3,082,837	45 : 3,114,430	143 : 3,083,787	: 3,115,951
: 3,095,481	: 3,108,162	: 3,094,187	.5 : 3,088,540	48 : 3,072,214	146 : 3,071,205	38 : 3,073,416
: 3,098,899	: 3,105,124	29 : 3,095,058	.5 : 3,088,541	: 3,104,732	147 : 3,101,127	39 : 3,080,942
: 3,100,245	114 : 3,111,563	43 : 3,075,600	.5 : 3,089,561	: 3,104,733	150 : 3,078,952	40 : 3,080,017
: 3,104,285	115 : 3,092,693	44 : 3,073,405	.5 : 3,096,846	: 3,104,735	152 : 3,071,206	: 3,092,208
: 3,104,286	: 3,112,374	45 : 3,081,836	.5 : 3,100,022	: 3,104,735	: 3,080,941	: 3,113,639
: 3,104,287	: 3,116,377	48 : 3,078,943	.5 : 3,100,023	50 : 3,114,431	: 3,098,540	
: 3,104,288	.5 : 3,073,916	48 : 3,078,943	.5 : 3,102,604	: 3,115,209	155 : 3,105,572	Class 186
: 3,105,121	.5 : 3,079,471	49 : 3,115,205	.5 : 3,105,568	52 : 3,077,240	160 : 3,110,360	1 : 3,074,511
: 3,105,122	.5 : 3,088,001	52 : 3,101,806	.5 : 3,106,982	: 3,080,939	163 : 3,078,953	: 3,075,616
: 3,105,123	.5 : 3,092,694	53 : 3,085,643	.5 : 3,111,186	: 3,101,811	: 3,115,190	: 3,076,527
: 3,105,879	.5 : 3,095,484	54 : 3,096,842	23 : 3,073,410	: 3,111,190	53 : 3,086,611	: 3,076,528
: 3,107,278	.5 : 3,097,268	: 3,096,843	: 3,080,011	54 : 3,082,840	54 : 3,082,841	164 : 3,073,414
: 3,108,159	.5 : 3,109,072	56 : 3,115,945	.5 : 3,112,005	56 : 3,083,786	178 : 3,084,761	178 : 3,084,761
: 3,109,071	.5 : 3,112,375	64 : 3,075,601	24 : 3,086,610	56 : 3,085,647	181 : 3,080,015	181 : 3,080,015
: 3,111,562	119 : 3,076,062	64 : 3,075,601	: 3,108,652	: 3,105,570	187 : 3,115,213	187 : 3,115,213
91 : 3,090,839	: 3,079,472	: 3,089,558	27 : 3,095,940	: 3,111,191	196 : 3,075,612	196 : 3,075,612
99 : 3,098,900	: 3,103,559	: 3,089,559	: 3,100,024	57 : Re.25,384	200 : 3,086,612	200 : 3,086,612
: 3,101,395	: 3,072,755	: 3,101,126	29 : 3,082,838	: 3,087,579	201 : 3,089,563	201 : 3,089,563
: 3,114,801	: 3,085,134	68 : 3,086,606	31 : 3,072,212	: 3,090,464	202 : 3,090,466	202 : 3,090,466
100 : 3,073,911	: 3,098,128	: 3,087,563	: 3,074,503	: 3,106,984	: 3,102,606	: 3,102,606
: 3,102,169	149 : 3,079,473	.5 : Re.25,480	: 3,076,520	58 : 3,074,506	205 : 3,083,788	205 : 3,083,788
.1 : 3,076,873	156 : 3,087,028	.5 : 3,105,566	: 3,080,012	59 : 3,104,736	206 : 3,078,955	206 : 3,078,955
.1 : 3,077,519	: 3,088,002	.5 : 3,105,567	: 3,080,013	: 3,105,571	211 : 3,088,543	211 : 3,088,543
.1 : 3,086,086	: 3,091,670	.5 : 3,112,003	: 3,082,839	: 3,110,358	212 : 3,083,789	212 : 3,083,789
.1 : 3,104,289	: 3,071,655	69 : 3,101,807	: 3,089,562	: 3,112,007	214 : 3,072,218	214 : 3,072,218
.2 : 3,071,654	: 3,089,004	: 3,115,946	: 3,090,461	: 3,112,008	: 3,100,026	: 3,100,026
.2 : 3,072,750	: 3,105,125	73 : 3,100,549	: 3,090,462	: 3,114,432	: 3,085,651	: 3,085,651
.2 : 3,072,751	: 3,112,376	: 3,108,650	: 3,095,059	61 : 3,080,940	: 3,101,128	: 3,101,128
.2 : 3,072,752	: 3,116,378	: 3,111,183	: 3,097,720	: 3,087,580	224 : 3,081,841	224 : 3,081,841
.2 : 3,072,753	: 3,084,230	: 3,112,809	: 3,101,810	: 3,107,748	225 : 3,078,956	225 : 3,078,956
.2 : 3,073,912	: 3,084,231	: 3,115,206	: 3,102,605	: 3,109,511	226 : 3,078,957	226 : 3,078,957
.2 : 3,073,913	: 3,084,232	77 : 3,075,602	: 3,104,729	64 : 3,073,413	228 : 3,085,652	228 : 3,085,652
.2 : 3,075,049	: 3,105,881	: 3,076,517	: 3,104,730	65 : 3,076,521	: 3,092,207	: 3,092,207
.2 : 3,075,050	.1 : 3,093,711	: 3,085,644	: 3,105,569	: 3,106,985	: 3,115,214	: 3,115,214
.2 : 3,075,051	.1 : 3,113,187	: 3,088,537	: 3,108,653	: 3,111,192	230 : 3,112,812	230 : 3,112,812
.2 : 3,076,060	.2 : 3,082,299	: 3,089,560	: 3,108,654	68 : 3,092,206	Class 184	Class 184
.2 : 3,077,520	.2 : 3,098,910	79.1 : 3,095,939	: 3,112,006	70 : 3,095,944	1 : 3,071,207	1 : 3,071,207
.2 : 3,078,350	.2 : 3,099,720	: 3,075,603	: 3,113,633	2 : 3,072,215	: 3,077,242	: 3,077,242
.2 : 3,078,351	.31 : 3,082,300	: 3,083,783	: 3,114,429	: 3,078,949	: 3,098,541	: 3,098,541
.2 : 3,078,352	.31 : 3,083,270	: 3,085,645	: 3,115,207	: 3,082,842	: 3,109,513	: 3,109,513
.2 : 3,079,467	: 3,105,882	: 3,086,607	: 3,115,208	: 3,085,648	.5 : 3,095,062	.5 : 3,095,062
.2 : 3,079,468	.3 : 3,105,883	: 3,087,564	: 3,115,209	: 3,087,581	5 : 3,112,012	5 : 3,112,012
.2 : 3,079,469	188 : 3,114,802	: 3,092,201	: 3,115,210	: 3,087,582	: 3,108,613	: 3,108,613
.2 : 3,079,470	Class 180	: 3,096,844	: 3,115,211	64 : 3,073,413	: 3,085,656	: 3,085,656
.2 : 3,080,455	1 : 3,073,407	: 3,097,719	: 3,115,212	65 : 3,076,521	: 3,086,618	: 3,086,618
.2 : 3,080,456	: 3,073,408	: 3,099,327	: 3,115,213	: 3,106,986	: 3,093,210	: 3,093,210
.2 : 3,081,381	: 3,084,756	: 3,100,550	32 : 3,072,213	: 3,107,746	: 3,088,543	: 3,088,543
.2 : 3,081,382	: 3,086,605	: 3,101,808	: 3,073,411	: 3,111,187	: 3,107,750	: 3,107,750
.2 : 3,083,268	: 3,089,936	: 3,103,986	: 3,074,504	: 3,111,189	12 : 3,084,766	12 : 3,084,766
.2 : 3,083,269	: 3,097,716	.2 : 3,114,426	: 3,093,207	3 : 3,098,539	20 : 3,101,130	20 : 3,101,130
.2 : 3,084,224	: 3,097,717	82 : 3,074,502	: 3,095,941	12 : 3,095,060	28 : 3,094,192	28 : 3,094,192
.2 : 3,084,225	: 3,097,717	: 3,078,944	: 3,095,942	12 : 3,095,060	29 : 3,073,417	29 : 3,073,417
.2 : 3,084,226	: 3,097,717	: 3,078,945	: 3,107,746	12 : 3,095,060	: 3,078,962	: 3,078,962
.2 : 3,084,227	: 3,097,717	: 3,078,946	: 3,111,187	12 : 3,095,060	: 3,080,944	: 3,080,944
.2 : 3,086,087	: 3,097,717	: 3,078,946	: 3,111,189	12 : 3,095,060	: 3,080,945	: 3,080,945
.2 : 3,086,088	6.2 : 3,073,409	: 3,084,757	33 : 3,073,412</			



## Class 187—Con.

29 : 3,112,815  
 31 : 3,075,617  
 32 : 3,075,618  
 52 : 3,080,947  
   : 3,082,845  
   : 3,092,209  
   : 3,092,809  
   : 3,088,548  
   : 3,100,029  
   : 3,109,516  
   : 3,077,953  
   : 3,083,792  
   : 3,087,583  
   : 3,099,334

## Class 188

1 : 3,075,619  
   : 3,077,244  
   : 3,082,846  
   : 3,085,657  
   : 3,085,658  
   : 3,087,584  
   : 3,088,549  
   : 3,089,564  
   : 3,091,307  
   : 3,092,210  
   : 3,096,852  
   : 3,098,544  
   : 3,106,989  
   : 3,113,640  
 4 : 3,078,963  
   : 3,086,619  
 7 : 3,113,641  
 18 : 3,071,210  
   : 3,071,211  
   : 3,096,853  
   : 3,115,952  
 19 : 3,103,259  
   : 3,103,260  
 24 : 3,114,434  
 32 : 3,074,512  
   : 3,110,361  
   : 3,113,642  
 42 : 3,077,245  
   : 3,085,659  
   : 3,096,854  
   : 3,097,723  
   : 3,106,264  
 52 : 3,088,550  
   : 3,110,362  
 59 : 3,092,211  
   : 3,092,212  
 62 : 3,093,211  
   : 3,107,751  
   : 3,111,197  
   : 3,114,435  
 63 : 3,115,215  
 65.2 : 3,112,816  
 68 : 3,100,030  
 69 : 3,074,513  
   : 3,078,964  
   : 3,093,212  
   : 3,110,363  
 70 : 3,088,551  
 71 : 3,075,620  
 72 : 3,072,220  
   : 3,081,842  
   : 3,088,552  
   : 3,088,553  
   : 3,094,193  
   : 3,094,194  
   : 3,095,064  
   : 3,096,855  
   : 3,102,608  
   : 3,106,990  
   : 3,108,658  
   : 3,111,198  
 73 : 3,072,221  
   : 3,077,246  
   : 3,077,954  
   : 3,081,843  
   : 3,088,554  
   : 3,089,565  
   : 3,090,468  
   : 3,095,949  
   : 3,100,553  
   : 3,101,813  
   : 3,103,990  
   : 3,109,517  
   : 3,109,518  
   : 3,110,364  
   : 3,110,365  
   : 3,113,643  
   : 3,114,436  
   : 3,115,217  
   : 3,115,953  
 75 : 3,086,620  
   : 3,106,265  
 76 : 3,098,545  
 77 : 3,103,991  
   : 3,115,218

78 : 3,080,948  
   : 3,081,844  
   : 3,085,660  
   : 3,089,566  
   : 3,091,308  
   : 3,095,950  
   : 3,096,856  
   : 3,096,857  
   : 3,106,266  
   : 3,106,991  
   : 3,108,659  
   : 3,109,519  
   : 3,111,199  
   : 3,114,437  
   : 3,115,219  
   : 3,115,954

79.5 : 3,074,514  
   : 3,077,955  
   : 3,090,469  
   : 3,095,065  
   : 3,103,261  
   : 3,103,992  
   : 3,111,200  
   : 3,114,438  
   : 3,114,439  
   : 3,115,955  
 82.2 : 3,094,195  
   : 3,096,858  
   : 3,097,724  
   : 3,100,031  
 83 : 3,110,366  
 86 : 3,086,621  
 87 : 3,081,845  
   : 3,106,992  
   : 3,107,752  
 88 : 3,076,529  
   : 3,078,965  
   : 3,078,966  
   : 3,086,622  
   : 3,088,555  
   : 3,088,556  
   : 3,098,546  
   : 3,101,131  
   : 3,105,574  
   : 3,106,993  
   : 3,109,520  
   : 3,111,201  
   : 3,072,222  
   : 3,091,309  
   : 3,101,132  
   : 3,108,660  
 91 : 3,073,418  
 94 : 3,081,846  
   : 3,081,847  
   : 3,086,623  
   : 3,097,725  
   : 3,107,753  
   : 3,108,661  
 96 : 3,074,515  
   : 3,078,967  
   : 3,085,661  
   : 3,103,993  
   : 3,110,367  
   : 3,095,066  
   : 3,106,267  
 100 : 3,113,644  
 106 : 3,084,767  
   : 3,093,213  
   : 3,097,726  
 110 : 3,090,470  
 111 : 3,077,247  
 112 : 3,072,223  
   : 3,073,419  
   : 3,077,248  
   : 3,080,949  
   : 3,109,521  
 119 : 3,074,516  
 152 : 3,106,268  
   : 3,114,440  
 153 : 3,093,214  
 161 : 3,100,554  
 165 : 3,071,212  
 170 : 3,095,067  
   : 3,101,133  
 171 : 3,074,517  
   : 3,085,662  
   : 3,095,068  
   : 3,115,956  
 181 : 3,076,530  
 184 : 3,080,020  
 196 : 3,085,663  
   : 3,091,310  
   : 3,091,311  
   : 3,096,859  
   : 3,100,032  
   : 3,112,014  
   : 3,113,645  
   : 3,113,646  
   : 3,115,220  
 198 : 3,077,956  
 203 : 3,101,814  
 205 : 3,076,531  
 210 : 3,092,213  
   : 3,094,196

218 : 3,084,768  
   : 3,092,214  
   : 3,105,755  
   : 3,113,647  
 219.1 : 3,092,215  
 222.6 : 3,107,754  
 229.6 : 3,115,221  
 243 : 3,077,957  
   : 3,088,557  
 264 : 3,072,224  
   : 3,101,815  
   : 3,103,994

## Class 189

1 : 3,084,769  
   : 3,095,069  
   : 3,113,648  
 5 : 3,074,518  
 2 : 3,087,585  
   : 3,088,558  
 3 : 3,092,216  
   : 3,096,860  
 7 : 3,082,847  
 11 : 3,091,312  
   : 3,109,522  
   : 3,109,523  
 13 : 3,112,015  
 15 : 3,071,213  
   : 3,101,816  
   : 3,092,217  
   : 3,095,070  
 19 : 3,100,555  
 26 : Re. 25,485  
   : 3,071,214  
   : 3,101,134  
   : 3,110,368  
 28 : 3,081,848  
 29 : 3,076,532  
   : 3,093,215  
 31.5 : 3,089,567  
 34 : Re. 25,364  
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   : 3,071,216  
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   : 3,072,225  
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   : 3,083,793  
   : 3,083,794  
   : 3,083,795  
   : 3,084,770  
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   : 3,092,218  
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   : 3,097,727  
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   : 3,111,202  
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   : 3,111,205  
   : 3,112,014  
   : 3,112,015  
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   : 3,102,614  
 36 : 3,071,218

36 : 3,072,228  
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   : 3,078,971  
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 38 : 3,086,627  
 39 : 3,115,958  
 41 : 3,077,249  
   : 3,092,222  
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 42 : 3,108,664  
 43 : 3,099,336  
 46 : 3,083,798  
   : 3,085,665  
   : 3,086,628  
   : 3,094,199  
   : 3,095,952  
   : 3,103,263  
   : 3,103,995  
   : 3,103,996  
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   : 3,107,759  
   : 3,111,208  
   : 3,112,017  
   : 3,113,649  
 49 : 3,089,568  
 50 : 3,094,200  
 62 : 3,115,223  
 63 : 3,107,760  
 64 : 3,076,535  
   : 3,080,023  
   : 3,111,209  
 65 : 3,072,229  
   : 3,077,250  
   : 3,080,950  
   : 3,083,799  
   : 3,101,820  
   : 3,105,576  
   : 3,093,224  
   : 3,101,135  
   : 3,107,219  
   : 3,115,224  
   : 3,077,962  
   : 3,081,852  
   : 3,099,337  
   : 3,101,136  
 76 : 3,072,230  
 82 : 3,086,629  
   : 3,095,953  
   : 3,103,264  
   : 3,108,665  
   : 3,110,374  
   : 3,106,271  
 84 : 3,073,420  
 85 : 3,074,521  
   : 3,102,617  
   : 3,110,380  
   : 3,102,618  
   : 3,073,421  
   : 3,074,522  
   : 3,076,536  
   : 3,077,251

88 : 3,081,853  
   : 3,089,569  
   : 3,089,570  
   : 3,094,201  
   : 3,103,265  
   : 3,104,739  
   : 3,108,666  
   : 3,115,225  
 90 : 3,080,024  
 92 : 3,115,226

## Class 190

1 : 3,092,223  
 8 : 3,092,224  
 11 : 3,110,375  
   : 3,112,017  
 28 : 3,112,018  
 41 : 3,084,771  
 43 : 3,104,740  
   : 3,115,959  
 48 : 3,080,951  
   : 3,086,630  
   : 3,092,225  
   : 3,103,266  
 49 : 3,098,548  
 50 : 3,071,220  
 51 : 3,110,376  
 57 : 3,110,377  
   : 3,115,227  
   : 3,115,228  
   : 3,115,229  
 58 : 3,103,267  
   : 3,103,268  
   : 3,107,761  
   : 3,113,650  
   : 3,113,651

## Class 191

12 : 3,085,135  
 23 : 3,090,840  
 32 : 3,071,656  
 49 : 3,089,005  
 55 : 3,106,272  
 69 : 3,114,441

## Class 192

.02 : 3,072,231  
 .052 : 3,073,422  
 .02 : 3,077,963  
 .02 : 3,080,025  
 .092 : 3,080,952  
 .084 : 3,083,800  
 .098 : 3,088,564  
 .094 : 3,099,338  
 .096 : 3,101,821  
 .02 : 3,105,577  
 .084 : 3,105,578  
 1 : 3,101,822  
 3 : 3,082,851  
   : 3,101,823  
   : 3,104,741  
   : 3,108,667  
   : 3,110,378  
   : 3,111,210  
 2 : 3,088,563  
 2 : 3,109,524  
 5 : 3,083,801  
 5 : 3,084,772  
 5 : 3,084,773  
 5 : 3,089,571  
 5 : 3,089,572  
 5 : 3,094,202  
 5 : 3,104,742  
 5 : 3,106,996  
 4 : 3,071,221  
   : 3,073,423  
   : 3,093,225  
   : 3,101,137  
   : 3,103,997  
   : 3,106,273  
   : 3,106,997  
   : 3,107,762  
   : 3,108,668  
   : 3,109,525  
   : 3,112,018  
 6 : 3,110,379  
   : 3,113,652  
 8 : 3,080,953  
   : 3,101,824  
   : 3,102,618  
   : 3,102,619  
   : 3,108,669  
   : 3,074,524  
   : 3,110,381  
   : 3,107,964  
   : 3,090,472  
 13 : 3,080,026  
   : 3,090,473

13 : 3,097,731  
   : 3,105,579  
 14 : 3,113,653  
 18 : 3,071,223  
   : 3,077,252  
   : 3,077,965  
   : 3,089,573  
   : 3,101,825  
 21.5 : 3,074,523  
   : 3,074,523  
   : 3,086,631  
 22 : 3,092,226  
 23 : 3,101,826  
   : 3,101,827  
   : 3,106,998  
 26 : 3,080,027  
   : 3,087,587  
 27 : 3,108,670  
 28 : 3,103,269  
 29 : 3,102,620  
 30.5 : 3,072,232  
   : 3,100,558  
   : 3,102,621  
   : 3,104,743  
   : 3,106,274  
 35 : 3,078,972  
 37 : 3,099,339  
 41 : 3,092,227  
   : 3,107,763  
   : 3,107,764  
 43.2 : 3,078,973  
 44 : 3,084,774  
 45 : 3,072,233  
   : 3,086,632  
   : 3,087,588  
   : 3,087,589  
   : 3,087,590  
   : 3,087,591  
   : 3,095,954  
   : 3,103,998  
   : 3,104,744  
   : 3,075,623  
   : 3,078,974  
   : 3,083,802  
 48 : 3,072,234  
   : 3,088,565  
   : 3,089,574  
 53 : 3,071,224  
   : 3,092,233  
   : 3,078,975  
   : 3,080,028  
   : 3,086,633  
   : 3,089,575  
   : 3,110,382  
 56 : 3,080,029  
   : 3,095,955  
   : 3,103,999  
   : 3,107,765  
   : 3,115,230  
 58 : 3,071,225  
   : 3,088,566  
   : 3,083,803  
   : 3,078,976  
   : 3,085,667  
   : 3,093,226  
   : 3,081,854  
   : 3,095,071  
   : 3,104,745  
 82 : 3,095,072  
   : 3,105,580  
 84 : 3,071,226  
   : 3,088,567  
   : 3,093,227  
 85 : 3,077,253  
   : 3,090,474  
   : 3,092,228  
   : 3,094,203  
   : 3,104,000  
   : 3,115,231  
 86 : 3,108,549  
 87 : 3,098,550  
   : 3,098,550  
   : 3,106,999  
 88 : 3,075,624  
 89 : 3,093,228  
   : 3,107,766  
   : 3,112,019  
 90 : 3,096,863  
 91 : 3,083,804  
 93 : 3,081,855  
 98 : 3,105,581  
 99 : 3,072,235  
   : 3,090,475  
   : 3,099,340  
   : 3,106,275  
   : 3,112,820  
 101 : 3,071,227  
   : 3,080,030  
   : 3,080,031  
   : 3,095,958  
   : 3,092,229  
   : 3,102,622  
 104 : 3,081,856  
   : 3,091,314  
 105 : 3,084,775  
   : 3,091,315

105 : 3,092,230  
 107 : 3,092,231  
 109 : 3,084,776  
   : 3,106,276  
 110 : 3,071,228  
 111 : 3,086,634  
 113 : 3,073,424  
   : 3,101,139  
   : 3,104,746  
   : 3,105,582  
 125 : 3,077,966  
   : 3,109,526  
   : 3,109,527  
   : 3,107,229  
 127 : 3,071,229  
   : 3,074,525  
   : 3,077,967  
 130 : 3,103,270  
 131 : 3,101,828  
 139 : 3,101,828  
 142 : 3,072,236  
 144 : 3,084,777  
 148 : 3,077,968  
 149 : 3,085,666  
 150 : 3,091,316  
   : 3,111,211

## Class 193

2 : 3,084,778  
 7 : 3,085,669  
 12 : 3,115,960  
 21 : 3,101,829  
 21 : 3,080,032  
   : 3,104,747  
 23 : 3,071,230  
   : 3,080,033  
 25 : 3,092,232  
   : 3,102,623  
   : 3,106,277  
   : 3,107,767  
   : 3,083,805  
 27 : 3,074,526  
 29 : 3,098,551  
 32 : 3,074,527  
 33 : 3,095,073  
   : 3,104,748  
 35 : 3,078,977  
   : 3,081,857  
   : 3,092,233  
   : 3,095,956  
   : 3,103,271  
   : 3,104,749  
   : 3,108,671  
   : 3,113,654  
 36 : 3,093,229  
   : 3,110,383  
   : 3,115,961  
 37 : 3,080,034  
 38 : 3,077,969  
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   : 3,088,568  
   : 3,091,317  
   : 3,105,583



65 : 3,113,657	80 : 3,116,222	9 : 3,101,142	33 : 3,114,448	165 : 3,100,564	221 : 3,090,481	38 : 3,109,074
71 : 3,115,962	81 : 3,095,360	10 : 3,095,080	34 : 3,115,232	171 : 3,097,735	224 : 3,100,043	39 : 3,110,776
72 : 3,101,140	82 : 3,110,651	16 : 3,071,234	35 : 3,115,233	172 : 3,071,238	226 : 3,103,276	40 : 3,110,777
73 : 3,102,624	86 : 3,105,799	19 : 3,074,529	36 : 3,115,234	174 : 3,091,325	229 : 3,101,146	41 : 3,114,013
80 : 3,077,254	92 : 3,071,519	20 : 3,107,773	37 : 3,115,235	175 : 3,099,346	230 : 3,101,837	42 : 3,100,823
84 : 3,076,538	96 : 3,073,749	21 : 3,080,039	38 : 3,074,532	176 : 3,111,216		43 : 3,102,932
85 : 3,110,385	101 : 3,086,922	22 : 3,082,855	39 : 3,074,533	177 : 3,111,217		44 : 3,109,899
86 : 3,080,037	102 : 3,087,865	23 : 3,088,572	40 : 3,080,040	178 : 3,112,025		45 : 3,109,900
87 : 3,087,592	103 : 3,093,551	24 : 3,092,237	41 : 3,081,863	179 : 3,089,579		46 : 3,114,014
91 : 3,088,570	104 : 3,113,078	25 : 3,108,676	42 : 3,093,234	180 : 3,103,275		47 : 3,093,714
92 : 3,077,970	105 : 3,072,538	26 : 3,073,429	43 : 3,096,871	181 : 3,097,736		48 : 3,076,876
93 : 3,088,571	106 : 3,075,887	27 : 3,075,628	44 : 3,102,629	182 : 3,102,631		49 : 3,096,409
94 : 3,106,278	107 : 3,109,780	28 : 3,083,808	45 : 3,107,775	183 : 3,102,632		50 : 3,090,844
102 : 3,081,858	108 : 3,098,016	29 : 3,085,671	46 : 3,108,681	184 : 3,097,973		51 : 3,112,380
103 : 3,096,864	109 : 3,072,539	30 : 3,087,595	47 : 3,109,531	185 : 3,091,326		52 : 3,109,292
	110 : 3,083,145	31 : 3,088,573	48 : 3,111,214	186 : 3,109,533		53 : 3,115,556
	111 : 3,089,828	32 : 3,093,233	49 : 3,115,236	187 : 3,100,565		54 : 3,116,380
	112 : 3,094,466	33 : 3,104,004	50 : 3,115,237	188 : 3,088,580		55 : 3,087,029
	113 : 3,096,254	34 : 3,088,574	51 : 3,080,043	189 : 3,095,964		56 : 3,097,271
	114 : 3,099,605	35 : 3,100,561	52 : 3,084,783	190 : 3,096,873		57 : 3,100,824
	115 : 3,099,606	36 : 3,104,005	53 : 3,104,007	191 : 3,094,755		58 : 3,071,662
	116 : 3,104,209	37 : 3,108,677	54 : 3,084,784	192 : 3,071,239		59 : 3,079,474
	117 : 3,107,204	38 : 3,104,752	55 : 3,087,598	193 : 3,090,479		60 : 3,089,006
	118 : 3,116,223	39 : 3,080,040	56 : 3,091,324	194 : 3,098,556		61 : 3,089,927
	119 : 3,080,299	40 : 3,101,000	57 : 3,100,449	195 : 3,107,777		62 : 3,099,721
	120 : 3,093,552	41 : 3,081,861	58 : 3,104,754	196 : 3,072,242		63 : 3,086,092
	121 : 3,075,888	42 : 3,104,008	59 : 3,107,001	197 : 3,075,631		64 : 3,088,004
	122 : 3,088,881	43 : 3,114,449	60 : 3,109,532	198 : 3,075,632		65 : 3,089,128
	123 : 3,098,797	44 : 3,101,143	61 : 3,110,388	199 : 3,077,258		66 : 3,110,779
	124 : 3,073,750	45 : 3,112,021	62 : 3,089,578	200 : 3,077,974		67 : 3,112,380
	125 : 3,102,082	46 : 3,115,964	63 : 3,085,673	201 : 3,078,980		68 : 3,079,475
	126 : 3,114,677	47 : 3,083,809	64 : 3,088,574	202 : 3,078,981		69 : 3,092,695
		48 : 3,088,576	65 : 3,097,734	203 : 3,078,982		70 : 3,104,293
		49 : 3,102,626	66 : 3,115,965	204 : 3,082,860		71 : 3,082,302
		50 : 3,106,279	67 : 3,082,857	205 : 3,083,815		72 : 3,083,274
		51 : 3,108,678	68 : 3,106,282	206 : 3,087,601		73 : 3,098,938
		52 : 3,110,387	69 : 3,077,972	207 : 3,089,580		74 : 3,110,779
		53 : 3,113,659	70 : 3,080,960	208 : 3,092,240		75 : 3,092,695
		54 : 3,105,584	71 : 3,085,674	209 : 3,096,874		76 : 3,104,293
		55 : 3,081,859	72 : 3,094,205	210 : 3,097,737		77 : 3,079,475
		56 : 3,084,779	73 : 3,105,586	211 : 3,098,557		78 : 3,088,005
		57 : 3,073,430	74 : 3,074,534	212 : 3,100,042		79 : 3,091,674
		58 : 3,086,637	75 : 3,075,630	213 : 3,101,144		80 : 3,115,555
		59 : 3,089,576	76 : 3,102,630	214 : 3,105,588		81 : 3,094,592
		60 : 3,102,627	77 : 3,105,587	215 : 3,106,284		82 : 3,114,012
		61 : 3,072,240	78 : 3,108,979	216 : 3,106,285		83 : 3,071,660
		62 : 3,083,810	79 : 3,107,776	217 : 3,106,286		84 : 3,072,756
		63 : 3,095,082	80 : 3,101,475	218 : 3,106,287		85 : 3,086,091
		64 : 3,095,082	81 : 3,107,776	219 : 3,107,003		86 : 3,090,841
		65 : 3,095,960	82 : 3,071,237	220 : 3,109,534		87 : 3,098,129
		66 : 3,100,038	83 : 3,107,002	221 : 3,110,394		88 : 3,098,130
		67 : 3,104,753	84 : 3,084,785	222 : 3,082,861		89 : 3,102,173
		68 : 3,106,280	85 : 3,110,389	223 : 3,096,875		90 : 3,110,774
		69 : 3,109,529	86 : 3,110,390	224 : 3,085,676		91 : 3,112,377
		70 : 3,077,257	87 : 3,115,966	225 : 3,099,347		92 : 3,093,713
		71 : 3,087,596	88 : 3,083,812	226 : 3,100,566		93 : 3,072,757
		72 : 3,089,577	89 : 3,080,958	227 : 3,089,581		94 : 3,097,269
		73 : 3,091,322	90 : 3,112,023	228 : 3,107,778		95 : 3,106,619
		74 : 3,098,552	91 : 3,080,044	229 : 3,075,633		96 : 3,072,758
		75 : 3,101,830	92 : 3,092,238	230 : 3,088,581		97 : 3,076,064
		76 : 3,102,628	93 : 3,080,959	231 : 3,098,558		98 : 3,076,065
		77 : 3,104,006	94 : 3,082,858	232 : 3,105,589		99 : 3,089,925
		78 : 3,108,680	95 : 3,103,274	233 : 3,076,540		100 : 3,114,804
		79 : 3,113,660	96 : 3,110,391	234 : 3,101,145		101 : 3,078,356
		80 : 3,071,236	97 : 3,085,675	235 : 3,110,775		102 : 3,078,357
		81 : 3,087,597	98 : 3,074,535	236 : 3,104,009		103 : 3,078,357
		82 : 3,088,577	99 : 3,092,239	237 : 3,105,590		104 : 3,076,875
		83 : 3,107,774	100 : 3,096,872	238 : 3,107,004		105 : 3,090,842
		84 : 3,112,022	101 : 3,081,862	239 : 3,078,983		106 : 3,104,291
		85 : 3,074,530	102 : 3,098,555	240 : 3,113,662		107 : 3,114,803
		86 : 3,074,531	103 : 3,100,563	241 : 3,073,431		108 : 3,116,379
		87 : 3,075,629	104 : 3,072,241	242 : 3,090,480		109 : 3,091,672
		88 : 3,080,041	105 : 3,113,661	243 : 3,094,207		110 : 3,096,405
		89 : 3,080,955	106 : 3,087,599	244 : 3,075,634		111 : 3,093,919
		90 : 3,080,956	107 : 3,112,024	245 : 3,088,582		112 : 3,088,003
		91 : 3,080,957	108 : 3,115,238	246 : 3,104,756		113 : 3,102,174
		92 : 3,082,856	109 : 3,087,600	247 : 3,085,677		114 : 3,112,378
		93 : 3,084,780	110 : 3,090,477	248 : 3,109,535		115 : 3,080,458
		94 : 3,084,781	111 : 3,095,961	249 : 3,071,240		116 : 3,101,396
		95 : 3,084,782	112 : 3,095,962	250 : 3,072,243		117 : 3,075,055
		96 : 3,085,672	113 : 3,110,392	251 : 3,077,975		118 : 3,095,485
		97 : 3,086,638	114 : 3,114,450	252 : 3,080,045		119 : 3,071,661
		98 : 3,086,639	115 : 3,093,235	253 : 3,083,816		120 : 3,076,066
		99 : 3,086,640	116 : 3,083,813	254 : 3,092,241		121 : 3,075,056
		100 : 3,088,578	117 : 3,086,641	255 : 3,104,757		122 : 3,078,358
		101 : 3,090,476	118 : 3,090,478	256 : 3,107,005		123 : 3,081,384
		102 : 3,091,323	119 : 3,101,834	257 : 3,107,779		124 : 3,082,301
		103 : 3,096,869	120 : 3,106,283	258 : 3,077,259		125 : 3,083,272
		104 : 3,096,870	121 : 3,111,215	259 : 3,086,642		126 : 3,083,273
		105 : 3,097,732	122 : 3,088,579	260 : 3,099,348		127 : 3,085,136
		106 : 3,097,733	123 : 3,082,859	261 : 3,113,663		128 : 3,089,926
		107 : 3,098,553	124 : 3,084,786	262 : 3,075,635		129 : 3,090,843
		108 : 3,098,554	125 : 3,083,814	263 : 3,084,787		130 : 3,091,673
		109 : 3,100,039	126 : 3,099,345	264 : 3,080,961		131 : 3,094,593
		110 : 3,100,562	127 : 3,112,822	265 : 3,087,602		132 : 3,096,406
		111 : 3,101,831	128 : 3,095,963	266 : 3,087,603		133 : 3,096,407
		112 : 3,101,832	129 : 3,076,539	267 : 3,089,582		134 : 3,096,408
		113 : 3,101,833	130 : 3,100,041	268 : 3,097,738		135 : 3,097,270
		114 : 3,103,273	131 : 3,110,393	269 : 3,098,131		136 : 3,106,621
		115 : 3,105,585	132 : 3,101,835	270 : 3,112,823		137 : 3,106,620
		116 : 3,106,281	133 : 3,101,836	271 : 3,115,239		138 : 3,107,281
		117 : 3,109,530	134 : 3,108,682	272 : 3,086,643		139 : 3,109,073
						140 : 3,110,781



## Class 200—Con.

67	: 3,111,565	92	: 3,079,477	122	: 3,083,282	152	: 3,089,015	52	: 3,111,461	38	: 3,083,149	141	: 3,096,261
	: 3,114,016		: 3,089,931		: 3,084,237		: 3,089,937	53	: 3,105,020		: 3,085,052	143	: 3,072,547
	: 3,114,805		: 3,105,129		: 3,087,032		: 3,109,079		: 3,106,515		: 3,098,803		: 3,075,902
68	: 3,090,847		: 3,113,191		: 3,088,012	153	: 3,076,883		: 3,111,462		: 3,108,932		: 3,075,903
78	: 3,097,275	93	: 3,076,878		: 3,089,934		: 3,082,309	57	: 3,073,755	39	: 3,087,872		: 3,078,219
	: 3,098,134		: 3,100,825		: 3,089,935		: 3,084,238		: 3,084,109	40	: 3,090,733		: 3,085,055
	: 3,110,782		: 3,071,664		: 3,094,599		: 3,087,037	64	: 3,092,557	41	: 3,098,804		: 3,088,888
80	: 3,094,595		: 3,106,624		: 3,095,486		: 3,094,602		: 3,099,607	42	: 3,075,897		: 3,088,889
	: 3,098,906	98	: 3,114,810		: 3,098,138		: 3,095,489	66	: 3,080,302	43	: 3,073,762		: 3,095,364
	: 3,104,294		: 3,076,074		: 3,098,139		: 3,097,281	67	: 3,114,681		: 3,074,859		: 3,096,262
	: 3,114,017		: 3,098,909		: 3,099,731		: 3,104,296	68	: Re. 25,393		: 3,083,150	146	: 3,085,951
81.5	: 3,105,888		: 3,103,564		: 3,099,732		: 3,110,792	70	: 3,084,110		: 3,086,922		: 3,097,149
6	: 3,099,724		: 3,106,625		: 3,101,397	155	: 3,089,938	75	: 3,113,909		: 3,092,559	147	: 3,074,862
9	: 3,113,189	102	: 3,075,059		: 3,102,179	156	: 3,073,933	93	: 3,109,782		: 3,093,556		: 3,091,580
82	: Re. 25,498		: 3,088,009		: 3,103,566		: 3,084,239	105	: 3,098,799		: 3,093,557		: 3,102,086
	: 3,073,924	103	: 3,102,934		: 3,105,890		: 3,104,299	114	: 3,073,756		: 3,097,148	151	: 3,074,863
	: 3,075,057		: 3,078,359		: 3,108,166	157	: 3,072,768		: 3,108,930		: 3,111,463		: 3,074,864
	: 3,077,524		: 3,081,387		: 3,108,167	158	: 3,102,938		: 3,110,652		: 3,111,464		: 3,074,865
	: 3,083,277		: 3,091,677		: 3,110,789	159	: 3,073,934	135	: 3,087,868	44	: 3,111,465	154	: 3,071,524
	: 3,088,006	104	: 3,076,075		: 3,112,384		: 3,092,703	139	: 3,102,846	46	: 3,104,212		: 3,072,548
	: 3,089,008		: 3,076,880		: 3,112,385		: 3,098,141	141	: 3,072,540	48	: 3,090,734		: 3,073,766
	: 3,105,126		: 3,079,478		: 3,113,194		: 3,104,300	153	: 3,080,303	49	: 3,075,898		: 3,074,866
	: 3,109,076		: 3,080,460	123	: 3,089,012		: 3,072,769	158	: 3,083,148		: 3,081,239		: 3,074,867
	: 3,110,783		: 3,083,280	124	: 3,096,415		: 3,073,935	160	: 3,071,520		: 3,082,156		: 3,075,904
	: 3,112,382		: 3,087,031		: 3,096,416	161	: 3,104,301		: 3,085,050		: 3,111,466		: 3,075,905
	: 3,116,381		: 3,088,010	129	: 3,101,398	163	: 3,103,569		: 3,094,468		: 3,116,225		: 3,075,906
83	: 3,072,762		: 3,089,011	130	: 3,111,568	164	: 3,086,099		: 3,108,929	51	: 3,084,111		: 3,079,312
	: 3,089,009		: 3,092,702	131	: 3,089,013		: 3,114,817		: 3,115,445		: 3,108,933		: 3,079,313
	: 3,090,848		: 3,094,596		: 3,113,195	166	: 3,085,139	170	: 3,085,948	52	: 3,075,899		: 3,079,314
	: 3,091,676		: 3,099,728		: 3,116,389		: 3,087,038		: 3,098,800		: 3,081,240		: 3,081,242
	: 3,093,716		: 3,099,729	132	: 3,094,600		: 3,087,039		: 3,107,205		: 3,084,112		: 3,081,243
	: 3,097,276		: 3,099,730	135	: 3,116,390		: 3,096,421	173	: 3,096,256		: 3,101,305		: 3,081,244
	: 3,105,127		: 3,102,935	136.5	: 3,083,283		: 3,096,422	188	: 3,095,891		: 3,109,784		: 3,082,161
	: 3,106,623	105	: 3,105,130	137	: 3,079,480		: 3,099,734	189	: 3,091,577	54	: 3,082,157		: 3,082,162
	: 3,109,902		: 3,073,928		: 3,098,140		: 3,099,735	190	: 3,103,471	55	: 3,079,310		: 3,083,151
	: 3,109,908		: 3,076,879	138	: 3,080,465		: 3,102,939	197	: 3,108,049		: 3,088,884		: 3,084,114
	: 3,110,784		: 3,086,096		: 3,081,388		: 3,104,302	205	: 3,088,882		: 3,095,362		: 3,084,115
	: 3,113,190		: 3,097,278		: 3,087,033		: 3,106,628		: 3,096,257		: 3,098,019		: 3,085,952
	: 3,114,806		: 3,106,626		: 3,096,417		: 3,113,196	234	: 3,104,210		: 3,112,251		: 3,085,953
	: 3,116,382	106	: 3,115,563		: 3,096,418		: 3,114,818		: 3,104,211	59	: 3,079,311		: 3,080,875
84	: 3,090,849		: 3,072,764		: 3,098,913		: 3,107,081	236	: 3,090,732		: 3,082,158		: 3,097,735
	: 3,116,383		: 3,073,929		: 3,098,914		: 3,077,527	237	: 3,105,021		: 3,088,885		: 3,090,736
	: 3,086,093		: 3,079,479		: 3,100,247		: 3,093,718				: 3,098,020		: 3,092,560
85	: 3,083,278		: 3,083,281		: 3,114,812		: 3,113,197				: 3,100,181		: 3,092,561
86.5	: Re. 25,351		: 3,084,236	140	: 3,073,930		: 3,071,674				: 3,085,053		: 3,093,560
87	: 3,076,072		: 3,098,910		: 3,082,306		: 3,073,936	1	: 3,073,757		: 3,078,218		: 3,093,561
	: 3,076,073		: 3,098,911		: 3,089,014		: 3,075,061		: 3,073,758		: 3,105,800		: 3,097,150
	: 3,076,877		: 3,103,565		: 3,095,487		: 3,085,140		: 3,086,924	62	: 3,114,684		: 3,098,806
	: 3,083,279		: 3,105,131		: 3,096,419		: 3,090,855		: 3,096,258	64	: 3,071,523		: 3,099,611
	: 3,086,094	107	: 3,080,461		: 3,096,420		: 3,091,679		: 3,098,801		: 3,075,900		: 3,100,182
	: 3,086,095		: 3,098,912		: 3,103,567		: 3,096,423		: 3,098,802		: 3,082,159		: 3,101,306
	: 3,087,030	109	: 3,072,765		: 3,103,568		: 3,098,142	.5	: 3,081,237		: 3,098,021		: 3,104,214
	: 3,088,007		: 3,080,462		: 3,114,813		: 3,101,399	.5	: 3,086,925		: 3,098,805		: 3,105,801
	: 3,089,010	111	: 3,088,011	144	: 3,071,666		: 3,105,132	.5	: 3,086,926		: 3,111,467		: 3,107,206
	: 3,092,699	112	: 3,085,137		: 3,071,667		: 3,114,024	.5	: 3,114,682		: 3,114,685		: 3,107,207
	: 3,092,700		: 3,090,850		: 3,079,481		: 3,081,389	2	: 3,087,869	67	: 3,103,472		: 3,107,208
	: 3,092,701		: 3,114,811		: 3,081,389		: 3,082,307		: 3,108,050	68	: 3,072,544		: 3,110,653
	: 3,096,412	113	: 3,116,384		: 3,082,307		: 3,099,736		: 3,113,910		: 3,104,213		: 3,111,469
	: 3,098,135		: 3,089,932		: 3,086,097		: 3,103,570	4	: 3,092,558	70	: 3,093,558		: 3,111,470
	: 3,098,907		: 3,090,851		: 3,086,098			10	: 3,093,554	71	: 3,087,873		: 3,112,522
	: 3,098,908		: 3,096,414		: 3,087,034			15	: 3,073,759	72	: 3,086,928		: 3,113,081
	: 3,099,725		: 3,097,279		: 3,089,936				: 3,075,892	73	: 3,113,080		: 3,113,912
	: 3,099,726		: 3,100,826		: 3,090,852				: 3,096,259	77	: 3,103,473		: 3,116,226
	: 3,099,727		: 3,100,827		: 3,106,627				: 3,099,608	90	: 3,109,785	.2	: 3,071,525
	: 3,103,562		: 3,104,296		: 3,110,790				: 3,102,084	94	: 3,113,911	.2	: 3,071,526
	: 3,104,295		: 3,107,282	145	: 3,071,668				: 3,102,847	96	: 3,073,763	.2	: 3,073,767
	: 3,105,128		: 3,110,787		: 3,071,669				: 3,108,931		: 3,082,160	.2	: 3,073,768
	: 3,109,077		: 3,111,566		: 3,071,670				: 3,071,521	99	: 3,091,579	.2	: 3,074,868
	: 3,109,903	.5	: 3,113,192		: 3,093,717				: 3,091,578		: 3,114,686	.2	: 3,077,443
	: 3,109,904	.5	: 3,098,137		: 3,099,733				: 3,072,541	101	: 3,105,023	.2	: 3,079,315
	: 3,109,906		: 3,105,889		: 3,110,791				: 3,072,542		: 3,109,786	.2	: 3,079,316
	: 3,110,785	114	: 3,076,076	146	: 3,072,766				: 3,076,752		: 3,109,787	.2	: 3,079,317
	: 3,114,019		: 3,077,525		: 3,076,882				: 3,085,051		: 3,109,788	.2	: 3,085,056
	: 3,114,807		: 3,090,853		: 3,080,466				: 3,088,883		: 3,109,789	.2	: 3,085,057
	: 3,114,808		: 3,094,597		: 3,098,915				: 3,096,260		: 3,109,790	.2	: 3,085,058
	: 3,114,809		: 3,107,283		: 3,116,391				: 3,106,516		: 3,109,791	.2	: 3,085,954
	: 3,115,561		: 3,109,906		: 3,094,598				: 3,106,517		: 3,109,792	.2	: 3,086,929
	: 3,073,925		: 3,110,788		: 3,072,767				: 3,106,518		: 3,109,793	.2	: 3,087,876
	: 3,073,926		: 3,112,383		: 3,090,854				: 3,074,857		: 3,109,794	.2	: 3,087,877
	: 3,073,927		: 3,114,022		: 3,102,937				: 3,079,308		: 3,109,795	.2	: 3,087,878
	: 3,075,058	115	: 3,116,385		: 3,114,814				: 3,093,555	104	: 3,103,474	.2	: 3,087,879
	: 3,081,386		: 3,100,246	148	: 3,071,671				: 3,095,361	105	: 3,074,860	.2	: 3,088,891
	: 3,082,304	.5	: 3,076,077		: 3,072,767				: 3,109,783		: 3,075,901	.2	: 3,088,892
	: 3,088,008	.5	: 3,085,138		: 3,073,931	40	: 3,111,460		: 3,112,250		: 3,108,934	.2	: 3,088,893
	: 3,089,930	.5	: 3,110,788		: 3,073,932	42	: 3,073,752		: 3,114,683		: 3,111,468	.2	: 3,088,894
	: 3,096,413	.5	: 3,116,386		: 3,075,060				: 3,077,440	29	: 3,075,893	.2	: 3,088,895
	: 3,097,277	116	: 3,089,933		: 3,077,526				: 3,080,301				



154.2 : 3,102,849	193.2 : 3,081,249	193.2 : 3,106,520	298 : 3,071,533	45.14 : 3,084,790	56 : 3,114,455	84 : 3,078,993
.2 : 3,102,850	.2 : 3,082,163	.2 : 3,107,209	300 : 3,094,477	.13 : 3,086,645	: 3,115,244	: 3,113,674
.2 : 3,104,215	.2 : 3,085,059	.2 : 3,107,210	301 : 3,073,774	.19 : 3,088,585	: 3,115,245	: 3,113,675
.2 : 3,108,051	.2 : 3,085,060	.2 : 3,107,211	.2 : 3,085,970	.19 : 3,093,240	: 3,115,968	: 3,115,248
.2 : 3,108,935	.2 : 3,085,957	.2 : 3,108,052	.3,091,583	.19 : 3,095,086	57 : 3,089,586	
.2 : 3,108,936	.2 : 3,085,958	.2 : 3,108,053	302 : 3,073,775	.31 : 3,071,244	: 3,090,483	Class 207
.2 : 3,109,797	.2 : 3,085,959	.2 : 3,108,054	.3,073,776	.31 : 3,072,247	: 3,095,087	1 : 3,084,795
.2 : 3,112,253	.2 : 3,085,960	.2 : 3,108,937	312 : 3,090,745	.34 : 3,073,434	: 3,100,569	2 : 3,113,676
.2 : 3,113,082	.2 : 3,085,961	.2 : 3,108,938	328 : 3,079,325	.34 : 3,082,865	58 : 3,082,870	4 : 3,073,441
.2 : 3,113,083	.2 : 3,085,962	.2 : 3,109,801	.3,113,919	.33 : 3,086,646	: 3,078,987	: 3,095,089
.2 : 3,113,913	.2 : 3,085,963	.2 : 3,109,802	Class 205	.33 : 3,087,605	: 3,089,587	: 3,095,973
.2 : 3,114,688	.2 : 3,085,964	.2 : 3,110,654	1 : 3,114,451	.31 : 3,092,245	: 3,089,588	10 : 3,072,251
.2 : 3,114,689	.2 : 3,085,965	.2 : 3,110,655	2 : 3,083,817	.33 : 3,092,246	: 3,092,250	: 3,073,442
.2 : 3,114,690	.2 : 3,085,966	.2 : 3,110,656	3 : 3,075,636	.31 : 3,095,966	: 3,101,845	: 3,085,684
.2 : 3,115,446	.2 : 3,086,932	.2 : 3,110,657	.3,107,006	.33 : 3,095,967	: 3,101,846	: 3,088,589
.2 : 3,115,447	.2 : 3,086,933	.2 : 3,111,474	4 : 3,095,083	.33 : 3,098,560	: 3,113,670	: 3,096,881
157 : 3,104,216	.2 : 3,086,934	.2 : 3,111,475	.3,096,876	.34 : 3,098,561	: 3,114,456	: 3,097,742
158 : 3,074,869	.2 : 3,086,935	.2 : 3,111,476	.3,112,026	.33 : 3,101,842	: 3,115,246	: 3,110,399
.2 : 3,075,907	.2 : 3,086,936	.2 : 3,111,477	.3,108,962	.33 : 3,104,011	: 3,115,969	: 3,112,828
.2 : 3,080,305	.2 : 3,087,881	.2 : 3,111,478	16 : 3,080,962	.31 : 3,108,684	: 3,073,439	: 3,115,249
.2 : 3,084,116	.2 : 3,087,882	.2 : 3,112,254	21 : 3,075,637	.33 : 3,108,685	: 3,086,649	: 3,083,827
.2 : 3,084,117	.2 : 3,087,883	.2 : 3,113,088	.3,111,218	.34 : 3,108,686	: 3,091,330	: 3,089,591
.2 : 3,088,896	.2 : 3,087,884	.2 : 3,113,089	24 : 3,078,984	.34 : 3,111,219	: 3,100,046	: 3,080,051
.2 : 3,089,832	.2 : 3,087,885	.2 : 3,113,090	.3,113,919	.33 : 3,114,452	: 3,113,671	: 3,077,787
.2 : 3,089,833	.2 : 3,087,886	.2 : 3,113,091	.3,087,604	46 : 3,073,435	62 : 3,077,263	19 : 3,074,549
.2 : 3,090,738	.2 : 3,088,897	.2 : 3,113,915	Class 206	.3,073,436	: 3,081,870	
.2 : 3,092,563	.2 : 3,088,898	.2 : 3,113,916	.4 : 3,102,633	.3,073,437	: 3,091,331	Class 208
.2 : 3,094,471	.2 : 3,088,899	.2 : 3,113,917	.5 : 3,092,242	.3,073,438	: 3,094,208	8 : 3,075,912
.2 : 3,096,265	.2 : 3,088,900	.2 : 3,114,693	.3,112,026	.3,073,439	: 3,095,970	: 3,109,803
.2 : 3,096,266	.2 : 3,088,901	.2 : 3,115,448	.5 : 3,115,967	.3,073,440	: 3,095,971	
.2 : 3,096,267	.2 : 3,088,902	.2 : 3,115,449	.6 : 3,104,758	.3,073,441	: 3,102,635	11 : 3,074,877
.2 : 3,097,153	.2 : 3,088,903	.2 : 3,115,450	.5 : 3,104,758	.3,073,442	: 3,107,783	: 3,075,913
.2 : 3,099,612	.2 : 3,088,904	.2 : 3,115,451	.84 : 3,071,243	.3,073,443	: 3,108,688	: 3,093,571
.2 : 3,109,798	.2 : 3,089,834	.2 : 3,115,452	.82 : 3,073,432	.3,073,444	: 3,109,539	: 3,106,521
.2 : 3,109,799	.2 : 3,089,835	.2 : 3,115,453	.84 : 3,075,638	.3,073,445	: 3,100,047	: 3,108,059
.2 : 3,113,084	.2 : 3,089,836	.2 : 3,115,454	.84 : 3,080,963	.3,073,446	.2 : 3,072,249	: 3,112,255
.2 : 3,113,085	.2 : 3,089,837	.2 : 3,115,455	.82 : 3,083,818	.3,073,447	.2 : 3,084,793	: 3,114,694
.2 : 3,113,086	.2 : 3,089,838	.2 : 3,115,456	.83 : 3,095,084	.3,073,448	.2 : 3,092,251	: 3,095,366
.2 : 3,113,087	.2 : 3,089,839	.2 : 3,115,457	.82 : 3,100,567	.3,073,449	.2 : 3,092,252	: 3,088,907
.2 : 3,113,088	.2 : 3,089,840	.2 : 3,115,458	.81 : 3,114,452	.3,073,450	.2 : 3,095,088	: 3,071,534
.2 : 3,113,089	.2 : 3,089,841	.2 : 3,115,459	1 : 3,088,583	.3,073,451	.2 : 3,095,972	: 3,108,942
.2 : 3,113,090	.2 : 3,089,842	.2 : 3,115,460	.2 : 3,089,583	.3,073,452	.2 : 3,107,784	: 3,116,230
.2 : 3,113,091	.2 : 3,089,843	.2 : 3,115,461	.3,091,327	.3,073,453	.2 : 3,107,785	: 3,089,841
.2 : 3,113,092	.2 : 3,089,844	.2 : 3,115,462	.3,107,007	.3,073,454	.2 : 3,107,786	: 3,083,154
.2 : 3,113,093	.2 : 3,089,845	.2 : 3,115,463	.7 : 3,077,977	.3,073,455	.2 : 3,112,031	: 3,105,809
.2 : 3,113,094	.2 : 3,089,846	.2 : 3,115,464	.8 : 3,089,584	.3,073,456	.2 : 3,113,672	: 3,108,943
.2 : 3,113,095	.2 : 3,089,847	.2 : 3,115,465	2 : 3,100,568	.3,073,457	.3 : 3,112,825	: 3,093,572
.2 : 3,113,096	.2 : 3,089,848	.2 : 3,115,466	.3,101,839	.3,073,458	.5 : 3,094,209	: 3,108,944
.2 : 3,113,097	.2 : 3,089,849	.2 : 3,115,467	3 : 3,101,840	.3,073,459	65 : 3,072,250	: 3,113,920
.2 : 3,113,098	.2 : 3,089,850	.2 : 3,115,468	4 : 3,081,865	.3,073,460	.3,073,440	39 : Re.25,467
.2 : 3,113,099	.2 : 3,089,851	.2 : 3,115,469	.3,093,238	.3,073,461	.3,073,441	: 3,093,573
.2 : 3,113,100	.2 : 3,089,852	.2 : 3,115,470	5 : 3,083,819	.3,073,462	.3,073,442	44 : 3,089,842
.2 : 3,113,101	.2 : 3,089,853	.2 : 3,115,471	.3,091,328	.3,073,463	.3,073,443	: 3,108,060
.2 : 3,113,102	.2 : 3,089,854	.2 : 3,115,472	7 : 3,074,538	.3,073,464	.3,073,444	: 3,116,229
.2 : 3,113,103	.2 : 3,089,855	.2 : 3,115,473	.3,112,027	.3,073,465	.3,073,445	45 : 3,072,559
.2 : 3,113,104	.2 : 3,089,856	.2 : 3,115,474	9 : 3,104,010	.3,073,466	.3,073,446	: 3,080,965
.2 : 3,113,105	.2 : 3,089,857	.2 : 3,115,475	12 : 3,088,584	.3,073,467	.3,073,447	: 3,079,326
.2 : 3,113,106	.2 : 3,089,858	.2 : 3,115,476	13 : 3,092,243	.3,073,468	.3,073,448	: 3,087,887
.2 : 3,113,107	.2 : 3,089,859	.2 : 3,115,477	15.1 : 3,077,978	.3,073,469	.3,073,449	46 : 3,114,695
.2 : 3,113,108	.2 : 3,089,860	.2 : 3,115,478	.1 : 3,085,678	.3,073,470	.3,073,450	: 3,116,231
.2 : 3,113,109	.2 : 3,089,861	.2 : 3,115,479	16 : 3,082,862	.3,073,471	.3,073,451	48 : 3,090,746
.2 : 3,113,110	.2 : 3,089,862	.2 : 3,115,480	.3,095,965	.3,073,472	.3,073,452	: 3,105,810
.2 : 3,113,111	.2 : 3,089,863	.2 : 3,115,481	.3,096,877	.3,073,473	.3,073,453	55 : 3,071,535
.2 : 3,113,112	.2 : 3,089,864	.2 : 3,115,482	.3,096,878	.3,073,474	.3,073,454	: 3,072,560
.2 : 3,113,113	.2 : 3,089,865	.2 : 3,115,483	.3,108,683	.3,073,475	.3,073,455	57 : 3,092,567
.2 : 3,113,114	.2 : 3,089,866	.2 : 3,115,484	.5 : 3,100,044	.3,073,476	.3,073,456	58 : 3,079,327
.2 : 3,113,115	.2 : 3,089,867	.2 : 3,115,485	17 : 3,072,244	.3,073,477	.3,073,457	: 3,088,588
.2 : 3,113,116	.2 : 3,089,868	.2 : 3,115,486	.3,074,539	.3,073,478	.3,073,458	: 3,089,843
.2 : 3,113,117	.2 : 3,089,869	.2 : 3,115,487	.3,084,788	.3,073,479	.3,073,459	59 : 3,073,777
.2 : 3,113,118	.2 : 3,089,870	.2 : 3,115,488	19 : 3,113,664	.3,073,480	.3,073,460	60 : 3,071,536
.2 : 3,113,119	.2 : 3,089,871	.2 : 3,115,489	.5 : 3,072,245	.3,073,481	.3,073,461	: 3,105,811
.2 : 3,113,120	.2 : 3,089,872	.2 : 3,115,490	.5 : 3,082,863	.3,073,482	.3,073,462	: 3,108,945
.2 : 3,113,121	.2 : 3,089,873	.2 : 3,115,491	.5 : 3,084,789	.3,073,483	.3,073,463	: 3,096,880
.2 : 3,113,122	.2 : 3,089,874	.2 : 3,115,492	.5 : 3,109,537	.3,073,484	.3,073,464	: 3,097,740
.2 : 3,113,123	.2 : 3,089,875	.2 : 3,115,493	.5 : 3,110,397	.3,073,485	.3,073,465	: 3,097,741
.2 : 3,113,124	.2 : 3,089,876	.2 : 3,115,494	.5 : 3,113,665	.3,073,486	.3,073,466	: 3,101,847
.2 : 3,113,125	.2 : 3,089,877	.2 : 3,115,495	.20 : 3,080,047	.3,073,487	.3,073,467	: 3,103,278
.2 : 3,113,126	.2 : 3,089,878	.2 : 3,115,496	29 : 3,081,866	.3,073,488	.3,073,468	: 3,091,584
.2 : 3,113,127	.2 : 3,089,879	.2 : 3,115,497	.3,113,666	.3,073,489	.3,073,469	: 3,111,480
.2 : 3,113,128	.2 : 3,089,880	.2 : 3,115,498	37 : 3,109,538	.3,073,490	.3,073,470	66 : 3,097,155
.2 : 3,113,129	.2 : 3,089,881	.2 : 3,115,499	.3,109,244	.3,073,491	.3,073,471	: 3,114,696
.2 : 3,113,130	.2 : 3,089,882	.2 : 3,115,500	41 : 3,081,867	.3,073,492	.3,073,472	74 : 3,077,447
.2 : 3,113,131	.2 : 3,089,883	.2 : 3,115,501	.3,083,820	.3,073,493	.3,073,473	: 3,080,311
.2 : 3,113,132	.2 : 3,089,884	.2 : 3,115,502	.3,090,482	.3,073,494	.3,073,474	: 3,111,222
.2 : 3,113,133	.2 : 3,089,885	.2 : 3,115,503	.3,096,878	.3,073,495	.3,073,475	: 3,111,223
.2 : 3,113,134	.2 : 3,089,886	.2 : 3,115,504	.3,105,591	.3,073,496	.3,073,476	: 3,112,826
.2 : 3,113,135	.2 : 3,089,887	.2 : 3,115,505	.3,112,028	.3,073,497	.3,073,477	: 3,108,061
.2 : 3,113,136	.2 : 3,089,888	.2 : 3,115,506	.3,112,029	.3,073,498	.3,073,478	88 : 3,081,255
.2 : 3,113,137	.2 : 3,089,889	.2 : 3,115,507	.2 : 3,107,008	.3,073,499	.3,073,479	: 3,115,247
.2 : 3,113,138	.2 : 3,089,890	.2 : 3,115,508	42 : 3,073,433	.3,073,500	.3,073,480	72 : 3,074,547
.2 : 3,113,139	.2 : 3,089,891	.2 : 3,115,509	.3,077,261	.3,073,501	.3,073,481	: 3,085,971
.2 : 3,113,140	.2 : 3,089,892	.2 : 3,115,510	.3,085,679	.3,073,502	.3,073,482	: 3,095,367
.2 : 3,113,141	.2 : 3,089,893	.2 : 3,115,511	.3,093,239	.3,073,503	.3,073,483	73 : 3,112,032
.2 : 3,113,142	.2 : 3,089,894	.2 : 3,115,512	.3,095,085	.3,073,504	.3,073,484	: 3,076,542
.2 : 3,113,143	.2 : 3,089,895	.2 : 3,115,513	.3,098,595	.3,073,505	.3,073,485	: 3,089,590
.2 : 3,113,144	.2 : 3,089,896	.2 : 3,115,514	.3,104,540	.3,073,506	.3,073,486	: 3,093,244
.2 : 3,113,145	.2 : 3,089,897	.2 : 3,115,515	.3,074,541	.3,073,507	.3,073,487	: 3,099,352
.2 : 3,113,146	.2 : 3,089,898	.2 : 3,115,516	.3,074,542	.3,073,508	.3,073,488	: 3,104,759
.2 : 3,113,147	.2 : 3,089,899	.2 : 3,115,517	.3,075,639	.3,073,509	.3,073,489	: 3,112,827
.2 : 3,113,148	.2 : 3,089,900	.2 : 3,115,518	.3,101,841	.3,073,510	.3,073,490	: 3,083,826
.2 : 3,113,149	.2 : 3,089,901	.2 : 3,115,519	.3,102,246	.3,073,511	.3,073,491	: 3,084,794
.2 : 3,113,150	.2 : 3,089,902	.2 : 3,115,520	.3,110,398	.3,073,512	.3,073,492	: 3,099,353
.2 : 3,113,151	.2 : 3,089,903	.2 : 3,115,521	.14 : 3,081,868	.3,073,513	.3,073,493	: 3,086,652
.2 : 3,113,152	.2 : 3,089,904	.2 : 3,115,522	.14 : 3,082,864	.3,073,514	.3,073,494	: 3,096,484</



## Class 208 - Con.

111 : 3,115,456  
 112 : 3,099,618  
 113 : 3,092,568  
 120 : 3,071,538  
     : 3,072,563  
     : 3,082,165  
 124 : 3,097,156  
 125 : 3,081,256  
 127 : 3,074,878  
 130 : 3,103,485  
 133 : 3,081,257  
 135 : 3,071,539  
 136 : 3,113,921  
     : 3,114,697  
 137 : 3,114,698  
 139 : 3,079,328  
     : 3,089,844  
     : 3,089,845  
 143 : 3,116,233  
 144 : 3,108,947  
 153 : 3,113,095  
 155 : 3,094,478  
 157 : 3,079,329  
 159 : 3,114,699  
 163 : 3,071,540  
 167 : 3,098,815  
 176 : 3,074,879  
     : 3,094,479  
 179 : 3,109,805  
 182 : 3,097,157  
 183 : 3,098,031  
 188 : 3,071,541  
     : 3,082,166  
 189 : 3,108,948  
 199 : 3,075,914  
     : 3,091,585  
 204 : 3,092,569  
     : 3,097,158  
 206 : 3,114,700  
 208 : 3,093,575  
     : 3,116,234  
 209 : 3,083,155  
 210 : 3,072,564  
     : 3,077,448  
     : 3,090,747  
     : 3,091,586  
     : 3,102,853  
 213 : 3,081,258  
     : 3,112,256  
 216 : 3,074,880  
     : 3,075,915  
     : 3,076,755  
     : 3,081,259  
     : 3,098,032  
     : 3,112,257  
 221 : 3,093,576  
 226 : 3,085,973  
 227 : 3,098,033  
 230 : 3,107,213  
 234 : 3,100,744  
 236 : 3,072,565  
     : 3,072,566  
 240 : 3,090,748  
 251 : 3,076,756  
     : 3,077,449  
     : 3,087,888  
     : 3,103,486  
     : 3,105,038  
 252 : 3,082,167  
     : 3,095,368  
 253 : 3,075,916  
     : 3,098,816  
 254 : 3,071,542  
     : 3,094,480  
     : 3,105,812  
     : 3,112,258  
     : 3,114,701  
 255 : 3,075,917  
     : 3,094,481  
     : 3,113,097  
 263 : 3,083,156  
 264 : 3,078,222  
     : 3,105,813  
     : 3,112,259  
 265 : 3,084,118  
 274 : 3,108,062  
 289 : 3,073,778  
     : 3,080,314  
 293 : 3,091,587  
 296 : 3,110,664  
 304 : 3,072,567  
 305 : 3,085,974  
 308 : 3,074,881  
     : 3,094,482  
 309 : 3,074,882  
 310 : 3,094,483  
     : 3,100,745  
 313 : 3,085,062  
 314 : 3,072,568  
 316 : 3,098,034  
 321 : 3,084,119

## Class 209

1 : 3,076,544  
 2 : 3,076,545  
     : 3,076,546  
     : 3,096,275  
     : 3,097,159  
 3 : 3,083,828  
     : 3,087,611  
 4 : 3,097,160  
     : 3,102,854  
 5 : 3,098,035  
 9 : 3,073,443  
 10 : 3,111,483  
 11 : 3,114,703  
 12 : 3,088,590  
     : 3,097,161  
     : 3,099,620  
     : 3,112,260  
 20 : 3,076,547  
     : 3,096,276  
     : 3,096,277  
 22 : 3,113,098  
 26 : 3,116,236  
 27 : 3,071,246  
 34 : 3,089,592  
 35 : 3,110,665  
 36 : 3,108,949  
 38 : 3,084,796  
 42 : 3,103,487  
 66 : 3,092,572  
 72 : 3,078,994  
     : 3,101,147  
     : 3,101,848  
 73 : 3,077,983  
 74 : 3,073,444  
     : 3,073,445  
     : 3,075,641  
     : 3,081,872  
     : 3,087,612  
     : 3,087,613  
     : 3,104,760  
     : 3,110,400  
 75 : 3,074,550  
     : 3,080,052  
     : 3,085,685  
     : 3,090,485  
     : 3,091,332  
     : 3,094,212  
     : 3,098,564  
     : 3,107,788  
 80 : 3,072,552  
 81 : 3,073,446  
     : 3,082,871  
     : 3,092,253  
     : 3,106,290  
     : 3,077,264  
     : 3,080,967  
     : 3,080,968  
     : 3,084,797  
     : 3,085,686  
     : 3,089,593  
     : 3,091,333  
     : 3,100,570  
 83 : 3,106,291  
 84 : 3,075,642  
 87 : 3,104,761  
 88 : 3,071,247  
     : 3,076,548  
     : 3,080,053  
     : 3,080,054  
     : 3,088,591  
     : 3,077,789  
 90 : 3,080,969  
     : 3,090,486  
     : 3,106,292  
     : 3,115,250  
 91 : 3,106,293  
 107 : 3,108,691  
 110 : 3,105,593  
     : 3,105,814  
     : 3,111,224  
 111.5 : 3,072,523  
     : 3,074,551  
     : 3,077,984  
     : 3,078,995  
     : 3,089,594  
     : 3,094,213  
     : 3,095,090  
     : 3,096,882  
     : 3,097,743  
     : 3,097,744  
     : 3,097,745

111.5 : 3,098,565  
     : 3,098,566  
     : 3,107,011  
     : 3,108,692  
     : 3,108,693  
     : 3,108,694  
     : 3,114,458  
     : 3,115,970  
 121 : 3,072,254  
     : 3,093,245  
     : 3,095,091  
     : 3,100,571  
     : 3,110,401  
 122 : 3,087,614  
 124 : 3,077,985  
 127 : 3,073,447  
 129 : 3,109,806  
 134 : 3,087,615  
 135 : 3,113,099  
 136 : 3,109,807  
 139 : 3,090,487  
     : 3,095,369  
     : 3,105,039  
 140 : 3,102,092  
 144 : 3,077,986  
     : 3,084,798  
     : 3,089,595  
     : 3,098,036  
     : 3,075,643  
     : 3,077,265  
 161 : 3,083,829  
 164 : 3,102,855  
 166 : 3,072,255  
     : 3,073,448  
     : 3,078,996  
     : 3,078,997  
     : 3,086,653  
     : 3,086,654  
     : 3,094,484  
     : 3,094,485  
     : 3,097,162  
     : 3,098,817  
     : 3,102,856  
     : 3,107,214  
     : 3,107,215  
     : 3,113,922  
     : 3,114,704  
 167 : 3,072,256  
     : 3,082,872  
 169 : 3,098,818  
 172 : 3,101,312  
     : 3,093,577  
 211 : 3,091,334  
     : 3,101,313  
 221 : 3,087,616  
 222 : 3,083,830  
 227 : 3,111,484  
 238 : 3,080,055  
 242 : 3,116,237  
 247 : 3,105,815  
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 250 : 3,074,552  
     : 3,116,238  
 260 : 3,098,037  
 263 : 3,080,970  
 267 : 3,106,522  
 273 : 3,074,553  
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 288 : 3,073,449  
 304 : 3,100,746  
 308 : 3,102,857  
 309 : 3,109,808  
 317 : 3,077,266  
 319 : 3,087,617  
     : 3,101,314  
 325 : 3,106,523  
 329 : 3,087,618  
 331 : 3,105,816  
 332 : 3,101,315  
 367 : 3,076,549  
 379 : 3,106,524  
 388 : 3,113,923  
 393 : 3,074,554  
 395 : 3,116,239  
 403 : 3,092,573  
 406 : 3,071,248  
 408 : 3,081,874  
 409 : 3,100,189  
 412 : 3,091,338  
 421 : 3,072,257  
 455 : 3,073,450  
 456 : 3,087,619  
 459 : 3,099,621  
 466 : 3,080,056  
     : 3,105,040  
 491 : 3,082,873  
 503 : 3,075,644

## Class 210

6 : 3,103,488  
 17 : 3,112,261

22 : 3,088,909  
 24 : 3,116,240  
 30 : 3,078,224  
 32 : 3,111,485  
 33 : 3,084,120  
 35 : 3,101,316  
     : 3,116,241  
 46 : 3,087,889  
 47 : 3,078,225  
 49 : 3,099,622  
 52 : 3,101,317  
 53 : 3,079,331  
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     : 3,097,163  
 57 : 3,106,525  
 58 : 3,085,975  
     : 3,110,666  
 59 : 3,101,318  
 60 : 3,107,216  
 62 : 3,080,315  
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     : 3,101,320  
 63 : 3,113,924  
 70 : 3,116,242  
 71 : 3,091,335  
 73 : 3,084,987  
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 75 : 3,080,971  
 77 : 3,077,987  
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 78 : 3,116,243  
 83 : 3,080,057  
 85 : 3,073,451  
 86 : 3,077,988  
 90 : 3,077,267  
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     : 3,080,972  
     : 3,080,973  
 91 : 3,093,578  
     : 3,113,100  
 94 : 3,072,258  
     : 3,105,042  
 97 : 3,098,819  
 98 : 3,077,989  
     : 3,113,101  
 106 : 3,100,190  
 107 : 3,081,876  
 108 : 3,073,452  
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 111 : 3,083,831  
     : 3,087,620  
     : 3,091,336  
 114 : 3,088,592  
 117 : 3,093,579  
 126 : 3,080,974  
 128 : 3,071,249  
 130 : 3,083,832  
     : 3,092,574  
     : 3,109,809  
     : 3,112,262  
 133 : 3,095,370  
     : 3,097,165  
 134 : 3,080,975  
 136 : 3,111,487  
 138 : 3,100,191  
     : 3,109,810  
 141 : 3,092,575  
 144 : 3,080,059  
     : 3,084,799  
     : 3,088,593  
 145 : 3,114,705  
 146 : 3,092,576  
 149 : 3,072,259  
 150 : 3,113,102  
 151 : 3,101,321  
 152 : 3,074,555  
 153 : 3,086,655  
 159 : 3,093,580  
 167 : 3,073,453  
     : 3,099,623  
     : 3,100,747  
 169 : 3,078,998  
     : 3,080,060  
     : 3,090,489  
 170 : 3,097,166  
 172 : 3,108,065  
     : 3,109,811  
 173 : 3,091,337  
 174 : 3,091,338  
 184 : 3,083,833  
 188 : 3,106,526  
 190 : 3,071,250  
 194 : 3,078,999  
 195 : 3,074,556  
     : 3,085,687  
 197 : 3,075,645  
 198 : 3,113,103  
 199 : 3,108,951  
 207 : 3,104,222  
 222 : 3,094,486  
 223 : 3,072,260  
     : 3,106,527  
 232 : 3,076,550  
     : 3,076,551

232 : 3,080,976  
     : 3,080,977  
     : 3,084,800  
     : 3,085,688  
     : 3,085,689  
     : 3,091,339  
     : 3,092,577  
     : 3,111,488  
     : 3,111,489  
     : 3,115,457  
     : 3,088,594  
 237 : 3,115,458  
 241 : 3,109,812  
 242 : 3,109,812  
 243 : 3,073,454  
 249 : 3,080,061  
 275 : 3,080,062  
     : 3,110,667  
 293 : 3,081,877  
 299 : 3,074,557  
     : 3,074,558  
     : 3,083,834  
     : 3,090,490  
 304 : 3,088,595  
     : 3,092,578  
 307 : 3,085,690  
 315 : 3,113,925  
 321 : 3,074,559  
     : 3,077,268  
     : 3,108,066  
 327 : 3,096,278  
 330 : 3,074,560  
     : 3,080,063  
 331 : 3,107,217  
 333 : 3,074,561  
     : 3,082,874  
 349 : 3,071,251  
 354 : 3,091,340  
 369 : 3,089,596  
 370 : 3,092,579  
 376 : 3,076,552  
     : 3,087,621  
     : 3,092,580  
 380 : 3,108,067  
 382 : 3,088,596  
     : 3,102,093  
 386 : 3,100,192  
 391 : 3,075,646  
     : 3,096,279  
     : 3,113,926  
 396 : 3,080,064  
 400 : 3,104,223  
 401 : 3,075,647  
     : 3,077,990  
     : 3,105,817  
     : 3,116,244  
 402 : 3,105,043  
 404 : 3,096,280  
 409 : 3,087,622  
 411 : 3,081,878  
     : 3,112,263  
 414 : 3,080,065  
 416 : 3,082,875  
 444 : 3,093,581  
 457 : 3,076,553  
 463 : 3,093,582  
 477 : 3,079,000  
 484 : 3,115,459  
 487 : 3,076,554  
     : 3,093,583  
     : 3,096,281  
 492 : 3,079,001  
 493 : 3,076,555  
     : 3,086,656  
     : 3,087,623  
     : 3,112,264  
 496 : 3,106,528  
 497.1 : 3,104,224  
 505 : 3,083,157  
 508 : 3,116,245  
 510 : 3,092,581  
 511 : 3,106,529  
 512 : 3,102,858  
     : 3,105,044  
 523 : 3,077,991  
     : 3,081,879  
 525 : 3,081,880  
 528 : 3,084,801  
     : 3,102,094  
 532 : 3,072,261  
     : 3,109,813

## Class 211

1.3 : 3,086,657  
 5 : 3,092,254  
 2 : 3,100,048  
 4 : 3,084,802  
 10 : 3,092,255  
 11 : 3,107,012  
 13 : 3,081,881  
     : 3,084,803  
     : 3,088,599  
     : 3,088,599  
     : 3,094,215

13 : 3,115,971  
 34 : 3,079,002  
 37 : 3,104,013  
 40 : 3,090,491  
     : 3,092,256  
     : 3,106,294  
     : 3,114,459  
 41 : 3,115,251  
 42 : 3,095,974  
 45 : 3,094,216  
     : 3,102,636  
     : 3,103,279  
 47 : 3,091,341  
 49 : 3,080,066  
     : 3,082,876  
     : 3,092,257  
     : 3,094,217  
     : 3,098,567  
     : 3,099,354  
     : 3,110,402  
     : 3,112,033  
 50 : 3,086,658  
 51 : 3,094,218  
 55 : 3,115,252  
 57 : 3,082,877  
 60 : 3,071,252  
     : 3,082,878  
     : 3,095,092  
     : 3,098,568  
 65 : 3,104,762  
     : 3,108,695  
 69 : 3,102,637  
 71 : 3,079,003  
     : 3,080,978  
     : 3,091,342  
     : 3,102,638  
 72 : 3,105,594  
 73 : 3,090,492  
     : 3,108,696  
 74 : 3,091,343  
 75 : 3,099,355  
 77 : 3,094,219  
 86 : 3,079,004  
     : 3,081,882  
     : 3,085,691  
 87 : 3,087,624  
 88 : 3,088,598  
     : 3,089,597  
     : 3,096,883  
     : 3,113,677  
 90 : 3,113,678  
 96 : 3,079,005  
 103 : 3,087,625  
     : 3,102,639  
 105.1 : 3,076,556  
     : 3,080,979  
     : 3,103,280  
 111 : 3,094,220  
 113 : 3,091,344  
     : 3,093,246  
 118 : 3,083,835  
     : 3,113,679  
 119.15 : 3,085,692  
     : 3,096,884  
 123 : 3,104,014  
 124 : 3,084,804  
 126 : 3,082,879  
     : 3,095,093  
     : 3,097,746  
     : 3,113,680  
 128 : 3,102,640  
     : 3,115,253  
 132 : 3,099,356  
     : 3,106,295  
     : 3,106,296  
 133 : 3,099,357  
 134 : 3,083,836  
     : 3,085,693  
     : 3,085,694  
     : 3,114,460  
     : 3,115,254  
 147 : 3,072,262  
 148 : 3,095,975  
     : 3,101,148  
     : 3,102,641  
     : 3,106,297  
     : 3,112,034  
 149 : 3,091,345  
     : 3,093,247  
     : 3,097,748  
     : 3,115,972  
 153 : 3,082,880  
     : 3,086,659  
     : 3,086,660  
     : 3,100,572  
     : 3,105,595  
 163 : 3,092,258  
 166 : 3,088,600  
     : 3,101,849  
 171 : 3,072,263  
 176 : 3,080,062  
 177 : 3,100,573  
     : 3,100,574  
 178 : 3,071,253

## Class 212

1 : 3,100,575  
 3 : 3,079,006  
     : 3,090,493  
     : 3,095,976  
     : 3,098,569  
 4 : 3,079,007  
 8 : 3,071,254  
     : 3,111,225  
 9 : 3,091,346  
 11 : 3,074,562  
     : 3,086,661  
 13 : 3,081,883  
     : 3,090,494  
     : 3,106,298  
     : 3,110,404  
 14 : 3,081,884  
 15 : 3,074,563  
     : 3,077,992  
     : 3,102,642  
 18 : 3,090,495  
 20 : 3,101,149  
 21 : 3,084,805  
 28 : 3,080,981  
 32 : 3,105,596  
 34 : 3,087,626  
 35 : 3,071,255  
     : 3,090,496  
     : 3,092,259  
     : 3,096,886  
     : 3,109,541  
 38 : 3,101,150  
 39 : 3,072,264  
     : 3,094,221  
 46 : 3,083,837  
     : 3,084,806  
     : 3,106,299  
 55 : 3,073,455  
     : 3,076,558  
     : 3,082,881  
     : 3,093,248  
     : 3,093,249  
     : 3,112,035  
 56 : 3,076,559  
 58 : 3,084,807  
     : 3,095,977  
     : 3,106,300  
     : 3,077,791  
 59 : 3,072,265  
     : 3,076,560  
     : 3,092,260  
     : 3,092,261  
     : 3,095,978  
     : 3,097,749  
     : 3,104,015  
     : 3,109,542  
 63 : 3,111,226  
     : 3,084,808  
     : 3,113,681  
 64 : 3,074,564  
 66 : 3,073,456  
     : 3,097,750



133	: 3.071,256	3	: 3.112,85	17	: 3.079,017	138	: 3.080,077	517	: 3.077,278	40	: 3.096,898	10.51	: 3.071,675
133	: 3.075,650		: 3.115,256		: 3.079,018		: 3.081,891		: 3.081,894		: 3.110,409	55	: 3.081,392
146	: 3.074,461	5.5	: 3.079,013		: 3.080,074		: 3.082,890	519	: 3.084,821		: 3.111,237	55	: 3.083,284
152	: 3.097,751	.5	: 3.088,603		: 3.084,814		: 3.084,817		: 3.106,304	41	: 3.072,277	53	: 3.098,916
153	: 3.073,459	.5	: 3.107,792		: 3.088,606		: 3.094,229	520	: 3.107,803		: 3.074,578	55	: 3.102,181
166	: 3.088,601	.5	: 3.112,831		: 3.090,506		: 3.073,465	522	: 3.089,601		: 3.074,579	55	: 3.104,303
	: 3.102,644	6	: 3.074,567		: 3.090,507	140	: 3.074,572		: 3.090,515		: 3.080,991	55	: 3.104,304
	: 3.114,462		: 3.079,014		: 3.091,350		: 3.075,661		: 3.107,804		: 3.085,705	55	: 3.104,305
	: 3.115,973		: 3.080,069		: 3.091,351		: 3.076,571		: 3.108,703		: 3.109,547	55	: 3.106,629
167	: 3.079,010		: 3.080,070		: 3.095,098		: 3.076,572	620	: 3.071,268		: 3.112,838	53	: 3.109,080
211	: 3.115,255		: 3.081,888		: 3.095,985		: 3.088,611		: 3.092,274	42	: 3.074,580	55	: 3.110,794
212	: 3.111,229		: 3.085,696		: 3.098,571		: 3.090,511		: 3.105,604		: 3.088,617	69	: 3.083,285
	: 3.112,036		: 3.086,665		: 3.100,052		: 3.091,354		: 3.115,261	43	: 3.080,082	61	: 3.103,571
220	: 3.084,809		: 3.088,604		: 3.101,853		: 3.094,230	621	: 3.071,269		: 3.107,022	79	: 3.076,884
			: 3.090,502		: 3.103,287		: 3.095,990	653	: 3.088,614	44	: 3.077,280	79	: 3.077,528
			: 3.090,503		: 3.104,020		: 3.104,771		: 3.089,602		: 3.086,672	77	: 3.080,468
			: 3.092,266	18	: 3.074,568		: 3.105,603		: 3.104,023	46	: 3.073,471	77	: 3.097,283
			: 3.096,891		: 3.077,273		: 3.108,701	654	: 3.090,516		: 3.073,472	79	: 3.109,937
1	: 3.071,257		: 3.101,851		: 3.083,846		: 3.111,235		: 3.104,772		: 3.102,652	19	: 3.073,937
	: 3.071,258		: 3.103,284		: 3.093,253		: 3.115,259		: 3.115,262		: 3.102,653		: 3.076,082
	: 3.071,259		: 3.106,302		: 3.107,797	141	: 3.072,272		: 3.075,663	655	: 3.109,548		: 3.076,083
	: 3.071,260		: 3.107,013	23	: 3.104,767		: 3.087,636		: 3.080,988	656	: 3.074,577	47	: 3.096,899
	: 3.072,266		: 3.107,014		: 3.104,768	145	: 3.077,999		: 3.074,577	658	: 3.074,577		: 3.099,549
	: 3.072,267		: 3.107,793	29	: 3.081,889		: 3.079,019		: 3.075,664		: 3.073,473	48	: 3.073,473
	: 3.072,268		: 3.109,543		: 3.088,607		: 3.107,799		: 3.082,893		: 3.111,238		: 3.085,143
	: 3.074,565		: 3.111,233	31	: 3.103,286	147	: 3.079,020		: 3.095,102	56	: 3.071,276		: 3.085,144
	: 3.075,651		: 3.112,038	35	: 3.077,274	152	: 3.071,266		: 3.109,545		: 3.083,854		: 3.086,100
	: 3.076,561		: 3.113,682		: 3.095,986		: 3.088,612	660	: 3.083,853		: 3.100,577		: 3.087,040
	: 3.076,562		: 3.114,465	38	: 3.074,569		: 3.092,271	674	: 3.071,270		: 3.106,306		: 3.089,016
	: 3.076,563		: 3.114,466		: 3.075,659		: 3.095,100		: 3.096,895		: 3.114,467		: 3.089,939
	: 3.077,993		: 3.082,885		: 3.080,986		: 3.098,572		: 3.098,574	70	: 3.110,410		: 3.091,680
	: 3.079,011	.5	: 3.073,460	7	: 3.073,461		: 3.102,646	700	: 3.101,153	73	: 3.074,581		: 3.091,681
	: 3.079,012		: 3.073,461		: 3.094,226		: 3.115,977	701	: 3.086,670		: 3.099,361		: 3.092,704
	: 3.080,982		: 3.090,504		: 3.095,987	302	: 3.078,000	730	: 3.082,894	74	: 3.084,823		: 3.092,705
	: 3.080,983		: 3.101,852		: 3.095,988		: 3.083,849		: 3.096,896	76	: 3.115,264		: 3.093,720
	: 3.080,984	8	: 3.082,886		: 3.112,040		: 3.085,702		: 3.106,305	79	: 3.113,688		: 3.093,721
	: 3.081,885		: 3.099,359	42	: 3.090,508		: 3.085,703		: 3.075,665	81	: 3.075,667		: 3.094,603
	: 3.081,886		: 3.107,015		: 3.090,509		: 3.085,704	731	: 3.075,665	89	: 3.089,605		: 3.095,491
	: 3.082,883		: 3.107,015		: 3.105,602		: 3.087,637	750	: 3.080,080	99.5	: 3.089,605		: 3.097,284
	: 3.083,840	.5	: 3.075,652		: 3.105,602		: 3.090,512			100	: 3.089,606		: 3.097,284
	: 3.084,810	.5	: 3.083,843	44	: 3.073,463		: 3.103,288				: 3.093,257		: 3.098,143
	: 3.084,811	.5	: 3.090,505		: 3.103,288		: 3.094,231				: 3.095,105		: 3.098,144
	: 3.086,663	.5	: 3.105,598		: 3.115,975		: 3.095,101			.5	: 3.101,857		: 3.098,917
	: 3.086,664	.5	: 3.107,794	46	: 3.112,832	305	: 3.112,834		: 3.092,275		: 3.094,235		: 3.100,251
	: 3.087,628	.5	: 3.113,683	49	: 3.075,660	306	: 3.108,078		: 3.093,255				: 3.100,252
	: 3.087,629	9	: 3.080,071	52	: 3.076,568	307	: 3.107,800		: 3.100,054				: 3.102,182
	: 3.087,630	10	: 3.108,700	55	: 3.082,888	308	: 3.101,152		: 3.100,576				: 3.102,940
	: 3.087,631	.5	: 3.072,270	59	: 3.077,997	309	: 3.084,818		: 3.101,855	12	: Re.25,465		: 3.103,572
	: 3.087,632	.5	: 3.076,564	63	: 3.080,075	308	: 3.080,079		: 3.107,805				: 3.105,133
	: 3.088,602	.5	: 3.083,844	75	: 3.074,570		: 3.086,668	6	: 3.076,573				: 3.105,134
	: 3.089,598	.5	: 3.083,845		: 3.077,275		: 3.099,360		: 3.079,022				: 3.106,630
	: 3.089,599	.5	: 3.085,697		: 3.082,889	310	: 3.072,273		: 3.087,638				: 3.108,170
	: 3.089,600	.5	: 3.085,698		: 3.087,635	313	: 3.112,835		: 3.094,234				: 3.108,171
	: 3.090,498	.5	: 3.091,348		: 3.092,268	315	: 3.074,573	7	: 3.073,468		: 3.104,024		: 3.109,081
	: 3.090,499	.5	: 3.105,599		: 3.104,769	334	: 3.084,819	9	: 3.071,271	15	: 3.107,023		: 3.111,569
	: 3.090,500	.5	: 3.105,600	77	: 3.072,271	340	: 3.088,613		: 3.072,276	26.5	: 3.104,582		: 3.111,570
	: 3.091,347	.5	: 3.111,234		: 3.084,815		: 3.090,513		: 3.097,756	.5	: 3.100,055		: 3.115,564
	: 3.092,262	11	: 3.071,261		: 3.088,608		: 3.094,232		: 3.101,856	27	: 3.113,689		: 3.116,393
	: 3.092,263		: 3.075,653		: 3.095,099	356	: 3.102,647		: 3.115,979	36	: 3.095,992		: 3.116,394
	: 3.093,250		: 3.080,072		: 3.109,544	371	: 3.081,892	11	: 3.071,272	48	: 3.080,992	20	: 3.071,676
	: 3.094,223		: 3.080,985		: 3.112,833		: 3.084,820		: 3.075,666	52	: 3.082,896		: 3.072,773
	: 3.095,095		: 3.103,285		: 3.113,684	374	: 3.081,893		: 3.076,574	53	: 3.084,824		: 3.073,938
	: 3.095,096		: 3.105,601		: 3.113,685	375	: 3.075,662		: 3.077,279	58	: 3.082,896		: 3.073,939
	: 3.095,980	14	: 3.076,565	82	: 3.071,264		: 3.102,648		: 3.081,895	60	: 3.078,001		: 3.073,940
	: 3.095,981		: 3.104,766		: 3.074,571		: 3.108,702		: 3.092,276				: 3.093,258
	: 3.095,982		: 3.107,795		: 3.083,848	378	: 3.115,260		: 3.093,256				: 3.076,885
	: 3.095,983	15	: 3.077,269		: 3.094,227	390	: 3.083,850		: 3.097,757	65	: 3.082,897		: 3.077,529
	: 3.095,984		: 3.077,270		: 3.097,754	394	: 3.082,891		: 3.112,837	69	: 3.071,278		: 3.078,361
	: 3.096,888		: 3.107,796		: 3.115,258		: 3.094,233		: 3.113,687				: 3.079,484
	: 3.096,889		: 3.112,039	83.1	: 3.088,609		: 3.098,573		: 3.115,980				: 3.083,287
	: 3.096,890	16	: 3.093,252	18	: 3.096,892	450	: 3.072,274	12	: 3.080,989				: 3.089,017
	: 3.097,752		: 3.094,225	.1	: 3.107,018		: 3.072,275		: 3.102,650	1	: 3.072,279		: 3.092,706
	: 3.097,753		: 3.115,257	24	: 3.084,816		: 3.103,289		: 3.110,407		: 3.101,858		: 3.093,722
	: 3.098,570	.1	: 3.075,654	26	: 3.107,798		: 3.103,290	13	: 3.071,273	2	: 3.098,576		: 3.094,604
	: 3.100,051	.1	: 3.075,655	36	: 3.073,464		: 3.112,041		: 3.076,575	19	: 3.073,474		: 3.094,605
	: 3.101,151	.1	: 3.077,994	36	: 3.080,987		: 3.115,978		: 3.082,895		: 3.105,605		: 3.096,424
	: 3.101,850	.1	: 3.079,015	.3	: 3.092,269	501	: 3.092,272		: 3.089,603	29	: 3.078,002		: 3.097,285
	: 3.103,283	.1	: 3.084,813	32	: 3.093,254	503	: 3.083,851		: 3.092,277		: 3.101,859		: 3.098,918
	: 3.104,018	.1	: 3.085,699	36	: 3.095,570		: 3.104,021		: 3.096,897		: 3.109,550		: 3.098,919
	: 3.104,765	.1	: 3.085,700	.3	: 3.100,053	504	: 3.092,273		: 3.110,408	36	: 3.083,855		: 3.098,920
	: 3.106,301	.1	: 3.085,701	.3	: 3.115,976	505	: 3.071,267		: 3.115,263	42	: 3.095,106		: 3.100,253
	: 3.108,698	.1	: 3.088,605	84	: 3.077,276		: 3.074,574		: 3.115,981		: 3.100,578		: 3.102,183
	: 3.108,699	.1	: 3.091,349		: 3.077,277		: 3.082,892	21	: 3.084,822		: 3.107,806		: 3.103,573
	: 3.110,405	.1	: 3.092,267		: 3.104,770		: 3.086,669		: 3.109,546	47	: 3.082,898		: 3.107,285
	: 3.111,230	.1	: 3.102,645		: 3.113,686		: 3.097,755	22	: 3.073,469	48	: 3.088,618		: 3.109,082
	: 3.111,231	.1	: 3.104,019	85	: 3.076,569		: 3.102,649		: 3.073,470				: 3.109,910
	: 3.111,232	.1	: 3.107,016		: 3.095,989		: 3.107,020	31	: 3.080,990				: 3.113,198
	: 3.112,829	.4	: 3.071,262		: 3.106,303		: 3.107,021		:				



<b>Class 219—Con.</b>		44	: 3,082,313 : 3,089,943 : 3,095,498 : 3,096,427 : 3,097,289 : 3,111,574	85	: 3,112,388 : 3,112,389 : 3,080,470 : 3,089,020 : 3,099,739 : 3,100,831	156	: 3,114,034 : 3,083,291 : 3,089,950	23.6	: 3,115,266 : 3,107,027 : 3,084,826 : 3,086,674 : 3,099,363 : 3,102,656 : 3,105,606 : 3,080,993 : 3,086,675 : 3,087,641 : 3,099,364 : 3,102,657 : 3,115,267 : 3,076,576 : 3,084,827 : 3,091,356 : 3,094,828 : 3,074,587 : 3,075,668 : 3,079,029 : 3,079,030 : 3,104,775 : 3,106,309 : 3,106,310 : 3,079,031 : 3,081,899 : 3,083,858 : 3,097,758 : 3,102,658 : 3,082,903 : 3,083,859 : 3,072,283 : 3,077,282 : 3,080,087 : 3,086,676 : 3,087,642 : 3,091,357 : 3,113,692 : 3,083,860 : 3,093,262 : 3,100,580 : 3,079,032 : 3,093,263 : 3,080,088 : 3,081,900 : 3,090,518 : 3,098,579 : 3,110,411 : 3,076,577 : 3,081,901 : 3,098,580 : 3,102,659 : 3,102,660 : 3,071,284 : 3,096,903 : 3,105,607 : 3,089,608 : 3,071,285 : 3,072,284 : 3,072,285 : 3,074,588 : 3,077,283 : 3,080,994 : 3,082,904 : 3,082,905 : 3,083,861 : 3,083,862 : 3,086,677 : 3,094,239 : 3,101,863 : 3,107,080 : 3,110,412 : 3,111,239 : 3,112,045 : 3,112,840 : 3,112,841 : 3,072,286 : 3,074,589 : 3,074,590 : 3,074,591 : 3,076,578 : 3,079,033 : 3,079,034 : 3,079,035 : 3,081,902 : 3,088,623 : 3,090,519 : 3,091,358 : 3,092,285 : 3,095,110 : 3,095,994 : 3,098,581 : 3,103,293 : 3,109,552 : 3,112,842 : 3,115,268 : 3,087,643 : 3,092,286 : 3,096,904 : 3,109,553 : 3,089,609 : 3,100,057 : 3,115,985 : 3,071,286	51	: 3,074,592 : 3,079,036 : 3,081,903 : 3,107,809 : 3,089,610 : 3,096,905 : 3,103,294 : 3,073,477 : 3,088,624 : 3,108,708 : 3,080,089 : 3,080,995 : 3,114,471 : 3,115,269 : 3,107,810 : 3,080,996 : 3,084,828 : 3,087,644 : 3,072,287 : 3,077,284 : 3,079,037 : 3,080,990 : 3,081,904 : 3,095,995 : 3,101,864 : 3,106,311 : 3,107,028 : 3,113,693 : 3,115,270 : 3,113,694 : 3,081,905 : 3,086,678 : 3,087,645 : 3,093,264 : 3,115,986 : 3,077,285 : 3,078,006 : 3,088,625 : 3,100,581 : 3,108,709 : 3,110,413 : 3,113,695 : 3,115,987 : 3,076,579 : 3,095,111 : 3,073,478 : 3,073,479 : 3,073,480 : 3,081,906 : 3,095,112 : 3,098,582 : 3,108,710 : 3,111,240 : 3,080,997 : 3,078,007 : 3,088,626 : 3,104,776 : 3,083,863 : 3,104,026 : 3,088,627 : 3,079,038 : 3,083,864 : 3,115,988 : 3,084,829 : 3,095,113 : 3,103,295 : 3,107,029 : 3,071,287 : 3,104,777 : 3,102,661 : 3,103,296 : 3,072,288 : 3,080,091 : 3,091,359 : 3,100,058 : 3,109,554 : 3,109,555 : 3,088,628 : 3,103,297 : 3,085,710 : 3,106,312 : 3,077,286 : 3,115,272 : 3,082,906 : 3,113,696 : 3,079,039 : 3,084,830 : 3,091,360 : 3,091,361 : 3,094,240 : 3,100,582 : 3,106,313 : 3,114,472 : 3,079,040 : 3,105,608 : 3,107,811 : 3,111,241 : 3,086,680 : 3,090,520 : 3,083,865 : 3,084,831 : 3,093,265 : 3,096,906	113	: 3,098,583 : 3,101,865 : 3,104,027 : 3,115,273 : 3,079,041 : 3,100,059	<b>Class 221</b>		2	: 3,086,681 : 3,112,046 : 3,075,669 : 3,082,907 : 3,090,521 : 3,082,908 : 3,082,909 : 3,089,612 : 3,098,584 : 3,074,593 : 3,079,042 : 3,081,907 : 3,115,989 : 3,078,008 : 3,090,522 : 3,104,778 : 3,106,314 : 3,102,910 : 3,090,523 : 3,091,362 : 3,100,583 : 3,087,646 : 3,087,647 : 3,083,866 : 3,095,996 : 3,071,289 : 3,071,290 : Re. 25,321 : 3,107,812 : 3,107,813 : 3,071,291 : 3,080,092 : 3,107,814 : 3,085,711 : 3,075,670 : 3,107,815 : 3,088,629 : 3,110,415 : 3,109,556 : 3,087,648 : 3,114,473 : 3,104,028 : 3,107,816 : 3,087,649 : 3,108,711 : 3,114,474 : 3,074,594 : 3,101,156 : 3,101,866 : 3,106,315 : 3,110,416 : 3,115,990 : 3,114,475 : 3,094,241 : 3,110,417 : 3,096,907 : 3,095,114 : 3,098,585 : 3,100,060 : 3,107,030 : 3,083,867 : 3,101,867 : 3,101,867 : 3,115,274 : 3,095,115 : 3,100,061 : 3,085,712 : 3,095,116 : 3,102,662 : 3,073,481 : 3,095,117 : 3,095,118 : 3,081,908 : 3,106,316 : 3,108,713 : 3,082,911 : 3,073,482 : 3,089,613 : 3,096,909 : 3,105,609 : 3,095,997 : 3,112,843 : 3,073,483 : 3,092,287 : 3,097,759 : 3,113,697 : 3,108,713 : 3,115,991 : 3,105,610 : 3,104,779 : 3,077,287 : 3,108,714
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213	: 3,082,912	54	: 3,094,247	146	: 3,095,122	325	: 3,080,098	511	: 3,089,627	5	: 3,099,374	38	: 3,071,300
	: 3,083,868	55	: 3,072,293	147	: 3,098,586	327	: 3,071,294	512	: 3,081,010		: 3,100,590	39	: 3,097,777
	: 3,095,998		: 3,087,652	148	: 3,089,621		: 3,075,675		: 3,084,834		: 3,115,287		: 3,100,591
216	: 3,108,715		: 3,097,764		: 3,110,424	328	: 3,114,482	514	: 3,095,128		: 3,115,288	41	: 3,083,887
	: 3,097,760		: 3,100,584	156	: 3,100,588	333	: 3,072,300	518	: 3,087,656		: 3,115,997	42	: 3,105,625
221	: 3,074,595		: 3,107,819	158	: 3,088,634		: 3,081,915	520	: 3,101,877	6	: 3,096,917		: 3,112,052
223	: 3,071,292		: 3,110,419	159	: 3,093,267		: 3,093,269	525	: 3,081,921		: 3,097,773		: 3,115,289
	: 3,104,780	56	: 3,077,290	161	: 3,078,015		: 3,096,914		: 3,085,722	7	: 3,072,307	43	: 3,088,642
225	: 3,101,868		: 3,091,368		: 3,081,004		: 3,112,049		: 3,107,829		: 3,096,010	44	: 3,087,663
	: 3,114,476		: 3,110,420	162	: 3,073,486	334	: 3,079,050	527	: 3,075,676		: 3,098,592	48	: 3,090,536
227	: 3,101,157		: 3,115,278	166	: 3,100,064		: 3,095,126		: 3,093,273	8	: 3,114,486	49	: 3,081,013
	: 3,104,781	57	: 3,078,012	167	: 3,093,268	337	: 3,079,051		: 3,099,373	25	: 3,106,323		: 3,092,295
231	: 3,103,298		: 3,110,421	168	: 3,085,718	340	: 3,104,036	531	: 3,087,657	26	: 3,091,378		: 3,092,296
232	: 3,080,998	58	: 3,099,368	169	: 3,093,267	342	: 3,071,295	534	: 3,111,245	29	: 3,104,040	50	: 3,091,380
	: 3,093,266		: 3,107,820	170	: 3,091,371		: 3,072,301	536	: 3,094,256		: 3,104,041	62	: 3,074,607
233	: 3,095,999	59	: 3,104,030	171	: 3,095,123		: 3,105,620		: 3,104,039	32	: 3,087,661	64	: 3,076,585
234	: 3,095,119	60	: 3,089,618	175	: 3,095,123	360	: 3,093,270	541	: 3,076,584		: 3,101,163	71	: 3,082,924
236	: 3,104,029	61	: 3,112,844	176	: 3,090,527	368	: 3,097,767		: 3,081,011	36	: 3,080,100	74	: 3,073,497
238	: 3,075,671		: 3,115,279		: 3,098,587	371	: 3,082,919		: 3,084,835		: 3,094,257		: 3,114,490
	: 3,109,557	63	: 3,100,585	177	: 3,098,588	373	: 3,102,666		: 3,093,274	1	: 3,095,129	75	: 3,114,491
	: 3,114,477		: 3,109,560		: 3,107,822		: 3,113,704	542	: 3,101,878	1	: 3,104,042	76	: 3,116,000
241	: 3,094,242	64	: 3,090,525		: 3,113,702	385	: 3,071,296	543	: 3,113,706	1	: 3,109,569	82	: 3,084,840
243	: 3,091,363		: 3,114,479	179	: 3,090,528		: 3,101,874	545	: 3,090,531	24	: 3,081,924	83	: 3,089,628
248	: 3,105,611	67	: 3,078,013	180	: 3,074,599	386.5	: 3,089,624	556	: 3,096,005	42	: 3,110,429	85	: 3,111,249
251	: 3,089,614		: 3,083,874		: 3,100,065	5	: 3,099,370	566	: 3,115,284	45	: 3,078,020	88	: 3,072,309
256	: 3,091,364	70	: 3,082,913		: 3,100,066	389	: 3,097,768	567	: 3,083,883		: 3,081,012	89	: 3,112,053
260	: 3,107,817		: 3,085,715		: 3,108,719		: 3,113,705	569	: 3,074,604		: 3,083,886	91	: 3,079,055
263	: 3,099,365		: 3,101,159	181	: 3,072,297	394	: 3,073,488		: 3,102,667		: 3,086,688		: 3,081,925
264	: 3,115,992		: 3,102,664		: 3,078,016		: 3,073,489				: 3,094,258		: 3,089,629
265	: 3,079,043		: 3,107,834		: 3,078,017		: 3,074,601				: 3,097,774		: 3,110,430
266	: 3,080,999		: 3,107,821	182	: 3,088,635		: 3,081,916				: 3,104,788	95	: 3,082,925
275	: 3,102,663	74	: 3,072,294		: 3,104,034		: 3,081,917	1	: 3,097,770		: 3,114,487		: 3,093,283
293	: 3,083,869		: 3,113,700		: 3,107,823		: 3,081,918	2	: 3,112,847	48	: 3,094,259		: 3,097,778
295	: 3,101,158	76	: 3,072,295	183	: 3,078,018		: 3,085,720	25	: 3,083,884		: 3,103,303		: 3,108,728
297	: 3,078,009		: 3,092,290		: 3,086,683		: 3,095,127	30	: 3,086,685	55	: 3,073,493		: 3,110,431
298	: 3,092,288	77	: 3,091,369		: 3,087,655		: 3,096,002	32	: 3,110,427				: 3,112,054
303	: 3,088,630		: 3,109,561		: 3,089,622		: 3,096,003	34	: 3,084,836			97	: 3,078,022
312	: 3,075,672	78	: 3,105,612		: 3,096,911		: 3,098,589	35	: 3,090,533				: 3,087,664
		79	: 3,091,370		: 3,096,912		: 3,101,875	37	: 3,111,246			2	: 3,084,839
		80	: 3,104,031		: 3,096,913		: 3,101,876	38	: 3,093,275				: 3,101,164
			: 3,113,701		: 3,101,160		: 3,106,321	39	: 3,103,302				: 3,112,850
		81	: 3,088,631		: 3,111,242		: 3,107,826	46	: 3,097,771			4	: 3,098,593
			: 3,089,619		: 3,112,448		: 3,107,827		: 3,097,772				: 3,103,304
			: 3,105,613	184	: 3,072,298		: 3,108,721	52.1	: 3,086,686				: 3,112,851
			: 3,109,562		: 3,115,281		: 3,109,565	1	: 3,087,658			6	: 3,103,305
		82	: 3,079,047	185	: 3,092,292		: 3,109,566	57	: 3,080,099				: 3,112,051
			: 3,080,094		: 3,101,871		: 3,112,846	60	: 3,096,006			19	: 3,082,922
			: 3,097,765		: 3,104,035		: 3,115,283	66	: 3,085,723			26	: 3,106,324
			: 3,105,614		: 3,105,617		: 3,115,283		: 3,108,723			34	: 3,115,998
		83	: 3,092,291	189	: 3,080,097	396	: 3,081,919	67	: 3,082,920			39	: 3,114,488
			: 3,110,422		: 3,081,005		: 3,083,882	68	: 3,075,677			41	: 3,108,726
		89	: 3,080,095		: 3,081,912		: 3,074,602		: 3,081,922			42	: 3,093,278
			: 3,089,620		: 3,095,124		: 3,089,625		: 3,084,837			43	: 3,087,662
			: 3,106,317		: 3,104,782	400.7	: 3,090,530		: 3,096,916				: 3,093,279
			: 3,108,717	190	: 3,100,067		: 3,091,372	71	: 3,087,659				: 3,102,670
2	: 3,079,044	90	: 3,100,586	191	: 3,104,783		: 3,104,037		: 3,091,376				: 3,102,671
			: 3,106,318		: 3,113,703		: 3,104,038		: 3,098,590			47	: 3,092,294
3	: 3,072,289		: 3,114,480	192	: 3,109,563		: 3,094,252	72	: 3,113,707			48	: 3,088,640
	: 3,078,010		: 3,104,032	193	: 3,074,600		: 3,096,004	73	: 3,084,838				: 3,088,641
5	: 3,077,288	91	: 3,073,485		: 3,094,248	413	: 3,088,637		: 3,115,285				: 3,096,918
	: 3,091,365	92	: 3,087,653		: 3,094,249		: 3,093,271		: 3,096,007			75	: 3,096,007
14	: 3,087,650	93	: 3,087,653		: 3,104,784	414	: 3,099,371	76	: 3,091,377			76	: 3,091,377
16	: 3,087,651		: 3,100,063		: 3,111,243	416	: 3,081,008	77	: 3,072,305			77	: 3,072,305
	: 3,089,615	94	: 3,105,615		: 3,076,580		: 3,097,769		: 3,096,008			78	: 3,085,727
	: 3,089,616		: 3,083,875	194	: 3,103,300	420	: 3,091,373	83	: 3,107,830				: 3,097,775
	: 3,089,617	95	: 3,115,280	195	: 3,103,300	434	: 3,079,052		: 3,108,724			67	: 3,105,622
17	: 3,114,478		: 3,081,001	196	: 3,109,564		: 3,107,828	84	: 3,072,306			77	: 3,071,299
20	: 3,073,484	99	: 3,074,598		: 3,111,244		: 3,072,302	85	: 3,085,724			89	: 3,085,728
	: 3,097,762	100	: 3,088,632	205	: 3,089,623		: 3,091,374	87	: 3,085,725				: 3,091,379
	: 3,099,366	105	: 3,081,002	207	: 3,094,250		: 3,094,253		: 3,096,009			93	: 3,111,248
	: 3,115,275		: 3,081,003		: 3,100,068	452	: 3,075,678	88	: 3,077,291			96	: 3,075,678
22	: 3,081,910		: 3,087,654		: 3,104,785		: 3,076,581		: 3,087,660				: 3,093,280
23	: 3,072,290		: 3,090,526		: 3,105,618	455	: 3,074,603	91	: 3,085,726				: 3,072,308
	: 3,094,244		: 3,100,587		: 3,107,824	456	: 3,090,532		: 3,086,687	5	: 3,072,308		: 3,100,071
	: 3,113,699		: 3,101,869	209	: 3,090,529		: 3,115,993		: 3,115,995	5	: 3,077,834	177	: 3,106,326
25	: 3,096,909		: 3,112,047		: 3,105,619	459	: 3,081,009	93	: 3,093,276				: 3,079,056
	: 3,110,418	107	: 3,081,911	212	: 3,081,006	462	: 3,071,297		: 3,109,568			97	: 3,093,281
26	: 3,072,291		: 3,083,876	213	: 3,088,636	463	: 3,108,722	94	: 3,082,921				: 3,099,375
	: 3,077,289		: 3,083,877		: 3,107,035	464	: 3,076,582		: 3,101,162			99	: 3,105,623
	: 3,081,000		: 3,101,870	235	: 3,101,161		: 3,109,567		: 3,102,668			100	: 3,074,605
	: 3,099,367	108	: 3,075,673	238	: 3,083,881	465	: 3,114,484	95	: 3,102,669			103	: 3,102,672
	: 3,107,032		: 3,079,048		: 3,099,369	473	: 3,106,322		: 3,112,848			104	: 3,082,923
28	: 3,084,832		: 3,088,633	239	: 3,102,665	478	: 3,088,638	96	: 3,107,491				: 3,094,260
30	: 3,092,289	109	: 3,085,717	243	: 3,082,917	479	: 3,091,375		: 3,115,286				: 3,112,852
33	: 3,072,292	110	: 3,078,014	246	: 3,072,299		: 3,093,272		: 3,107,298				
35	: 3,100,062	129	: 3,112,845	250	: 3,081,913	480	: 3,100,589		: 3,110,428				
36	: 3,091,366		: 3,108,718	252	: 3,081,914		: 3,115,994		: 3,112,050			3	: 3,096,919
41	: 3,078,011												



Class 229 - Con.			27	: 3,086,690 : 3,088,648 : 3,093,289 : 3,099,380 : 3,100,595 : 3,106,331 : 3,111,253 : 3,098,597 : 3,099,377 : 3,100,592 : 3,100,593 : 3,104,044 : 3,113,710 : 3,102,312 : 3,085,731 : 3,088,645 : 3,090,538 : 3,093,287 : 3,098,598 : 3,107,837 : 3,076,588 : 3,079,057 : 3,089,630 : 3,093,288 : 3,106,327 : 3,099,378 : 3,107,838 : 3,116,001 : 3,081,926 : 3,107,037 : 3,077,294 : 3,079,058 : 3,108,729 : Re 25,448 : 3,071,303 : 3,074,610 : 3,082,926 : 3,101,879 : 3,106,328 : 3,108,730 : 3,113,711 : 3,074,611 : 3,072,313 : 3,073,500 : 3,075,683 : 3,078,026 : 3,079,059 : 3,079,060 : 3,079,061 : 3,082,927 : 3,083,889 : 3,086,689 : 3,088,646 : 3,088,647 : 3,095,134 : 3,101,166 : 3,106,329 : 3,106,330 : 3,108,731 : 3,108,732 : 3,112,057 : 3,113,712 : 3,087,666 : 3,101,880 : 3,102,674 : 3,073,501 : 3,073,502 : 3,079,062 : 3,083,890 : 3,084,843 : 3,089,631 : 3,094,264 : 3,100,072 : 3,100,594 : 3,114,492 : Re 25,449 : 3,071,305 : 3,073,503 : 3,074,612 : 3,078,027 : 3,079,063 : 3,081,016 : 3,081,927 : 3,085,732 : 3,085,733 : 3,095,135 : 3,096,011 : 3,096,921 : 3,096,922 : 3,104,793 : 3,107,038 : 3,107,839 : 3,116,002 : 3,082,928 : 3,071,306 : 3,102,675 : 3,084,844 : 3,072,314 : 3,085,734 : 3,097,781 : 3,099,379 : 3,082,929	31	: 3,097,784 : 3,097,785 : 3,097,786 : 3,098,601 : 3,100,075 : 3,101,883 : 3,101,884 : 3,101,885 : 3,108,735 : 3,092,297 : 3,104,794 : 3,107,039 : 3,078,028 : 3,091,381 : 3,097,782 : 3,108,733 : 3,107,040 : 3,071,307 : 3,082,930 : 3,105,626 : 3,112,853 : 3,116,003 : 3,073,504 : 3,076,589 : 3,093,290 : 3,101,881 : 3,114,493 : 3,073,505 : 3,086,691 : 3,088,651 : 3,093,291 : 3,112,058 : 3,071,308 : 3,082,931 : 3,089,632 : 3,094,265 : 3,094,266 : 3,097,783 : 3,098,599 : 3,098,600 : 3,099,381 : 3,109,574 : 3,110,433 : 3,110,434 : 3,114,494 : 3,084,845 : 3,089,633 : 3,114,495 : 3,074,613 : 3,081,017 : 3,092,298 : 3,092,299 : 3,101,882 : 3,104,795 : 3,107,041 : 3,112,854 : 3,115,290 : 3,116,004 : 3,081,018 : 3,081,928 : 3,083,891 : 3,090,539 : 3,094,267 : 3,110,435 : 3,116,005 : 3,073,506 : 3,095,136 : 3,101,167 : 3,107,042 : 3,115,291 : 3,092,300 : 3,104,045 : 3,109,575 : 3,110,436 : 3,112,855 : 3,078,029 : 3,078,030 : 3,079,064 : 3,090,540 : 3,095,137 : 3,099,382 : 3,100,073 : 3,100,074 : 3,108,734 : 3,111,254 : 3,107,840 : 3,115,292 : 3,116,006 : 3,116,007 : 3,116,008 : 3,089,634 : 3,096,923 : 3,075,684 : 3,076,590 : 3,078,031 : 3,085,735 : 3,085,736 : 3,086,692 : 3,090,541 : 3,090,542 : 3,092,301 : 3,093,292 : 3,093,293	52	: 3,074,614 : 3,074,615 : 3,076,591 : 3,078,032 : 3,087,667 : 3,092,302 : 3,093,294 : 3,094,268 : 3,096,012 : 3,096,924 : 3,099,383 : 3,101,886 : 3,104,046 : 3,104,796 : 3,105,627 : 3,106,332 : 3,107,841 : 3,112,059 : 3,112,856 : 3,114,496 : 3,115,294 : 3,074,616 : 3,087,668 : 3,097,787 : 3,104,797 : 3,113,715 : 3,087,669 : 3,100,076 : 3,105,628 : 3,074,617 : 3,076,592 : 3,085,737 : 3,096,013 : 3,097,788 : 3,088,652 : 3,097,065 : 3,073,507 : 3,097,066 : 3,085,738 : 3,089,635 : 3,099,384 : 3,101,887 : 3,104,798 : 3,107,842 : 3,109,578 : 3,112,857 : 3,080,102 : 3,086,693 : 3,087,670 : 3,089,636 : 3,092,303 : 3,102,676 : 3,108,736 : 3,081,929 : 3,093,295 : 3,114,497 : 3,077,295 : 3,079,067 : 3,101,930 : 3,100,596 : 3,104,047 : 3,116,009 : 3,107,508 : 3,074,618 : 3,086,694 : 3,088,653 : 3,111,256 : 3,112,858 : 3,104,799 : 3,104,800 : 3,112,859 : 3,082,932 : 3,116,010 : 3,073,509 : 3,084,846 : 3,086,695 : 3,096,925 : 3,111,257 : 3,113,716 : 3,103,307 : 3,088,654 : 3,094,269 : 3,104,048 : 3,096,014 : 3,100,597 : 3,100,598 : 3,106,333 : 3,109,579	87	: 3,112,860 : 3,115,295 : 3,092,304 : 3,107,043 : 3,111,258 : 3,093,296 : 3,112,861	Class 230	1	: 3,098,602 : 3,074,619 : 3,088,655 : 3,092,305 : 3,093,297 : 3,096,926 : 3,102,677 : 3,105,629 : 3,107,843 : 3,115,296
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61	: 3,076,597	86	: 3,082,946	154	: 3,077,303	194	: 3,110,801	63	: 3,074,645	165	: 3,074,649	404	: 3,116,017
	: 3,077,300	88	: 3,071,322		: 3,086,708	195	: 3,092,720		: 3,074,646		: 3,109,592	405	: 3,078,047
	: 3,078,036		: 3,082,947		: 3,092,718	197	: 3,082,952		: 3,080,119	167	: 3,090,562		: 3,092,332
	: 3,079,074		: 3,082,948		: 3,100,257		: 3,087,674		: 3,094,281		: 3,097,796		: 3,095,153
	: 3,079,075		: 3,109,588		: 3,105,142		: 3,100,839			168	: 3,073,530	407	: 3,087,682
	: 3,082,943	89	: 3,083,906		: 3,111,579		: 3,102,951			170	: 3,111,268		: 3,104,824
	: 3,082,944	91	: 3,072,330	155	: 3,082,950		: 3,103,583			173	: 3,101,902		: 3,104,825
	: 3,082,945		: 3,090,555		: 3,084,860		: 3,106,639			179	: 3,104,821	408	: 3,111,271
	: 3,083,901		: 3,092,316	156	: 3,074,635		: 3,110,802			183	: 3,085,751	413	: 3,091,403
	: 3,083,902		: 3,092,317	157	: 3,074,636						: 3,091,397		: 3,091,404
	: 3,085,744		: 3,094,279		: 3,079,082						: 3,101,903		: 3,107,858
	: 3,086,702		: 3,095,145		: 3,088,667						: 3,093,312	417	: 3,093,314
	: 3,086,703		: 3,104,056		: 3,094,609						: 3,081,038	420	: 3,111,272
	: 3,086,704	92	: 3,073,521		: 3,094,610	1	: 3,072,336				: 3,111,264	422	: 3,073,534
	: 3,087,672		: 3,073,522		: 3,105,143		: 3,084,864			14	: 3,096,939	201	: 3,084,869
	: 3,088,662		: 3,074,631		: 3,116,410		: 3,093,308			24	: 3,088,674	203	: 3,083,914
	: 3,088,663		: 3,075,698	159	: Re. 25,482		: 3,096,935			50	: 3,107,053	205	: 3,088,677
	: 3,088,664		: 3,076,600		: 3,103,580		: 3,101,897			109	: 3,101,899	206	: 3,082,957
	: 3,090,551		: 3,076,601		: 3,113,205		: 3,107,856			119	: 3,092,326		: 3,086,714
	: 3,090,552		: 3,080,114		: Re. 25,340		: 3,112,876			122	: 3,089,650		: 3,090,563
	: 3,091,389		: 3,083,907	160	: 3,077,304		: 3,112,877			148	: 3,111,265		: 3,091,398
	: 3,092,314		: 3,083,908		: 3,081,031		: 3,112,878			151	: 3,100,080		: 3,104,822
	: 3,093,306		: 3,083,909		: 3,104,316	9	: 3,074,643				: 3,107,054		: 3,107,056
	: 3,097,789		: 3,084,859	161	: 3,087,673		: 3,092,320			152	: 3,080,120	209	: 3,104,060
	: 3,100,601		: 3,086,707		: 3,109,091	10	: 3,076,604			159	: 3,071,325	210	: 3,110,443
	: 3,104,809		: 3,097,295	164	: 3,074,637	12	: 3,082,953			283	: 3,081,035	212	: 3,071,327
	: 3,104,810		: 3,098,152		: 3,078,040		: 3,087,675			284	: 3,104,059	213	: 3,087,680
	: 3,106,342		: 3,105,141		: 3,104,317		: 3,088,672			327	: 3,100,081		: 3,094,282
	: 3,107,850		: 3,109,926		: 3,109,052		: 3,090,559				: 3,102,690	215	: 3,074,650
	: 3,109,587		: 3,109,927		: 3,115,574		: 3,091,393			330	: 3,085,748	216	: 3,107,857
	: 3,111,263		: 3,109,928		: 3,116,411		: 3,112,879			349	: 3,112,071	221	: 3,079,091
	: 3,112,874		: 3,112,395	165	: 3,085,747		: 3,116,015					223	: 3,073,531
	: 3,113,720		: 3,115,737		: 3,106,636	13	: 3,081,943					224	: 3,072,341
	: 3,116,014	94	: 3,085,745		: 3,114,505		: 3,116,016						: 3,080,122
.1	: 3,072,328		: 3,093,307		: 3,074,638		: 3,116,016			1	: 3,073,527		: 3,095,149
.11	: 3,076,599		: 3,077,301		: 3,089,644	14	: 3,096,020			4	: 3,103,310	227	: 3,073,306
.11	: 3,080,113		: 3,107,853		: 3,112,396	15	: 3,074,644			7	: 3,103,311		: 3,092,329
.11	: 3,081,939		: 3,079,077		: 3,116,412		: 3,076,605			11	: 3,080,121	230	: 3,080,123
.11	: 3,081,940		: 3,081,941	175	: 3,074,639		: 3,081,944			15	: 3,075,706		: 3,081,039
.12	: 3,083,904		: 3,097,791		: 3,081,032		: 3,092,321				: 3,082,956		: 3,088,678
.11	: 3,084,857		: 3,104,057		: 3,084,861		: 3,101,898				: 3,083,911	231	: 3,091,399
.11	: 3,088,665	100	: 3,075,699		: 3,089,645	20	: 3,096,021				: 3,086,717	234	: 3,082,958
.11	: 3,088,666	101	: 3,077,854		: 3,094,611		: 3,112,880				: 3,086,712	236	: 3,093,313
.11	: 3,093,729	104	: 3,092,318		: 3,098,153	21	: 3,099,392				: 3,093,309	240	: 3,079,092
.12	: 3,095,502	114	: 3,073,523		: 3,100,835	32	: 3,072,337				: 3,111,266	242	: 3,073,532
.11	: 3,096,431	117	: 3,092,319		: 3,100,836		: 3,075,702			17	: 3,081,036		: 3,105,639
.12	: 3,096,432		: 3,095,146		: 3,100,837		: 3,080,118			18	: 3,104,814		: 3,115,305
.12	: 3,100,834		: 3,105,897		: 3,105,897	34	: 3,075,703			19	: 3,104,815	243	: 3,115,306
.11	: 3,105,895	118	: 3,112,066		: 3,106,637		: 3,087,676			20	: 3,071,326	246	: 3,081,947
.11	: 3,109,089	125	: 3,071,323		: 3,111,580	.5	: 3,092,322				: 3,088,675	261	: 3,091,400
.11	: 3,109,923	130	: 3,102,687		: 3,074,640	.5	: 3,096,022			23	: 3,101,173	267	: 3,095,150
.11	: 3,109,924	132	: 3,074,632		: 3,075,701	35	: 3,106,343			25	: 3,079,088		: 3,095,151
.11	: 3,109,925		: 3,074,633		: 3,079,083	2	: 3,095,147				: 3,101,900	272	: 3,096,940
.11	: 3,111,576		: 3,078,037		: 3,088,668	38	: 3,076,606				: 3,108,748	273	: 3,112,882
.11	: 3,114,035		: 3,079,078		: 3,094,612	44	: 3,110,442			27	: 3,101,174	275	: 3,109,593
.12	: 3,114,036		: 3,096,018		: 3,094,613	45	: 3,077,305			29	: 3,081,945	276	: 3,091,401
.11	: 3,114,503		: 3,097,793		: 3,094,614		: 3,087,677				: 3,113,723		: 3,112,883
.11	: 3,116,409		: 3,112,067		: 3,100,838	46	: 3,102,689			33	: 3,109,590	278	: 3,100,802
.5	: 3,086,705		: 3,115,301		: 3,105,144	47	: 3,100,078			35	: 3,104,816	281	: 3,086,715
.5	: 3,092,717	134	: 3,077,302		: 3,105,898	48	: 3,072,338			47	: 3,091,396	284	: 3,087,681
.5	: 3,108,182	136	: 3,101,896		: 3,113,206		: 3,089,647			57	: 3,087,679	304	: 3,074,651
.5	: 3,113,203	137	: 3,076,602		: 3,091,392	177	: 3,105,637			63	: 3,079,089		: 3,104,823
.6	: 3,083,903		: 3,078,038	179	: 3,072,334	49	: 3,073,525				: 3,113,724	305	: 3,084,870
.6	: 3,086,706		: 3,102,688		: 3,076,603		: 3,088,673			68	: 3,089,651		: 3,084,871
.6	: 3,091,390		: 3,104,058		: 3,106,638	56	: 3,096,936			77	: 3,092,327	308	: 3,085,752
.6	: 3,099,741		: 3,112,068	180	: 3,080,116	66	: 3,075,704			78	: 3,088,676	309	: 3,111,269
.6	: 3,106,635	138	: 3,113,721	181	: 3,112,397	68	: 3,090,560				: 3,097,794	310	: 3,083,915
.6	: 3,109,922	139	: 3,077,855		: 3,114,831		: 3,090,561			79	: 3,073,528	314	: 3,079,093
.7	: 3,084,856	144	: 3,089,642	182	: 3,073,524		: 3,091,394				: 3,112,072	315	: 3,083,916
.7	: 3,102,191		: 3,112,069	183	: 3,074,641		: 3,092,323			84	: 3,085,750		: 3,091,402
.7	: 3,102,950	145	: 3,080,115		: 3,079,084	78	: 3,082,954			85	: 3,111,267	318	: 3,088,679
.7	: 3,103,577		: 3,085,746		: 3,090,556		: 3,096,937			87	: 3,093,310		: 3,090,564
.7	: 3,107,292		: 3,096,019		: 3,101,406		: 3,112,070			88	: 3,083,912		: 3,095,152
.8	: 3,110,799	146	: 3,072,331		: 3,104,318	87	: 3,100,079			90	: 3,075,707		: 3,106,345
.9	: 3,076,598	150	: 3,099,742		: 3,109,930	93	: 3,081,034				: 3,104,817		: 3,112,884
.9	: 3,104,314	151	: 3,074,634	184	: 3,081,033		: 3,089,648				: 3,115,304		: 3,113,725
.9	: 3,109,088		: 3,075,700		: 3,082,951		: 3,094,280			97	: 3,081,037	325	: 3,111,270
.9	: 3,112,394		: 3,079,079		: 3,086,709	94	: 3,105,638				: 3,095,148	329	: 3,082,959
62	: 3,072,329		: 3,079,080	185	: 3,079,085	99	: 3,073,526				: 3,099,393	333	: 3,084,872
	: 3,092,315		: 3,081,942		: 3,090,557		: 3,084,865				: 3,104,818		: 3,086,716
	: 3,098,609		: 3,082,949		: 3,093,731		: 3,091,395			98	: 3,078,045		: 3,092,330
	: 3,104,811		: 3,089,643		: 3,103,581		: 3,108,747			102	: 3,081,946	336	: 3,107,057
63	: 3,079,076		: 3,093,730		: 3,114,037		: 3,109,589				: 3,084,868	337	: 3,084,873
	: 3,090,553		: 3,096,433	187	: 3,078,041	102	: 3,104,813				: 3,108,749		: 3,085,753
	: 3,090,554		: 3,096,434		: 3,078,042		: 3,112,881			106	: 3,104,819		: 3,088,680
	: 3,097,790		: 3,103,578		: 3,080,117					107	: 3,074,648		: 3,101,904
	: 3,100,602		: 3,103,579		: 3,098,929						: 3,109,591		: 3,104,061
	: 3,100,603		: 3,107,294		: 3,107,294					113	: 3,073,529	338	: 3,077,307
	: 3,101,895		: 3,105,896	189	: 3,093,732	1	: 3,078,043			124	: 3,097,795		: 3,104,062
	: 3,104,812		: 3,107,293	192	: 3,089,646		: 3,079,087			126	: 3,078,046	346	: 3,107,058
	: 3,107,851												



## Class 240 - Con.

2 : 3,088,021	41.35 : 3,115,309	36 : 3,108,754	2 : 3,111,279	55.12 : 3,072,352	65 : 3,103,321	84.2 : 3,075,722
3 : 3,097,797	.4 : 3,083,294	43 : 3,093,325	3 : 3,071,331	.12 : 3,073,540	66 : 3,116,031	.21 : 3,077,319
3 : 3,109,596	.55 : 3,082,320	46 : 3,071,328	4 : 3,101,179	.12 : 3,074,661	66 : 3,079,101	.21 : 3,084,885
3 : 3,112,887	.5 : 3,105,642	47 : 3,071,329	4 : 3,104,840	.12 : 3,074,662	66 : 3,090,575	.21 : 3,085,766
3 : 3,086,104	44.1 : 3,104,066	47 : 3,073,535	6 : 3,084,879	.12 : 3,075,716	66 : 3,098,619	.2 : 3,092,351
3 : 3,107,864	.2 : 3,096,031	47 : 3,076,611	7 : 3,100,089	.13 : 3,075,717	67.1 : 3,104,072	.21 : 3,092,352
3 : 3,116,022	46.03 : 3,071,684	47 : 3,079,094	7 : 3,078,052	.12 : 3,077,315	67.1 : 3,104,845	.21 : 3,093,340
3 : 3,116,023	.31 : 3,085,151	47 : 3,084,878	7 : 3,080,127	.12 : 3,078,056	67.1 : 3,105,647	.21 : 3,094,296
.1 : 3,099,397	47 : 3,099,403	47 : 3,093,326	7 : 3,087,684	.12 : 3,078,057	67.1 : 3,107,873	.21 : 3,095,158
.4 : 3,079,491	.31 : 3,112,076	47 : 3,084,878	7 : 3,089,656	.13 : 3,078,464	67.1 : 3,090,576	.2 : 3,097,813
3 : 3,099,398	51.11 : 3,075,072	47 : 3,099,407	7 : 3,095,156	.1 : 3,079,098	.1 : 3,096,948	.2 : 3,105,650
3 : 3,116,024	.11 : 3,078,366	52 : 3,082,962	7 : 3,098,615	.1 : 3,079,100	.1 : 3,097,807	.2 : 3,105,651
.1 : Re. 25,402	.11 : 3,080,476	52 : 3,093,327	7 : 3,112,895	.13 : 3,083,925	.1 : 3,113,742	.21 : 3,107,876
.2 : 3,104,830	.11 : 3,085,152	53 : 3,071,330	9 : 3,078,053	.13 : 3,084,881	.2 : 3,094,295	.2 : 3,108,761
.2 : 3,111,275	.11 : 3,089,026	54 : 3,097,802	9 : 3,090,569	.12 : 3,085,758	.2 : 3,092,347	.2 : 3,108,762
6.43 : 3,078,364	.11 : 3,094,287	55 : 3,093,328	9 : 3,102,697	.13 : 3,087,686	.2 : 3,104,073	.21 : 3,114,514
.4 : 3,085,149	.11 : 3,101,178	55 : 3,093,328	9 : 3,104,841	.19 : 3,088,687	.3 : 3,074,663	.45 : 3,083,929
.4 : 3,087,049	.11 : 3,108,750	73 : 3,090,568	9 : 3,106,351	.12 : 3,090,573	.3 : 3,102,701	.45 : 3,104,850
.4 : 3,087,050	.11 : 3,108,751	73 : 3,112,077	9 : 3,106,352	.13 : 3,090,574	.4 : 3,095,157	.44 : 3,111,287
.4 : 3,087,050	.11 : 3,109,599	74 : 3,113,734	9 : 3,109,601	.12 : 3,091,408	.5 : 3,073,542	.5 : 3,072,356
.4 : 3,092,335	.11 : 3,112,890	76 : 3,073,536	13 : 3,076,613	.12 : 3,091,409	.5 : 3,112,086	.5 : 3,088,691
.4 : 3,096,941	.12 : 3,112,891	79 : 3,112,078	13 : 3,098,616	.12 : 3,091,410	68 : 3,106,361	.54 : 3,097,814
.4 : 3,099,399	52 : 3,086,107	79 : 3,081,955	13 : 3,101,910	.12 : 3,092,344	68 : 3,106,362	.54 : 3,104,075
.41 : 3,106,348	52 : 3,095,155	79 : 3,089,652	13 : 3,106,353	.12 : 3,092,345	.2 : 3,097,808	.8 : 3,107,058
.44 : 3,114,507	.1 : 3,078,367	81 : 3,100,087	18 : 3,073,537	.13 : 3,092,346	.2 : 3,108,757	.8 : 3,098,622
7.1 : 3,087,051	.15 : 3,089,653	81 : 3,089,653	18 : 3,073,537	.12 : 3,093,334	.3 : 3,083,927	85.1 : 3,075,723
.1 : 3,088,022	.1 : 3,088,022	82 : 3,082,963	18 : 3,073,537	.12 : 3,093,335	.3 : 3,099,413	.1 : 3,096,040
.1 : 3,089,951	53 : 3,104,832	82 : 3,104,069	18 : 3,073,537	.14 : 3,096,368	.5 : 3,106,363	86.3 : 3,078,059
.1 : 3,090,858	54 : 3,108,752	85 : 3,079,095	18 : 3,073,537	.11 : 3,098,617	.5 : 3,107,874	.5 : 3,072,357
.1 : 3,096,026	57 : 3,089,027	86 : 3,088,683	18 : 3,073,537	.13 : 3,100,090	.6 : 3,083,928	.5 : 3,077,320
.1 : 3,102,692	59 : 3,083,295	88 : 3,074,655	18 : 3,073,537	.12 : 3,102,698	.6 : 3,113,743	.52 : 3,091,414
.1 : 3,107,865	59 : 3,106,350	94 : 3,104,835	18 : 3,073,537	.14 : 3,102,699	.6 : 3,113,743	.52 : 3,091,414
.1 : 3,109,597	61.13 : 3,075,073	95 : 3,105,643	18 : 3,073,537	.12 : 3,103,318	.1 : 3,084,882	.5 : 3,100,606
.1 : 3,114,508	.7 : 3,116,026	97 : 3,116,028	18 : 3,073,537	.12 : 3,103,319	.1 : 3,104,846	.5 : 3,103,322
.55 : 3,073,949	73 : 3,107,536	99 : 3,083,919	19 : 3,083,923	.11 : 3,104,842	.3 : 3,082,971	.5 : 3,107,877
.55 : 3,099,400	73 : 3,101,908	100 : 3,094,290	19 : 3,083,923	.13 : 3,104,843	.3 : 3,097,809	.64 : 3,100,607
.8 : 3,077,535	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,645	.4 : 3,107,065	.7 : 3,091,413
.8 : 3,091,686	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.16 : 3,096,942	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.12 : 3,099,401	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.12 : 3,113,727	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.16 : 3,115,308	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.2 : 3,093,320	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.2 : 3,093,324	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.2 : 3,107,061	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.2 : 3,109,598	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.2 : 3,114,182	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.22 : 3,114,509	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.3 : 3,083,292	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.3 : 3,100,085	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.3 : 3,106,349	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.3 : 3,112,888	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.3 : 3,115,307	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
9 : 3,081,398	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
9 : 3,086,105	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
9 : 3,089,023	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
9 : 3,094,285	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
9 : 3,113,728	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
10 : 3,076,890	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
10 : 3,096,943	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
10 : 3,098,611	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
10 : 3,101,907	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
10 : 3,111,276	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.1 : 3,073,950	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.1 : 3,080,474	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.1 : 3,083,293	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.6 : Re. 25,388	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.66 : 3,076,891	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.66 : 3,079,492	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
65 : 3,084,248	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
65 : 3,085,150	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
65 : 3,087,052	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
65 : 3,097,798	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
66 : 3,097,799	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
66 : 3,099,402	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
66 : 3,111,277	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
66 : 3,116,025	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
61 : 3,116,027	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
11 : 3,078,365	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
2 : 3,104,064	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.2 : 3,104,831	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
.4 : 3,101,177	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
20 : 3,112,075	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
25 : 3,071,683	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,072,783	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,080,475	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,086,106	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,089,024	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,089,025	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,092,336	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,093,321	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,094,286	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,096,028	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622
3 : 3,096,029	78 : 3,087,053	100 : 3,082,964	19 : 3,083,923	.13 : 3,105,646	.7 : 3,104,847	.7 : 3,098,622</



154 : 3,076,621 : 3,080,132 : 3,087,689	12 : 3,103,325 : 3,104,853 : 3,109,609	74 : 3,089,670 : 3,099,425 : 3,111,290	122 : 3,074,669 : 3,077,324 : 3,077,325	169 : 3,081,399 : 3,086,108 : 3,090,859	153 : 3,085,776 : 3,075,734 : 3,114,528	376 : 3,081,059 : 3,101,186 : 3,081,973
155 : 3,072,361 : 3,080,133 : 3,084,887	14 : 3,110,456 : 3,114,519 : 3,115,317	75 : 3,114,520 : 3,114,520 : 3,114,520	123 : 3,079,111 : 3,079,112 : 3,083,938	177 : 3,100,097 : 3,108,772 : 3,108,773	161 : 3,112,910 : 3,096,059 : 3,081,055	394 : 3,089,676 : 3,105,668 : 3,105,668
156 : 3,113,746 : 3,089,665	15 : 3,072,365 : 3,073,550 : 3,075,726	76 : 3,081,968 : 3,091,417 : 3,095,168	124 : 3,093,353 : 3,095,170 : 3,096,957	182 : 3,072,785 : 3,089,029 : 3,091,688	162 : 3,071,339 : 3,086,740 : 3,087,701	397 : 3,115,327 : 3,076,628 : 3,085,778
157 : 3,080,134 : 3,080,135 : 3,083,931	16 : 3,081,048 : 3,081,050 : 3,081,051	77 : Re. 25,311 : Re. 25,491 : 3,071,335	125 : 3,103,331 : 3,105,662 : 3,111,293	187 : 3,110,461 : 3,096,056 : 3,112,924	163 : 3,099,428 : 3,114,529 : 3,096,060	399 : 3,085,778 : 3,086,772 : 3,086,772
.1 : 3,078,060 : 3,083,932	17 : 3,088,696 : 3,088,697 : 3,090,582	78 : 3,072,369 : 3,072,370 : 3,073,553	126 : 3,115,320 : 3,096,958 : 3,074,670	240 : 3,111,462 : 3,110,463 : 3,116,044	164 : 3,109,617 : 3,079,120 : 3,078,063	400 : 3,075,736 : 3,096,963 : 3,086,744
158.2 : 3,095,160 : 3,093,344	18 : 3,090,583 : 3,097,816 : 3,104,081	79 : 3,073,553 : 3,075,729 : 3,079,109	127 : 3,082,981 : 3,101,920 : 3,096,053	249 : 3,108,109 : 3,081,400 : 3,099,427	165 : 3,086,740 : 3,093,356 : 3,100,099	401 : 3,075,736 : 3,086,744 : 3,074,682
.4 : 3,097,815 : 3,100,092	19 : 3,107,070 : 3,112,902 : 3,116,039	80 : 3,079,109 : 3,081,969 : 3,082,978	128 : 3,094,300 : 3,096,055 : 3,074,671	251 : 3,081,400 : 3,099,427 : 3,096,057	166 : 3,109,618 : 3,105,666 : 3,081,056	402 : 3,074,682 : 3,107,891 : 3,079,118
159 : 3,095,161 : Re. 25,477	20 : 3,093,348 : 3,097,817 : 3,107,883	81 : 3,082,978 : 3,086,732 : 3,089,671	129 : 3,096,055 : 3,113,753 : 3,074,671	252 : 3,112,924 : 3,112,924 : 3,112,924	167 : 3,109,618 : 3,115,322 : 3,082,988	403 : 3,105,670 : 3,109,622 : 3,076,629
<b>Class 243</b>	21 : 3,109,610 : 3,075,727 : 3,081,052	82 : 3,082,978 : 3,086,732 : 3,092,357	130 : 3,108,772 : 3,084,890 : 3,072,371	253 : 3,112,924 : 3,112,924 : 3,112,924	168 : 3,109,618 : 3,115,322 : 3,082,988	404 : 3,105,670 : 3,109,622 : 3,076,629
1 : 3,101,182 : 3,101,183	22 : 3,109,610 : 3,075,727 : 3,081,052	83 : 3,082,978 : 3,086,732 : 3,092,357	131 : 3,108,772 : 3,084,890 : 3,072,371	254 : 3,112,924 : 3,112,924 : 3,112,924	169 : 3,109,618 : 3,115,322 : 3,082,988	405 : 3,105,670 : 3,109,622 : 3,076,629
3 : 3,101,183 : 3,082,974	23 : 3,109,610 : 3,075,727 : 3,081,052	84 : 3,082,978 : 3,086,732 : 3,092,357	132 : 3,108,772 : 3,084,890 : 3,072,371	255 : 3,112,924 : 3,112,924 : 3,112,924	170 : 3,109,618 : 3,115,322 : 3,082,988	406 : 3,105,670 : 3,109,622 : 3,076,629
16 : 3,082,974 : 3,104,078	24 : 3,109,610 : 3,075,727 : 3,081,052	85 : 3,082,978 : 3,086,732 : 3,092,357	133 : 3,108,772 : 3,084,890 : 3,072,371	256 : 3,112,924 : 3,112,924 : 3,112,924	171 : 3,109,618 : 3,115,322 : 3,082,988	407 : 3,105,670 : 3,109,622 : 3,076,629
19 : 3,104,078 : 3,080,136	25 : 3,109,610 : 3,075,727 : 3,081,052	86 : 3,082,978 : 3,086,732 : 3,092,357	134 : 3,108,772 : 3,084,890 : 3,072,371	257 : 3,112,924 : 3,112,924 : 3,112,924	172 : 3,109,618 : 3,115,322 : 3,082,988	408 : 3,105,670 : 3,109,622 : 3,076,629
34 : 3,080,136 : 3,072,362	26 : 3,109,610 : 3,075,727 : 3,081,052	87 : 3,082,978 : 3,086,732 : 3,092,357	135 : 3,108,772 : 3,084,890 : 3,072,371	258 : 3,112,924 : 3,112,924 : 3,112,924	173 : 3,109,618 : 3,115,322 : 3,082,988	409 : 3,105,670 : 3,109,622 : 3,076,629
35 : 3,072,362 : 3,073,546	27 : 3,109,610 : 3,075,727 : 3,081,052	88 : 3,082,978 : 3,086,732 : 3,092,357	136 : 3,108,772 : 3,084,890 : 3,072,371	259 : 3,112,924 : 3,112,924 : 3,112,924	174 : 3,109,618 : 3,115,322 : 3,082,988	410 : 3,105,670 : 3,109,622 : 3,076,629
<b>Class 244</b>	28 : 3,109,610 : 3,075,727 : 3,081,052	89 : 3,082,978 : 3,086,732 : 3,092,357	137 : 3,108,772 : 3,084,890 : 3,072,371	260 : 3,112,924 : 3,112,924 : 3,112,924	175 : 3,109,618 : 3,115,322 : 3,082,988	411 : 3,105,670 : 3,109,622 : 3,076,629
1 : Re. 25,417 : 3,072,363	29 : 3,109,610 : 3,075,727 : 3,081,052	90 : 3,082,978 : 3,086,732 : 3,092,357	138 : 3,108,772 : 3,084,890 : 3,072,371	261 : 3,112,924 : 3,112,924 : 3,112,924	176 : 3,109,618 : 3,115,322 : 3,082,988	412 : 3,105,670 : 3,109,622 : 3,076,629
3 : 3,079,105 : 3,090,580	30 : 3,109,610 : 3,075,727 : 3,081,052	91 : 3,082,978 : 3,086,732 : 3,092,357	139 : 3,108,772 : 3,084,890 : 3,072,371	262 : 3,112,924 : 3,112,924 : 3,112,924	177 : 3,109,618 : 3,115,322 : 3,082,988	413 : 3,105,670 : 3,109,622 : 3,076,629
10 : 3,092,353 : 3,093,346	31 : 3,109,610 : 3,075,727 : 3,081,052	92 : 3,082,978 : 3,086,732 : 3,092,357	140 : 3,108,772 : 3,084,890 : 3,072,371	263 : 3,112,924 : 3,112,924 : 3,112,924	178 : 3,109,618 : 3,115,322 : 3,082,988	414 : 3,105,670 : 3,109,622 : 3,076,629
11 : 3,095,162 : 3,104,079	32 : 3,109,610 : 3,075,727 : 3,081,052	93 : 3,082,978 : 3,086,732 : 3,092,357	141 : 3,108,772 : 3,084,890 : 3,072,371	264 : 3,112,924 : 3,112,924 : 3,112,924	179 : 3,109,618 : 3,115,322 : 3,082,988	415 : 3,105,670 : 3,109,622 : 3,076,629
12 : 3,104,080 : 3,105,657	33 : 3,109,610 : 3,075,727 : 3,081,052	94 : 3,082,978 : 3,086,732 : 3,092,357	142 : 3,108,772 : 3,084,890 : 3,072,371	265 : 3,112,924 : 3,112,924 : 3,112,924	180 : 3,109,618 : 3,115,322 : 3,082,988	416 : 3,105,670 : 3,109,622 : 3,076,629
13 : 3,105,657 : 3,105,658	34 : 3,109,610 : 3,075,727 : 3,081,052	95 : 3,082,978 : 3,086,732 : 3,092,357	143 : 3,108,772 : 3,084,890 : 3,072,371	266 : 3,112,924 : 3,112,924 : 3,112,924	181 : 3,109,618 : 3,115,322 : 3,082,988	417 : 3,105,670 : 3,109,622 : 3,076,629
14 : 3,107,068 : 3,109,607	35 : 3,109,610 : 3,075,727 : 3,081,052	96 : 3,082,978 : 3,086,732 : 3,092,357	144 : 3,108,772 : 3,084,890 : 3,072,371	267 : 3,112,924 : 3,112,924 : 3,112,924	182 : 3,109,618 : 3,115,322 : 3,082,988	418 : 3,105,670 : 3,109,622 : 3,076,629
15 : 3,110,455 : 3,114,517	36 : 3,109,610 : 3,075,727 : 3,081,052	97 : 3,082,978 : 3,086,732 : 3,092,357	145 : 3,108,772 : 3,084,890 : 3,072,371	268 : 3,112,924 : 3,112,924 : 3,112,924	183 : 3,109,618 : 3,115,322 : 3,082,988	419 : 3,105,670 : 3,109,622 : 3,076,629
16 : 3,114,518 : 3,116,035	37 : 3,109,610 : 3,075,727 : 3,081,052	98 : 3,082,978 : 3,086,732 : 3,092,357	146 : 3,108,772 : 3,084,890 : 3,072,371	269 : 3,112,924 : 3,112,924 : 3,112,924	184 : 3,109,618 : 3,115,322 : 3,082,988	420 : 3,105,670 : 3,109,622 : 3,076,629
17 : 3,116,035 : Re. 25,368	38 : 3,109,610 : 3,075,727 : 3,081,052	99 : 3,082,978 : 3,086,732 : 3,092,357	147 : 3,108,772 : 3,084,890 : 3,072,371	270 : 3,112,924 : 3,112,924 : 3,112,924	185 : 3,109,618 : 3,115,322 : 3,082,988	421 : 3,105,670 : 3,109,622 : 3,076,629
2 : 3,072,364 : 3,082,975	39 : 3,109,610 : 3,075,727 : 3,081,052	100 : 3,082,978 : 3,086,732 : 3,092,357	148 : 3,108,772 : 3,084,890 : 3,072,371	271 : 3,112,924 : 3,112,924 : 3,112,924	186 : 3,109,618 : 3,115,322 : 3,082,988	422 : 3,105,670 : 3,109,622 : 3,076,629
3 : 3,090,581 : 3,112,088	40 : 3,109,610 : 3,075,727 : 3,081,052	101 : 3,082,978 : 3,086,732 : 3,092,357	149 : 3,108,772 : 3,084,890 : 3,072,371	272 : 3,112,924 : 3,112,924 : 3,112,924	187 : 3,109,618 : 3,115,322 : 3,082,988	423 : 3,105,670 : 3,109,622 : 3,076,629
4 : 3,083,933 : 3,085,769	41 : 3,109,610 : 3,075,727 : 3,081,052	102 : 3,082,978 : 3,086,732 : 3,092,357	150 : 3,108,772 : 3,084,890 : 3,072,371	273 : 3,112,924 : 3,112,924 : 3,112,924	188 : 3,109,618 : 3,115,322 : 3,082,988	424 : 3,105,670 : 3,109,622 : 3,076,629
5 : 3,088,693 : 3,100,093	42 : 3,109,610 : 3,075,727 : 3,081,052	103 : 3,082,978 : 3,086,732 : 3,092,357	151 : 3,108,772 : 3,084,890 : 3,072,371	274 : 3,112,924 : 3,112,924 : 3,112,924	189 : 3,109,618 : 3,115,322 : 3,082,988	425 : 3,105,670 : 3,109,622 : 3,076,629
6 : 3,102,703 : 3,103,323	43 : 3,109,610 : 3,075,727 : 3,081,052	104 : 3,082,978 : 3,086,732 : 3,092,357	152 : 3,108,772 : 3,084,890 : 3,072,371	275 : 3,112,924 : 3,112,924 : 3,112,924	190 : 3,109,618 : 3,115,322 : 3,082,988	426 : 3,105,670 : 3,109,622 : 3,076,629
7 : 3,112,900 : 3,113,747	44 : 3,109,610 : 3,075,727 : 3,081,052	105 : 3,082,978 : 3,086,732 : 3,092,357	153 : 3,108,772 : 3,084,890 : 3,072,371	276 : 3,112,924 : 3,112,924 : 3,112,924	191 : 3,109,618 : 3,115,322 : 3,082,988	427 : 3,105,670 : 3,109,622 : 3,076,629
8 : 3,098,625 : 3,107,069	45 : 3,109,610 : 3,075,727 : 3,081,052	106 : 3,082,978 : 3,086,732 : 3,092,357	154 : 3,108,772 : 3,084,890 : 3,072,371	277 : 3,112,924 : 3,112,924 : 3,112,924	192 : 3,109,618 : 3,115,322 : 3,082,988	428 : 3,105,670 : 3,109,622 : 3,076,629
9 : 3,083,934 : 3,081,963	46 : 3,109,610 : 3,075,727 : 3,081,052	107 : 3,082,978 : 3,086,732 : 3,092,357	155 : 3,108,772 : 3,084,890 : 3,072,371	278 : 3,112,924 : 3,112,924 : 3,112,924	193 : 3,109,618 : 3,115,322 : 3,082,988	429 : 3,105,670 : 3,109,622 : 3,076,629
10 : 3,073,547 : 3,081,964	47 : 3,109,610 : 3,075,727 : 3,081,052	108 : 3,082,978 : 3,086,732 : 3,092,357	156 : 3,108,772 : 3,084,890 : 3,072,371	279 : 3,112,924 : 3,112,924 : 3,112,924	194 : 3,109,618 : 3,115,322 : 3,082,988	430 : 3,105,670 : 3,109,622 : 3,076,629
11 : 3,089,666 : 3,096,041	48 : 3,109,610 : 3,075,727 : 3,081,052	109 : 3,082,978 : 3,086,732 : 3,092,357	157 : 3,108,772 : 3,084,890 : 3,072,371	280 : 3,112,924 : 3,112,924 : 3,112,924	195 : 3,109,618 : 3,115,322 : 3,082,988	431 : 3,105,670 : 3,109,622 : 3,076,629
12 : 3,105,659 : 3,106,369	49 : 3,109,610 : 3,075,727 : 3,081,052	110 : 3,082,978 : 3,086,732 : 3,092,357	158 : 3,108,772 : 3,084,890 : 3,072,371	281 : 3,112,924 : 3,112,924 : 3,112,924	196 : 3,109,618 : 3,115,322 : 3,082,988	432 : 3,105,670 : 3,109,622 : 3,076,629
13 : 3,107,881 : 3,107,882	50 : 3,109,610 : 3,075,727 : 3,081,052	111 : 3,082,978 : 3,086,732 : 3,092,357	159 : 3,108,772 : 3,084,890 : 3,072,371	282 : 3,112,924 : 3,112,924 : 3,112,924	197 : 3,109,618 : 3,115,322 : 3,082,988	433 : 3,105,670 : 3,109,622 : 3,076,629
14 : 3,112,901 : 3,116,036	51 : 3,109,610 : 3,075,727 : 3,081,052	112 : 3,082,978 : 3,086,732 : 3,092,357	160 : 3,108,772 : 3,084,890 : 3,072,371	283 : 3,112,924 : 3,112,924 : 3,112,924	198 : 3,109,618 : 3,115,322 : 3,082,988	434 : 3,105,670 : 3,109,622 : 3,076,629
15 : 3,092,354 : 3,073,548	52 : 3,109,610 : 3,075,727 : 3,081,052	113 : 3,082,978 : 3,086,732 : 3,092,357	161 : 3,108,772 : 3,084,890 : 3,072,371	284 : 3,112,924 : 3,112,924 : 3,112,924	199 : 3,109,618 : 3,115,322 : 3,082,988	435 : 3,105,670 : 3,109,622 : 3,076,629
16 : 3,073,549 : 3,075,725	53 : 3,109,610 : 3,075,727 : 3,081,052					



Class 250—Con.												
	83	: 3,089,957	83.6	: 3,114,042	213	: 3,086,119	57	: 3,113,756	297	: 3,094,308	18	: 3,095,374
		: 3,092,723	84	: 3,080,483		: 3,086,120	58	: 3,078,065	298	: 3,102,712		: 3,107,220
51		: 3,093,735		: 3,071,690		: 3,091,698		: 3,089,677	306	: 3,078,070	21	: 3,090,751
.5		: 3,102,789	.5	: 3,082,326		: 3,100,845		: 3,104,862		: 3,079,123		: 3,106,532
.5		: 3,073,952	.5	: 3,084,256		: 3,107,303	61	: 3,078,066		: 3,080,145	23	: 3,116,247
.5		: 3,075,079	.5	: 3,084,257		: 3,112,404		: 3,082,991		: 3,096,071		: 3,097,169
.5		: 3,079,499	.5	: 3,103,585		: 3,112,405		: 3,083,943		: 3,105,672		: 3,114,709
.5		: 3,079,500	.5	: 3,105,150		: 3,114,045		: 3,084,901		: 3,111,300	25	: 3,071,543
.5		: 3,079,501	.5	: 3,107,299		: 3,113,213		: 3,085,780	309	: 3,092,365		: 3,073,779
.5		: 3,086,114		: 3,114,041	85	: 3,077,539		: 3,103,339		: 3,093,358		: 3,078,227
.5		: 3,099,743		: 3,114,836	88	: 3,084,258		: 3,077,329		: 3,101,191	28	: 3,074,884
.5		: 3,100,261	.1	: 3,073,956		: 3,089,033		: 3,086,745		: 3,108,779		: 3,095,375
.5		: 3,102,196	.1	: 3,076,895	91	: 3,090,868		: 3,095,176		: 3,108,146		: 3,095,376
.5		: 3,102,952	.1	: 3,086,117	93	: 3,094,618		: 3,107,892	310	: 3,093,359		: 3,098,040
.5		: 3,102,953	.1	: 3,089,958		: 3,103,590		: 3,111,298	315	: 3,091,428		: 3,102,860
.5		: 3,105,901	.1	: 3,099,745	95	: 3,075,082		: 3,115,330	317	: 3,079,124		: 3,102,861
.5		: 3,105,902	.1	: 3,101,410		: 3,079,506	219	: 3,086,121	318	: 3,110,471		: 3,102,862
.5		: 3,107,297	.1	: 3,102,198	100	: 3,110,810		: 3,090,870	324	: 3,099,432		: 3,103,491
.5		: 3,108,185	.1	: 3,113,210	102	: 3,103,591		: 3,091,699	327	: 3,089,678	29	: 3,103,669
.5		: 3,110,804	.3	: Re.25,353	105	: 3,088,031		: 3,092,726	77	: 3,074,685		: 3,103,329
.5		: 3,112,398	.3	: 3,071,687		: 3,091,696		: 3,096,443	83	: 3,086,746	31	: 3,102,095
.5		: 3,113,209	.3	: 3,071,688		: 3,099,747		: 3,100,846	86	: 3,073,563		: 3,089,849
.5		: 3,114,832	.3	: 3,071,689		: 3,102,957		: 3,101,415		: 3,075,738		: 3,108,910
.5		: 3,116,415	.3	: 3,072,790		: 3,112,402		: 3,102,204		: 3,107,893		: 3,112,267
52		: 3,087,058	.3	: 3,072,791		: 3,113,214		: 3,105,152	87	: 3,090,593		: 3,116,248
		: 3,090,865	.3	: 3,073,957		: 3,114,043		: 3,105,908	88	: 3,084,902		: 3,107,270
		: 3,100,843	.3	: 3,073,958	106	: 3,083,298		: 3,106,643		: 3,103,340		: 3,108,911
		: 3,106,640	.3	: 3,075,081		: 3,084,259		: 3,109,100	89	: 3,107,081		: 3,108,912
53		: 3,116,416	.3	: 3,076,094		: 3,084,260		: 3,109,933	.5	: 3,077,330		: 3,108,913
55		: 3,086,115	.3	: 3,077,538		: 3,085,157		: 3,114,841	.5	: 3,079,122		: 3,108,914
		: 3,087,059	.3	: 3,078,370		: 3,087,063	220	: 3,082,327	.5	: 3,086,747		: 3,108,915
58		: 3,091,691	.3	: 3,080,480		: 3,087,064		: 3,086,122	96	: 3,107,341		: 3,108,916
		: 3,115,577	.3	: 3,080,481		: 3,088,032		: 3,093,742	98	: 3,098,636		: 3,108,917
59		: 3,115,582	.3	: 3,080,482		: 3,093,739		: 3,096,444	112	: 3,073,564		: 3,108,918
61.5		: 3,082,321	.3	: 3,081,401		: 3,101,412		: 3,100,265	115	: 3,103,341		: 3,108,919
.5		: 3,082,322	.3	: 3,082,323		: 3,101,413		: 3,102,960	118	: 3,096,068		: 3,108,920
.5		: 3,091,692	.3	: 3,082,324		: 3,102,958	222	: 3,097,303		: 3,107,894		: 3,108,921
.5		: 3,094,616	.3	: 3,082,325		: 3,102,959		: 3,077,539	119	: 3,086,748		: 3,108,922
65		: 3,073,953	.3	: 3,084,251		: 3,109,099	223	: 3,072,797	121	: 3,086,067		: 3,108,923
		: 3,078,369	.3	: 3,084,252		: 3,110,811	224	: 3,103,592	122	: 3,080,144		: 3,108,924
		: 3,079,502	.3	: 3,084,253		: 3,114,838	225	: 3,079,508	123	: 3,116,047		: 3,108,925
		: 3,085,154	.3	: 3,086,118		: 3,116,419	226	: 3,092,727	124	: 3,085,782		: 3,108,926
		: 3,088,027	.3	: 3,087,061	108	: 3,073,960	227	: 3,086,123	138	: 3,074,686		: 3,108,927
		: 3,088,028	.3	: 3,087,062		: 3,073,961		: 3,088,037	141	: 3,113,757		: 3,108,928
		: 3,089,031	.3	: 3,090,867		: 3,111,586		: 3,104,324	146	: 3,099,430		: 3,108,929
		: 3,089,952	.3	: 3,091,693		: 3,113,215		: 3,110,816	148	: 3,101,188		: 3,108,930
		: 3,089,953	.3	: 3,091,694		: 3,114,839	230	: 3,072,798	149.2	: 3,078,068		: 3,108,931
		: 3,094,619	.3	: 3,092,724		: 3,114,840		: 3,077,540	4	: 3,093,357		: 3,108,932
		: 3,094,620	.3	: 3,093,736		: 3,087,065	231	: 3,082,328	6	: 3,104,088		: 3,108,933
		: 3,095,504	.3	: 3,093,737		: 3,102,201	232	: 3,093,743	9	: 3,087,703		: 3,108,934
		: 3,097,297	.3	: 3,094,617		: 3,111,587	233	: 3,109,101	9	: 3,100,619		: 3,108,935
		: 3,108,186	.3	: 3,094,621	202	: 3,073,962	234	: 3,085,160	9	: 3,106,378		: 3,108,936
		: 3,109,093	.3	: 3,094,622		: 3,094,624		: 3,114,842	9	: 3,106,379		: 3,108,937
		: 3,110,805	.3	: 3,094,623		: 3,105,907	237	: 3,100,847	9	: 3,106,379		: 3,108,938
		: 3,111,583	.3	: 3,095,505	203	: 3,072,794	239	: 3,114,046	159	: 3,110,470		: 3,108,939
		: 3,111,584	.3	: 3,095,506		: 3,076,095		: 3,081,403	170	: 3,096,965		: 3,108,940
		: 3,114,833	.3	: 3,096,440		: 3,078,372		: 3,092,728	171	: 3,071,342		: 3,108,941
		: 3,075,080	.3	: 3,097,298		: 3,080,484		: 3,093,744		: 3,072,379		: 3,108,942
66		: 3,105,903	.3	: 3,097,299		: 3,080,485		: 3,099,750	172	: 3,081,061		: 3,108,943
		: 3,111,585	.3	: 3,097,300		: 3,083,299	Class 251					
67		: 3,105,904	.3	: 3,098,930		: 3,084,261	1	: 3,084,898		: 3,081,974		: 3,108,944
70		: 3,092,721	.3	: 3,098,931		: 3,085,158		: 3,102,709		: 3,082,992		: 3,108,945
71		: 3,079,503	.3	: 3,098,932		: 3,088,033	3	: 3,074,683		: 3,079,823		: 3,108,946
		: 3,083,297	.3	: 3,099,746		: 3,088,034		: 3,081,060		: 3,109,623		: 3,108,947
		: 3,088,029	.3	: 3,101,411		: 3,090,869		: 3,083,940	173	: 3,076,631		: 3,108,948
		: 3,100,844	.3	: 3,102,199		: 3,098,933		: 3,084,899		: 3,077,331		: 3,108,949
		: 3,107,298	.3	: 3,102,200		: 3,098,934	4	: 3,095,175		: 3,077,332		: 3,108,950
		: 3,108,187	.3	: 3,102,956		: 3,099,748		: 3,103,335		: 3,077,333		: 3,108,951
		: 3,109,094	.3	: 3,103,586		: 3,100,264		: 3,095,591		: 3,078,069		: 3,108,952
		: 3,114,039	.3	: 3,103,587		: 3,110,812		: 3,099,429		: 3,095,177		: 3,108,953
		: 3,114,834	.3	: 3,105,905	206	: 3,087,066		: 3,100,102	175	: 3,071,343		: 3,108,954
		: 3,115,578	.3	: 3,105,906		: 3,110,813		: 3,085,783		: 3,081,062		: 3,108,955
.5	Re.25,320	: 3,106,641	.3	: 3,106,642	207	: 3,076,896		: 3,102,710		: 3,085,783		: 3,108,956
.5	: 3,073,954	.3	: 3,107,300		: 3,089,959		: 3,108,143		: 3,100,104		: 3,108,957	
.5	: 3,076,093	.3	: 3,107,301		: 3,091,697	11	: 3,080,143		: 3,108,778		: 3,108,958	
.5	: 3,076,894	.3	: 3,108,188		: 3,093,740	12	: 3,103,336		: 3,111,299		: 3,108,959	
.5	: 3,080,478	.3	: 3,109,095		: 3,102,202	16	: 3,107,079		: 3,085,784		: 3,108,960	
.5	: 3,080,479	.3	: 3,109,096		: 3,114,044	21	: 3,085,779		: 3,090,594		: 3,108,961	
.5	: 3,085,155	.3	: 3,109,097		: 3,097,302	25	: 3,101,924		: 3,076,632		: 3,108,962	
.5	: 3,087,060	.3	: 3,112,403		: 3,102,959	26	: 3,075,737		: 3,084,903		: 3,108,963	
.5	: 3,088,030	.3	: 3,110,806		: 3,072,795	28	: 3,079,121		: 3,088,705		: 3,108,964	
.5	: 3,089,032	.3	: 3,110,807		: 3,076,897	29	: 3,110,468		: 3,101,189		: 3,108,965	
.5	: 3,089,954	.3	: 3,110,808		: 3,083,300	30	: Re.25,338		: 3,086,749		: 3,108,966	
.5	: 3,089,955	.3	: 3,112,399		: 3,087,067		: 3,076,630		: 3,096,069		: 3,108,967	
.5	: 3,090,866	.3	: 3,112,400		: 3,087,068		: 3,090,592		: 3,100,620		: 3,108,968	
.5	: 3,093,734	.3	: 3,113,211		: 3,096,441		: 3,100,103		: 3,071,344		: 3,108,969	
.5	: 3,098,156	.3	: 3,114,837		: 3,102,203		: 3,103,337		: 3,095,178		: 3,108,970	
.5	: 3,099,744	.3	: 3,115,579		: 3,107,301		: 3,105,671		: 3,088,706		: 3,108,971	
.5	: 3,101,407	.3	: 3,116,418		: 3,108,189		: 3,112,094		: 3,096,070		: 3,108,972	
.5	: 3,101,408	.6	: 3,072,792	210	: 3,088,035		: 3,114,532		: 3,096,966		: 3,108,973	
.5	: 3,101,409	.6	: 3,072,793		: 3,099,749		: 3,072,796		: 3,099,431		: 3,108,974	
.5	: 3,102,954	.6	: 3,073,959	211	: 3,072,796		: 3,072,378		: 3,100,621		: 3,108,975	
.5	: 3,102,955	.6	: 3,078,371		: 3,085,159		: 3,107,080		: 3,107,082		: 3,108,976	
.5	: 3,105,148	.6	: 3,084,254		: 3,087,069							



46.7 : 3,098,824	67 : 3,085,065	301.6 : 3,110,680	478 : 3,075,925	10.5 : 3,087,706	175.7 : 3,116,050	104 : 3,071,352
.7 : 3,100,748	70 : 3,096,290	.6 : 3,111,493	3 : 3,092,590	18 : 3,105,674	184 : 3,073,574	.5 : 3,075,747
.7 : 3,102,863	71 : 3,108,075	.6 : 3,113,929	3 : 3,106,535	29 : 3,073,571	185 : 3,081,067	.5 : 3,090,605
.7 : 3,109,816	71 : 3,090,756	303 : 3,102,100	3 : 3,114,721	3 : 3,077,335	185 : 3,092,370	.5 : 3,091,437
47.5 : 3,096,285	73 : 3,080,321	305 : 3,074,891	501 : 3,104,229	3 : 3,079,129	186 : 3,071,349	107 : 3,087,709
.5 : 3,105,818	73 : 3,088,913	3 : 3,074,892	3 : 3,116,260	3 : 3,081,976	187 : 3,077,899	.5 : 3,100,628
.5 : 3,108,071	75 : 3,079,343	3 : 3,077,457	511 : 3,083,169	3 : 3,090,598	189 : 3,078,075	.5 : 3,110,481
48.2 : 3,114,713	3 : 3,080,322	3 : 3,102,101	3 : 3,111,495	3 : 3,094,312	190 : 3,072,384	.5 : 3,115,333
.4 : 3,092,585	3 : 3,090,757	309 : 3,108,790	512 : 3,110,685	3 : 3,096,075	3 : 3,079,130	109 : 3,090,606
49.5 : 3,089,854	76 : 3,088,914	311.5 : 3,093,595	513 : 3,080,328	3 : 3,099,434	3 : 3,079,131	110 : 3,115,334
.6 : 3,080,317	3 : 3,105,050	.5 : 3,096,292	514 : 3,116,261	3 : 3,115,332	3 : 3,081,978	122 : Re.25,490
.6 : 3,082,170	3 : 3,108,076	.5 : 3,097,173	516 : 3,088,921	35 : 3,099,435	3 : 3,097,827	.5 : 3,098,640
.6 : 3,092,586	77 : 3,090,758	.5 : 3,097,174	518 : 3,073,784	50.3 : 3,097,825	3 : 3,098,639	.5 : 3,112,917
.6 : 3,095,378	78 : 3,101,549	.5 : 3,108,971	3 : 3,089,856	.4 : Re.25,339	3 : 3,103,345	134 : 3,071,353
.6 : 3,113,106	3 : 3,074,889	313 : 3,083,167	3 : 3,092,591	51 : 3,075,745	3 : 3,105,676	.5 : 3,111,305
.7 : 3,090,754	3 : 3,076,765	3 : 3,097,175	519 : 3,073,785	3 : 3,080,148	3 : 3,112,097	144 : 3,076,638
.7 : 3,103,494	3 : 3,087,895	3 : 3,098,044	3 : 3,116,262	3 : 3,084,909	194 : 3,101,928	.5 : 3,088,716
.8 : 3,074,886	3 : 3,088,915	3 : 3,105,053	521 : 3,093,598	3 : 3,090,599	196 : 3,094,313	.5 : 3,107,085
.8 : 3,097,171	3 : 3,091,590	3 : 3,110,681		64 : 3,104,863		3 : 3,109,634
.8 : 3,115,463	3 : 3,098,825	3 : 3,113,112	<b>Class 253</b>	67 : 3,105,675	<b>Class 256</b>	145 : 3,112,099
.8 : 3,115,464	3 : 3,098,826	316 : 3,096,293	1 : 3,079,126	69 : 3,108,783	11 : 3,084,913	146 : 3,093,364
.9 : 3,100,749	79.2 : 3,094,489	317 : 3,103,495	2 : 3,077,333	75 : 3,091,432	12.5 : 3,082,993	147 : 3,096,968
.9 : 3,102,097	.5 : 3,083,165	318 : 3,086,944	3 : 3,083,946	77 : 3,074,692	13.1 : 3,077,339	.5 : 3,107,901
.9 : 3,105,819	.5 : 3,098,043	321 : 3,078,236	3 : 3,088,707	78 : 3,084,910	.1 : 3,082,994	150 : 3,072,387
.9 : 3,115,465	89 : 3,082,172	324 : 3,083,168	3 : 3,093,360	3 : 3,101,192	.1 : 3,092,371	151 : 3,091,438
9 : 3,115,466	95 : 3,108,077	332 : 3,084,124	3 : 3,107,083	85 : 3,089,680	19 : 3,111,303	153 : 3,116,051
50 : 3,110,671	98 : 3,108,078	338 : 3,112,276	3 : 3,101,925	86 : 3,073,572	21 : 3,104,865	154 : 3,101,931
51.5 : 3,072,573	99 : 3,099,625	341 : 3,098,827	18 : 3,108,781	86 : 3,073,572	22 : 3,092,372	159 : 3,106,384
.5 : 3,093,586	99 : 3,075,921	342 : 3,110,682	23 : 3,074,687	3 : 3,081,065	24 : 3,095,184	161 : 3,112,100
.5 : 3,094,488	3 : 3,093,590	344 : 3,090,759	24 : 3,084,906	3 : 3,086,752	24 : 3,096,079	171 : 3,080,152
.5 : 3,110,672	3 : 3,096,291	354 : 3,071,550	26 : 3,110,472	3 : 3,093,362	25 : 3,101,929	175 : 3,086,755
.5 : 3,110,673	3 : 3,108,079	355 : 3,079,348	39 : 3,073,567	88 : 3,106,382	26 : 3,072,385	176 : 3,090,607
.5 : 3,113,107	3 : 3,108,969	358 : 3,116,257	26 : 3,081,975	89 : 3,102,714	26 : 3,093,363	176 : 3,081,982
.5 : 3,113,108	3 : 3,110,677	3 : 3,076,768	39 : 3,073,567	89 : 3,073,573	47 : 3,089,681	177 : 3,073,580
.5 : 3,116,250	3 : 3,110,678	3 : 3,078,237	3 : 3,077,334	3 : 3,085,785	57 : 3,080,149	.5 : 3,084,917
.5 : 3,116,251	3 : 3,112,274	3 : 3,113,930	3 : 3,078,071	3 : 3,096,076	59 : 3,104,866	178 : 3,072,388
.5 : 3,116,252	3 : 3,113,111	3 : 3,115,472	3 : 3,083,947	3 : 3,114,534	3 : 3,108,786	.5 : 3,081,983
52 : 3,087,892	101 : 3,095,379	359 : 3,088,918	3 : 3,084,907	92 : 3,074,693	3 : 3,109,629	180 : 3,104,869
3 : 3,093,587	103 : 3,080,323	3 : 3,093,596	3 : 3,090,591	93 : 3,081,066	3 : 3,113,760	.5 : 3,078,076
3 : 3,105,820	105 : 3,081,265	3 : 3,109,821	3 : 3,093,361	3 : 3,086,753	64 : 3,089,682	.5 : 3,106,385
3 : 3,112,273	106 : 3,088,916	364 : 3,116,258	3 : 3,094,309	3 : 3,092,366	65 : 3,071,350	
54 : 3,073,782	107 : 3,083,591	366 : 3,080,326	3 : 3,096,073	3 : 3,096,077	3 : 3,073,636	<b>Class 260</b>
55 : 3,108,968	107 : 3,081,266	3 : 3,080,327	3 : 3,104,091	3 : 3,097,826	3 : 3,083,951	2 : 3,071,552
56 : 3,073,783	3 : 3,085,066	372 : 3,086,945	3 : 3,104,092	98 : 3,084,911	3 : 3,085,788	.5 : 3,071,553
3 : 3,087,893	3 : 3,105,051	373 : 3,091,593	3 : 3,114,533	3 : 3,100,623	3 : 3,107,900	.5 : 3,073,786
3 : 3,087,894	113 : 3,079,344	374 : 3,088,919	.15 : 3,074,688	100 : 3,085,786	69 : 3,108,787	.5 : 3,082,177
3 : 3,102,098	117 : 3,076,766	3 : 3,114,717	.15 : 3,091,429	101 : 3,100,624	<b>Class 259</b>	.5 : 3,085,071
57 : 3,096,286	135 : 3,081,267	376 : 3,081,268	.15 : 3,094,310	104 : 3,074,694	1 : Re.25,324	.5 : 3,086,946
58 : 3,072,574	137 : 3,072,578	386 : 3,085,069	.15 : 3,110,473	3 : 3,078,072	3 : 3,110,474	.5 : 3,088,922
.5 : 3,115,467	3 : 3,085,982	3 : 3,088,920	.15 : 3,111,302	3 : 3,110,474	105 : 3,095,181	.5 : 3,088,922
59 : 3,076,764	3 : 3,108,080	389 : 3,077,222	52 : 3,079,127	106 : 3,085,787	106 : 3,085,787	.5 : 3,088,923
3 : 3,077,452	138 : 3,075,922	3 : 3,110,683	55 : 3,106,381	109 : 3,110,475	110 : 3,088,784	.5 : 3,095,385
3 : 3,115,468	3 : 3,101,324	3 : 3,110,684	59 : 3,071,345	110 : 3,088,784	116 : 3,090,600	.5 : 3,096,296
62.1 : 3,078,231	142 : 3,083,166	390 : 3,096,294	3 : 3,075,741	116 : 3,090,600	122 : 3,110,476	.5 : 3,098,830
.1 : 3,079,342	143 : 3,072,579	391 : 3,087,897	3 : 3,075,741	122 : 3,110,476	126 : 3,096,967	.5 : 3,099,628
.1 : 3,080,318	144 : 3,075,923	392 : 3,113,113	3 : 3,075,742	126 : 3,096,967	127 : 3,114,535	.5 : 3,099,629
.1 : 3,081,263	147 : 3,077,453	408 : 3,095,382	3 : 3,089,679	131.5 : 3,113,758	132 : 3,077,336	.5 : 3,100,750
.1 : 3,090,755	148 : 3,077,454	411 : 3,071,551	3 : 3,094,311	132 : 3,077,336	3 : 3,103,343	.5 : 3,105,054
.1 : 3,105,821	3 : 3,079,345	412 : 3,108,972	3 : 3,099,433	3 : 3,112,913	3 : 3,110,477	.5 : 3,106,536
.3 : 3,074,887	3 : 3,091,591	413 : 3,082,176	3 : 3,100,622	3 : 3,112,913	3 : 3,110,477	.5 : 3,110,687
.3 : 3,078,232	3 : 3,107,221	3 : 3,093,597	3 : 3,107,896	3 : 3,112,913	3 : 3,110,477	.5 : 3,110,688
.3 : 3,078,233	149 : 3,094,490	3 : 3,112,277	65 : 3,072,380	3 : 3,112,913	3 : 3,110,477	.5 : 3,090,603
.3 : 3,085,979	152 : 3,072,580	415 : 3,090,760	67 : 3,107,084	3 : 3,116,048	3 : 3,095,182	.5 : 3,097,828
.3 : 3,096,287	3 : 3,075,924	416 : 3,087,898	77 : 3,073,568	3 : 3,095,182	3 : 3,100,627	.1 : 3,088,924
.3 : 3,108,072	3 : 3,086,943	417 : 3,076,769	3 : 3,073,569	3 : 3,109,626	3 : 3,109,630	.1 : 3,092,617
.3 : 3,108,073	3 : 3,095,380	3 : 3,091,594	3 : 3,073,569	3 : 3,072,382	3 : 3,109,631	.1 : 3,094,494
.3 : 3,116,253	153 : 3,079,346	420 : 3,104,227	3 : 3,075,743	3 : 3,072,383	6 : 3,111,304	.2 : 3,085,072
.5 : 3,072,575	3 : 3,085,067	426 : 3,092,587	3 : 3,075,743	3 : 3,077,337	7 : 3,088,712	.2 : 3,086,947
.5 : 3,072,577	156 : 3,105,822	428 : Re.25,400	3 : 3,084,343	3 : 3,078,073	8 : 3,076,637	.2 : 3,099,630
.5 : 3,074,888	157 : 3,077,455	3 : 3,113,114	3 : 3,088,708	3 : 3,081,977	3 : 3,081,069	.2 : 3,100,751
.5 : 3,075,919	161 : 3,095,381	428 : Re.25,400	3 : 3,095,180	3 : 3,084,912	3 : 3,081,069	.3 : 3,098,046
.5 : 3,075,920	163 : 3,093,592	3 : 3,107,223	3 : 3,096,074	3 : 3,086,754	18 : 3,088,713	.3 : 3,108,082
.5 : 3,078,234	3 : 3,099,626	3 : 3,108,081	3 : 3,097,824	3 : 3,102,715	29 : 3,087,707	.3 : 3,109,824
.5 : 3,080,319	170 : 3,115,471	429 : 3,108,973	3 : 3,104,093	3 : 3,109,627	30 : 3,104,867	.5 : 3,071,554
.5 : 3,080,320	171 : 3,074,890	3 : 3,109,822	3 : 3,108,782	3 : 3,102,717	37 : 3,073,577	.5 : 3,072,581
.5 : 3,081,264	3 : 3,094,491	3 : 3,113,115	3 : 3,112,914	3 : 3,110,478	53 : 3,087,708	.5 : 3,072,582
.5 : 3,082,171	181 : 3,082,173	3 : 3,114,718	3 : 3,112,915	3 : 3,110,479	54 : 3,073,578	.5 : 3,072,583
.5 : 3,083,164	.6 : 3,082,174	430 : 3,084,125	78 : 3,071,346	3 : 3,110,480	66 : 3,088,714	.5 : 3,072,584
.5 : 3,084,123	182 : 3,078,235	3 : 3,094,492	3 : 3,072,381	3 : 3,113,759	72 : 3,074,696	.5 : 3,073,787
.5 : 3,085,980	3 : 3,080,324	3 : 3,114,719	3 : 3,074,689	.4 : 3,091,433	3 : 3,081,980	.5 : 3,073,788
.5 : 3,085,981	3 : 3,088,917	432 : 3,092,588	3 : 3,074,690	135 : 3,116,049	3 : 3,088,715	.5 : 3,074,894
.5 : 3,093,588	186 : 3,089,855	438 : 3,102,864	3 : 3,075,744	139.1 : 3,077,338	3 : 3,091,435	.5 : 3,075,926
.5 : 3,093,589	187 : 3,113,928	439 : 3,112,279	3 : 3,079,128	.1 : 3,092,367	3 : 3,094,314	.5 : 3,075,927
.5 : 3,096,288	192 : 3,087,896	443 : 3,078,238	3 : 3,101,928	142 : 3,103,344	3 : 3,096,081	.5 : 3,075,928
.5 : 3,100,194	301.1 : 3,091,592	444 : 3,116,259	3 : 3,107,897	143 : 3,100,625	3 : 3,104,868	.5 : 3,075,929
.5 : 3,102,099	.1 : 3,093,593	441 : 3,092,589	82 : 3,115,331	145 : 3,104,094	3 : 3,113,761	.5 : 3,075,930
.5 : 3,105,834	.1 : 3,105,052	3 : 3,095,383	97 : 3,071,347	161 : 3,101,927	81 : 3,072,386	.5 : 3,076,770
.5 : 3,108,074	.1 : 3,112,275	442 : 3,115,473	137 : 3,091,430	164 : 3,083,949	82 : 3,095,185	.5 : 3,077,458
.5 : 3,109,817	.1 : 3,114,716	442 : 3,098,828	<b>Class 254</b>	3 : 3,092,368	84 : 3,073,579	.5 : 3,078,239
.5 : 3,110,674	.2 : 3,116,256	443 : 3,109,823	2 : 3,073,570	166 : 3,083,950	89 : 3,109,632	.5 : 3,079,349
.5 : 3,110,675	.4 : 3,079,347	444 : 3,113,931	2 : 3,073,570	3 : 3,088,709	95 : 3,081,070	.5 : 3,079,350
.5 : 3,110,676	.4 : 3,093,594	448 : 3,096,295	5 : 3,073,570	167 : 3,109,628	96 : 3,084,916	.5 : 3,080,329
.5 : 3,113,109	.4 : 3,099,172	451 : 3,095,384	3 : 3,080,147	169 : 3,090,601	97 : 3,081,981	.5 : 3,081,269
.5 : 3,113,927	.4 : 3,099,627	455 : 3,098,045	3 : 3,081,064	170 : 3,092,369	97 : 3,085,789	.5 : 3,084,126
.5 : 3,114,714	.4 : 3,104,226	456 : 3,108,974	3 : 3,091,431	172 : 3,088,710	98 : 3,106,383	.5 : 3,084,127
.5 :						



Class 260—Con.		22	: 3,088,927	29.7	: 3,079,359	41	: 3,092,605	45.5	: 3,090,768	46.5	: 3,094,507	77.5	: 3,071,565
			: 3,092,596		: 3,080,334		: 3,093,614		: 3,090,769		: 3,096,303		: 3,072,613
2.5	: 3,089,857		: 3,098,052		: 3,081,275		: 3,098,054		: 3,090,770		: 3,096,304		: 3,072,614
.5	: 3,090,761		: 3,106,538		: 3,083,173		: 3,103,497		: 3,092,607		: 3,099,640		: 3,073,802
.5	: 3,092,592		: 3,108,084		: 3,084,134		: 3,104,234		: 3,092,608		: 3,103,502		: 3,076,788
.5	: 3,092,593		: 3,108,085		: 3,085,076		: 3,105,057		: 3,093,615		: 3,105,061		: 3,078,257
.5	: 3,092,594		: 3,109,827		: 3,085,077		: 3,108,986		: 3,094,504		: 3,107,234		: 3,080,343
.5	: 3,093,599		: 3,110,690		: 3,095,397		: 3,111,499		: 3,094,505	47	: 3,071,562		: 3,080,344
.5	: 3,093,600		: 3,110,691		: 3,095,398		: 3,111,500		: 3,095,401		: 3,072,606		: 3,084,140
.5	: 3,094,495		: 3,112,284		: 3,097,180		: 3,112,289		: 3,095,402		: 3,072,607		: 3,088,934
.5	: 3,095,386		: 3,113,932		: 3,104,231		: 3,113,118		: 3,097,185		: 3,073,799		: 3,089,864
.5	: 3,095,387		: 3,115,475		: 3,108,980		: 3,076,778		: 3,097,186		: 3,075,949		: 3,096,310
.5	: 3,097,176		Re. 25,451		: 3,111,498		: 3,076,779		: 3,098,058		: 3,076,784		: 3,097,191
.5	: 3,098,047	23	: 3,074,896		: 3,112,286		: 3,085,990		: 3,098,838		: 3,079,367		: 3,100,759
.5	: 3,098,048		: 3,090,763		: 3,073,792		: 3,086,955		: 3,098,839		: 3,080,341		: 3,102,875
.5	: 3,098,831		: 3,097,178		: 3,110,692		: 3,087,906		: 3,099,638		: 3,080,342		: 3,105,063
.5	: 3,098,832		: 3,100,195		: 3,075,939		: 3,087,907		: 3,100,198		: 3,083,182		: 3,113,935
.5	: 3,099,631		: 3,106,539		: 3,077,461		: 3,098,055		: 3,100,199		: 3,084,139		: 3,115,481
.5	: 3,102,865		: 3,107,226		: 3,082,184		: 3,098,837		: 3,100,757		: 3,085,992		: 3,116,268
.5	: 3,106,537		: 3,093,609		: 3,100,756		: 3,104,235		: 3,102,869		: 3,087,910		: 3,072,615
.5	: 3,107,224		: 3,098,834		: 3,078,248		: 3,113,119		: 3,103,498		: 3,090,771		: 3,074,914
.5	: 3,107,225	25	: 3,106,540		: 3,101,325		: 3,077,464		: 3,105,058		: 3,092,610		: 3,074,915
.5	: 3,108,975		: 3,114,723		: 3,103,496		: 3,085,081		: 3,105,059		: 3,094,508		: 3,075,953
.5	: 3,108,976	28	: 3,094,498		: 3,094,502		: 3,087,908		: 3,106,543		: 3,102,872		: 3,076,789
.5	: 3,109,825		: 3,072,586		: 3,096,299		: 3,097,181		: 3,107,228		: 3,102,873		: 3,076,790
.5	: 3,110,686		: 3,081,272		: 3,105,055		: 3,098,056		: 3,108,988		: 3,102,874		: 3,080,345
.5	: 3,111,496		: 3,110,686		: 3,109,828		: 3,113,120		: 3,108,989		: 3,106,544		: 3,081,281
.5	: 3,112,281		: 3,090,764		: 3,098,053		: 3,116,265		: 3,110,695		: 3,106,545		: 3,082,191
.5	: 3,113,116		: 3,093,610		: 3,071,556		: 3,072,594		: 3,111,501		: 3,106,546		: 3,083,188
.5	: 3,114,722		: 3,097,179		: 3,073,793		: 3,074,903		: 3,112,290		: 3,110,698		: 3,086,962
.5	: 3,114,724		: 3,100,196		: 3,074,900		: 3,074,904		: 3,113,122		: 3,112,292		: 3,090,773
3	: 3,079,351		: 3,105,823		: 3,085,078		: 3,078,251		: 3,113,123		: 3,114,731		: 3,093,618
	: 3,086,948		: 3,112,285		: 3,091,597		: 3,078,252		: 3,113,934		: 3,115,479		: 3,094,511
	: 3,092,595	29.1	: 3,073,789		: 3,093,612		: 3,083,174		: 3,114,728	50	: 3,071,563		: 3,106,548
	: 3,099,632		: 3,081,273		: 3,096,300		: 3,095,400		: 3,115,478	52	: 3,114,732		: 3,108,991
	: 3,079,352		: 3,100,753		: 3,072,591		: 3,096,301		: 3,072,601	57	: 3,083,183		: 3,109,835
	: 3,085,074		: 3,076,773		: 3,108,086		: 3,097,182		: 3,106,547		: 3,107,230		: 3,109,836
4	: 3,084,128		: 3,077,460		: 3,074,901		: 3,098,057		: 3,074,910	61	: 3,076,785		: 3,115,482
	: 3,087,902		: 3,087,904		: 3,076,775		: 3,100,197		: 3,080,338	62	: 3,110,699		: 3,106,549
	: 3,095,388		: 3,088,928		: 3,085,086		: 3,101,326		: 3,088,932	63	: 3,083,184		: 3,112,294
	: 3,102,102		: 3,092,597		: 3,089,858		: 3,102,104		: 3,089,860	65	: 3,096,305		: 3,072,616
5	: 3,093,601		: 3,095,394		: 3,092,602		: 3,107,183		: 3,097,187		: 3,097,189		: 3,073,803
	: 3,094,496		: 3,115,476		: 3,094,503		: 3,108,087		: 3,102,107		: 3,099,641		: 3,073,804
8	: 3,095,389		: 3,074,897		: 3,071,557	45.1	: 3,072,595		: 3,102,870		: 3,112,293		: 3,081,282
9	: 3,096,297		: 3,083,170		: 3,072,592		: 3,076,780		: 3,103,499	66	: 3,075,950		: 3,082,914
	: 3,108,977		: 3,084,130		: 3,104,232		: 3,104,236		: 3,107,232	67	: 3,071,564		: 3,092,611
14	: 3,108,083		: 3,072,587		: 3,108,981		: 3,071,559		: 3,108,090		: 3,072,610		: 3,073,805
17	: 3,076,771		: 3,074,898		: 3,086,951		: 3,072,597		: 3,108,990		: 3,087,911		: 3,073,806
	: 3,081,270		: 3,083,171		: 3,086,952		: 3,075,945		: 3,108,991		: 3,087,912		: 3,074,916
	: 3,082,178		: 3,087,905		: 3,105,056		: 3,081,277		: 3,110,697		: 3,089,861		: 3,076,791
	: 3,082,179		: 3,094,499		: 3,114,725		: 3,084,136		: 3,116,266		: 3,091,599		: 3,076,792
	: 3,084,129		: 3,095,395		: 3,085,987		: 3,089,859		: 3,072,602		: 3,093,617		: 3,080,346
	: 3,085,985		: 3,095,396		: 3,071,558		: 3,105,826		: 3,072,603		: 3,094,509		: 3,081,283
	: 3,093,602		: 3,099,635		: 3,076,776		: 3,107,227		: 3,072,604		: 3,096,306		: 3,083,189
	: 3,093,603		: 3,100,754		: 3,077,462		: 3,108,088		: 3,074,911		: 3,096,307		: 3,085,994
	: 3,095,390		: 3,106,541		: 3,072,593		: 3,114,727		: 3,076,782		: 3,096,308		: 3,087,915
	: 3,112,282		: 3,072,588		: 3,074,902		: 3,081,278		: 3,080,339		: 3,097,190		: 3,093,619
	: 3,076,772		: 3,072,589		: 3,075,941		: 3,102,868		: 3,080,340		: 3,108,946		: 3,096,311
	: 3,093,604		: 3,072,590		: 3,076,777		: 3,108,089		: 3,081,280		: 3,109,830		: 3,096,312
	: 3,093,605		: 3,073,790		: 3,079,360		Re. 25,395		: 3,083,180		: 3,110,700		: 3,098,059
	: 3,093,606		: 3,073,791		: 3,081,276		: 3,073,796		: 3,083,181		: 3,111,503		: 3,115,483
	: 3,093,607		: 3,075,934		: 3,085,079		: 3,078,253		: 3,094,506		: 3,114,733	79	: 3,087,916
	: 3,099,633		: 3,075,935		: 3,085,988		: 3,079,363		: 3,102,871		: 3,115,480		: 3,088,935
	: 3,082,180		: 3,075,936		: 3,092,603		: 3,079,364		: 3,105,059		: 3,096,309		: 3,113,936
	: 3,093,608		: 3,075,937		: 3,095,399		: 3,084,137		: 3,107,229		: 3,082,190		: 3,099,643
	: 3,097,177		: 3,078,242		: 3,098,835		: 3,090,766		: 3,109,829	69	: 3,073,800		: 3,072,618
	: 3,075,931		: 3,078,243		: 3,105,825		: 3,092,606		: 3,110,696		: 3,102,108		: 3,072,619
	: 3,078,241		: 3,078,244		: 3,108,982		: 3,097,184		: 3,111,502		: 3,072,611		: 3,073,807
	: 3,087,903		: 3,078,245		: 3,108,983		: 3,102,105		: 3,112,291		: 3,083,185		: 3,075,954
	: 3,095,391		: 3,079,356		: 3,112,287		: 3,108,987		: 3,072,605	71	: 3,076,786		: 3,075,955
	: 3,098,049		: 3,079,357		: 3,112,288		: 3,110,694		: 3,074,907		: 3,087,913		: 3,110,701
	: 3,112,283		: 3,080,332		: 3,073,794		: 3,113,121		: 3,074,908		: 3,100,199		: 3,078,258
	: 3,079,353		: 3,080,333		: 3,108,984		: 3,113,933		: 3,074,912	75	: 3,072,612		: 3,093,620
	: 3,095,392		: 3,081,274		: 3,075,942		: 3,071,560		: 3,076,783		: 3,073,801		: 3,111,504
18	: 3,075,932		: 3,082,183		: 3,082,185		: 3,072,598		: 3,079,366		: 3,074,913		: 3,113,126
	: 3,079,354		: 3,083,172		: 3,086,953		: 3,072,599		: 3,082,187		: 3,075,951		: 3,078,259
	: 3,079,355		: 3,084,131		: 3,086,954		: 3,072,600		: 3,082,188		: 3,075,952		: 3,085,995
	: 3,080,330		: 3,084,132		: 3,090,765		: 3,073,797		: 3,082,189		: 3,076,787		: 3,105,064
	: 3,082,181		: 3,084,133		: 3,092,604		: 3,073,798		: 3,085,991		: 3,077,466		: 3,072,620
	: 3,085,075		: 3,086,950		: 3,098,836		: 3,074,905		: 3,086,960		: 3,079,368		: 3,073,808
	: 3,091,595		: 3,092,598		: 3,104,233		: 3,074,906		: 3,091,598		: 3,083,186		: 3,076,793
	: 3,094,497		: 3,092,599		: 3,106,542		: 3,075,946		: 3,092,609		: 3,083,187		: 3,080,347
	: 3,098,050		: 3,092,600		: 3,108,985		: 3,075,947		: 3,093,616		: 3,085,993		: 3,083,190
	: 3,098,833		: 3,092,601		: 3,075,943		: 3,075,948		: 3,096,302		: 3,086,961		: 3,088,936
	: 3,099,634		: 3,093,611		: 3,093,613		: 3,076,781		: 3,097,188		: 3,088,933		: 3,091,601
	: 3,109,826		: 3,094,500		: 3,114,726		: 3,078,254		: 3,098,840		: 3,089,862		: 3,093,621
	: 3,110,689		: 3,094,501		: 3,077,463		: 3,079,365		: 3,098,841		: 3,089,863		: 3,102,876
19	: 3,091,596	</											



85.3 : 3,090,774	93.5 : 3,108,994	97.7 : 3,109,839	209 : 3,094,517	239.3 : 3,096,325	239.5 : 3,097,200	243 : 3,108,097
.3 : 3,091,603	.5 : 3,110,706	112 : 3,076,797	.5 : 3,096,323	.3 : 3,096,326	.5 : 3,098,068	.3 : 3,110,716
.3 : 3,099,644	.7 : 3,071,568	.3 : 3,083,194	.3 : 3,100,202	.3 : 3,100,770	.57 : 3,098,070	.3 : 3,111,516
.5 : 3,084,143	.7 : 3,072,627	.3 : 3,090,779	.3 : 3,116,281	.3 : 3,101,331	.5 : 3,098,850	.3 : 3,112,307
.5 : 3,093,622	.7 : 3,072,628	.3 : 3,091,608	.6 : 3,115,488	.3 : 3,102,116	.55 : 3,098,851	.3 : 3,112,308
.5 : 3,110,702	.7 : 3,072,629	.3 : 3,093,627	210 : 3,074,928	.3 : 3,103,509	.55 : 3,098,852	.3 : 3,112,309
.5 : 3,112,295	.7 : 3,073,810	.3 : 3,095,408	.3 : 3,084,154	.3 : 3,105,067	.55 : 3,099,654	.3 : 3,112,310
86.1 : 3,096,313	.7 : 3,073,811	.3 : 3,100,201	.3 : 3,086,970	.3 : 3,107,239	.55 : 3,099,655	.3 : 3,113,131
.1 : 3,100,760	.7 : 3,074,919	.3 : 3,108,995	.3 : 3,108,996	.3 : 3,108,096	.55 : 3,099,656	.3 : 3,113,131
.1 : 3,112,296	.7 : 3,075,958	117 : 3,111,512	.5 : 3,110,711	.3 : 3,111,515	.55 : 3,099,657	244 : 3,072,652
.1 : 3,116,270	.7 : 3,075,959	123.5 : 3,099,649	.5 : 3,113,128	.3 : 3,114,748	.55 : 3,100,204	.3 : 3,115,494
.7 : 3,072,622	.7 : 3,075,960	.7 : 3,075,961	211 : 3,073,814	.5 : 3,071,577	.55 : 3,100,771	.3 : 3,116,292
.7 : 3,080,348	.7 : 3,080,353	124 : 3,071,570	.3 : 3,082,202	.5 : 3,071,578	.55 : 3,101,332	246 : 3,072,443
87.1 : 3,089,865	.7 : 3,081,286	.3 : 3,072,634	.3 : 3,100,203	.55 : 3,071,579	.57 : 3,102,117	247 : 3,074,940
.3 : 3,091,604	.7 : 3,081,287	.3 : 3,081,293	.3 : 3,102,880	.55 : 3,071,580	.57 : 3,103,510	.3 : 3,074,941
.3 : 3,093,623	.7 : 3,081,288	.3 : 3,087,923	.3 : 3,103,505	.55 : 3,071,581	.55 : 3,105,068	.3 : 3,083,202
.3 : 3,114,736	.7 : 3,081,289	.3 : 3,094,515	.5 : 3,074,929	.57 : 3,071,582	.55 : 3,105,069	.3 : 3,086,017
.3 : 3,115,485	.7 : 3,082,195	.3 : 3,095,409	.5 : 3,074,930	.5 : 3,072,637	.5 : 3,105,830	.3 : 3,087,928
.5 : 3,085,083	.7 : 3,082,196	125 : 3,086,001	.5 : 3,079,378	.5 : 3,072,638	.5 : 3,105,831	.3 : 3,098,072
.5 : 3,085,996	.7 : 3,083,192	132 : 3,100,765	.5 : 3,079,379	.5 : 3,072,639	.55 : 3,105,832	.3 : 3,112,311
.5 : 3,111,505	.7 : 3,085,998	139 : 3,081,294	.5 : 3,082,203	.5 : 3,072,640	.55 : 3,107,240	.1 : 3,071,585
.5 : 3,111,506	.7 : 3,086,964	.3 : 3,089,867	.5 : 3,089,869	.5 : 3,072,641	.57 : 3,107,241	.1 : 3,072,653
.7 : 3,084,144	.7 : 3,088,942	.3 : 3,099,650	.5 : 3,115,489	.5 : 3,072,642	.55 : 3,111,516	.1 : 3,073,821
.7 : 3,088,937	.7 : 3,090,776	141 : 3,082,200	5 : 3,116,282	.55 : 3,072,643	.55 : 3,112,305	.1 : 3,075,978
.7 : 3,088,938	.7 : 3,090,777	145 : 3,086,967	212 : 3,102,112	.55 : 3,072,644	.55 : 3,112,306	.1 : 3,086,018
.7 : 3,090,775	.7 : 3,091,605	146 : 3,073,813	.3 : 3,111,513	.55 : 3,072,645	.55 : 3,113,130	.1 : 3,086,974
.7 : 3,096,314	.7 : 3,096,316	.3 : 3,078,266	.3 : 3,114,747	.55 : 3,072,646	.5 : 3,114,749	.3 : 3,098,853
88.1 : 3,075,956	.7 : 3,096,317	.3 : 3,082,201	215 : 3,075,962	.55 : 3,072,647	.55 : 3,114,750	.1 : 3,100,773
.1 : 3,108,992	.7 : 3,098,062	.3 : 3,084,151	.3 : 3,075,963	.55 : 3,073,816	.55 : 3,115,491	.3 : 3,108,098
.2 : 3,071,566	.7 : 3,099,647	.3 : 3,086,002	.3 : 3,075,964	.55 : 3,073,817	.55 : 3,115,492	.3 : 3,108,997
.2 : 3,073,809	.7 : 3,100,764	.3 : 3,086,003	.3 : 3,086,007	.57 : 3,073,818	.5 : 3,116,287	.2 : 3,074,942
.2 : 3,080,349	.7 : 3,101,328	.3 : 3,087,924	217 : 3,073,815	.5 : 3,074,932	.55 : 3,116,288	.2 : 3,074,943
.2 : 3,082,192	.7 : 3,102,877	.3 : 3,096,318	220 : 3,085,086	.5 : 3,074,933	.55 : 3,116,289	.2 : 3,079,387
.2 : 3,084,145	.7 : 3,105,066	.3 : 3,097,196	225 : 3,103,506	.55 : 3,074,934	.55 : 3,116,290	.2 : 3,080,366
.2 : 3,087,917	.7 : 3,107,236	.3 : 3,099,651	226 : 3,089,870	.55 : 3,074,935	.75 : 3,082,206	.2 : 3,080,366
.2 : 3,092,612	.7 : 3,109,838	.3 : 3,100,766	227 : 3,089,871	.57 : 3,074,936	.75 : 3,091,610	.2 : 3,081,302
.2 : 3,093,624	.7 : 3,110,707	.3 : 3,102,109	231 : 3,071,572	.55 : 3,075,969	.7 : 3,098,069	.2 : 3,088,947
.2 : 3,093,625	.7 : 3,110,708	.3 : 3,102,878	.3 : 3,085,087	.55 : 3,075,970	.8 : 3,116,286	.2 : 3,094,529
.2 : 3,097,194	.7 : 3,112,299	.3 : 3,113,127	.3 : 3,088,943	.5 : 3,076,801	.95 : 3,097,201	.2 : 3,098,854
.2 : 3,101,327	.7 : 3,112,300	.3 : 3,116,275	.3 : 3,092,619	.5 : 3,076,802	240 : 3,071,583	.2 : 3,100,205
.2 : 3,112,297	.7 : 3,112,301	.3 : 3,116,276	.3 : 3,093,629	.55 : 3,076,803	.2 : 3,072,648	.2 : 3,102,883
.3 : 3,072,623	.7 : 3,114,742	.3 : 3,116,277	.3 : 3,095,410	.55 : 3,077,471	.3 : 3,072,649	.2 : 3,104,240
.3 : 3,082,193	94.1 : 3,092,613	.3 : 3,116,278	.3 : 3,102,113	.5 : 3,079,381	.3 : 3,072,650	.2 : 3,104,241
.3 : 3,084,146	.1 : 3,097,195	147 : 3,078,267	.3 : 3,102,881	.55 : 3,079,382	.3 : 3,073,819	.2 : 3,105,072
.3 : 3,087,918	.2 : 3,077,467	.3 : 3,096,319	232 : 3,072,635	.55 : 3,079,383	.3 : 3,073,820	.2 : 3,106,552
.3 : 3,095,404	.2 : 3,091,606	.3 : 3,099,652	.3 : 3,077,468	.55 : 3,079,384	.3 : 3,074,937	.2 : 3,108,099
.3 : 3,096,315	.3 : 3,078,263	.3 : 3,114,745	.3 : 3,106,551	.55 : 3,079,385	.3 : 3,075,971	.2 : 3,108,998
.3 : 3,110,703	.3 : 3,082,197	149 : 3,109,840	233.3 : 3,071,573	.57 : 3,079,386	.3 : 3,075,972	.2 : 3,109,844
.7 : 3,087,919	.3 : 3,084,148	151 : 3,071,571	.3 : 3,077,469	.5 : 3,080,359	.3 : 3,075,973	.5 : 3,074,944
.7 : 3,088,939	.3 : 3,086,000	.3 : 3,086,004	.3 : 3,086,008	.55 : 3,080,360	.3 : 3,075,974	.3 : 3,078,271
.7 : 3,088,940	.3 : 3,094,514	.3 : 3,102,110	.3 : 3,086,009	.55 : 3,080,361	.3 : 3,076,804	.5 : 3,081,303
.7 : 3,098,060	.3 : 3,095,406	152 : 3,079,373	.3 : 3,086,971	.57 : 3,080,362	.3 : 3,076,805	.5 : 3,086,975
.7 : 3,100,761	.3 : 3,099,648	.3 : 3,079,374	.3 : 3,101,330	.55 : 3,081,297	.3 : 3,083,201	.5 : 3,090,784
.7 : 3,111,507	.3 : 3,111,510	.3 : 3,079,375	.5 : 3,081,296	.55 : 3,081,298	.3 : 3,086,972	.5 : 3,098,073
.7 : 3,114,737	.3 : 3,114,743	153 : 3,074,925	234 : 3,075,965	.55 : 3,081,299	.3 : 3,091,611	.5 : 3,105,073
89.1 : 3,080,350	.3 : 3,114,744	.3 : 3,084,152	.3 : 3,086,010	.55 : 3,081,300	.3 : 3,097,202	.5 : 3,106,553
.1 : 3,095,405	.3 : 3,116,272	.3 : 3,093,628	.3 : 3,096,324	.55 : 3,082,205	.3 : 3,097,203	.7 : 3,073,822
.1 : 3,099,645	.3 : 3,116,273	.3 : 3,097,197	.3 : 3,098,065	.5 : 3,083,196	.3 : 3,101,333	.7 : 3,077,472
.1 : 3,109,837	.7 : 3,076,795	.3 : 3,100,767	.3 : 3,102,114	.5 : 3,083,197	.3 : 3,110,712	.7 : 3,079,388
.1 : 3,111,508	.9 : 3,071,569	.3 : 3,100,768	.3 : 3,103,507	.55 : 3,083,198	.3 : 3,110,713	.7 : 3,081,304
.1 : 3,114,738	.9 : 3,072,608	.3 : 3,103,504	.3 : 3,103,508	.55 : 3,083,199	.3 : 3,110,714	.7 : 3,086,976
.5 : 3,080,351	.9 : 3,072,630	.3 : 3,109,841	236 : 3,098,849	.57 : 3,083,200	.3 : 3,113,939	.7 : 3,092,630
.5 : 3,094,513	.9 : 3,072,631	.3 : 3,110,710	.3 : 3,108,095	.5 : 3,084,156	.3 : 3,116,291	248 : 3,071,586
.5 : 3,100,200	.9 : 3,072,632	154 : 3,083,195	.5 : 3,079,380	.55 : 3,084,157	.65 : 3,074,938	.3 : 3,072,654
.5 : 3,103,503	.9 : 3,072,633	.3 : 3,102,111	.6 : 3,093,630	.55 : 3,084,158	.6 : 3,080,363	.3 : 3,073,823
.5 : 3,108,093	.9 : 3,073,812	157 : 3,102,879	239 : 3,071,574	.55 : 3,084,159	.6 : 3,090,782	.3 : 3,075,979
.5 : 3,114,739	.9 : 3,074,920	.3 : 3,109,842	.3 : 3,072,636	.55 : 3,085,088	.9 : 3,075,975	.3 : 3,076,807
.5 : 3,114,740	.9 : 3,074,921	158 : 3,084,153	.3 : 3,074,931	.55 : 3,085,089	241 : 3,086,016	.3 : 3,080,367
.5 : 3,116,271	.9 : 3,074,922	.3 : 3,096,320	.3 : 3,075,966	.55 : 3,085,090	242 : 3,082,207	.3 : 3,084,163
91.1 : 3,080,352	.9 : 3,074,923	.3 : 3,099,653	.3 : 3,076,799	.5 : 3,086,011	.3 : 3,086,973	.3 : 3,088,948
.1 : 3,085,997	.9 : 3,076,796	.3 : 3,105,829	.3 : 3,076,800	.55 : 3,086,012	.3 : 3,094,525	.3 : 3,093,640
.1 : 3,098,061	.9 : 3,078,264	163 : 3,092,615	.3 : 3,077,470	.55 : 3,086,013	.3 : 3,095,413	.3 : 3,093,641
.3 : 3,072,624	.9 : 3,078,265	.3 : 3,094,516	.3 : 3,093,631	.55 : 3,086,014	.3 : 3,105,070	.3 : 3,093,642
.3 : 3,082,194	.9 : 3,079,370	.3 : 3,098,063	.3 : 3,093,632	.55 : 3,086,015	.3 : 3,110,715	.3 : 3,093,643
.3 : 3,086,963	.9 : 3,079,371	.3 : 3,114,746	.3 : 3,094,518	.55 : 3,087,925	.3 : 3,115,493	.3 : 3,095,414
.3 : 3,087,920	.9 : 3,079,372	176 : 3,098,064	.3 : 3,098,066	.55 : 3,087,926	243 : 3,071,584	.3 : 3,101,334
.3 : 3,098,843	.9 : 3,080,354	178 : 3,113,937	.3 : 3,098,067	.55 : 3,087,927	.3 : 3,072,651	.3 : 3,102,884
.3 : 3,099,646	.9 : 3,081,290	186 : 3,089,868	.3 : 3,102,115	.5 : 3,088,944	.3 : 3,074,939	.3 : 3,102,885
.3 : 3,105,065	.9 : 3,081,291	.3 : 3,090,780	.3 : 3,104,238	.55 : 3,088,945	.3 : 3,075,976	.3 : 3,106,554
.5 : 3,111,509	.9 : 3,082,198	.3 : 3,092,616	.3 : 3,109,843	.55 : 3,088,946	.3 : 3,075,977	.3 : 3,107,244
92.1 : 3,072,625	.9 : 3,082,199	.3 : 3,100,769	.3 : 3,111,514	.55 : 3,089,873	.3 : 3,076,806	.3 : 3,108,100
.1 : 3,078,261	.9 : 3,083,193	187 : 3,098,847	.3 : 3,113,129	.57 : 3,089,874	.3 : 3,078,270	.3 : 3,108,101
.1 : 3,087,921	.9 : 3,084,149	191 : 3,074,926	.3 : 3,115,490	.55 : 3,090,781	.3 : 3,080,364	.3 : 3,111,518
.1 : 3,088,941	.9 : 3,084,150	192 : 3,079,376	.3 : 3,116,283	.5 : 3,091,609	.3 : 3,081,301	.3 : 3,113,940
.1 : 3,089,866	.9 : 3,085,084	193 : 3,086,968	.3 : 3,116,284	.5 : 3,092,621	.3 : 3,081,305	.3 : 3,113,941
.1 : 3,098,844	.9 : 3,086,965	.3 : 3,096,321	.1 : 3,071,575	.5 : 3,092,622	.3 : 3,082,208	.3 : 3,113,942
.1 : 3,110,704	.9 : 3,086,966	.3 : 3,112,303	.1 : 3,071,576	.5 : 3,092,623	.3 : 3,082,209	.3 : 3,113,943
.1 : 3,110,705	.9 : 3,087,922	196 : 3,104,237	.1 : 3,078,268	.5 : 3,092,624	.3 : 3,082,210	.3 : 3,073,824
.1 : 3,112,298	.9 : 3,090,778	197 : 3,116,279	.1 : 3,078,269	.55 : 3,092,625	.3 : 3,084,160	.3 : 3,074,945
.1 : 3,114,741	.9 : 3,091,607	199 : 3,116,280	.1 : 3,080,356	.55 : 3,092,626	.3 : 3,084,161	.3 : 3,079,389
.1 : 3,115,486	.9 : 3,092,614	202 : 3,086,005	.1 : 3,082,204	.55 : 3,092,627	.3 : 3,084,162	.3 : 3,095,415
.8 : 3,076,794	.9 : 3,093,626	204 : 3,086,006	.1 : 3,092,620	.57 : 3,092,628	.3 : 3,090,783	.3 : 3,116,293
.8 : 3,100,762	.9 : 3,098,845	.3 : 3,096,322	.1 : 3,093,633	.57 : 3,092,629	.3 : 3,093,638	.5 : 3,074,946
.8 : 3,107,237	.9 : 3,098,846	.3 : 3,113,938	.1 : 3,094,519	.55 : 3,093,636	.3 : 3,093,639	.5 : 3,079,390
.8 : 3,108,993	.9 : 3,101,329	.3 : 3,079,377	.1 : 3,116,285	.55 : 3,093,637	.3 : 3,094,526	.5 : 3,097,205
.8 : 3,115,487	.9 : 3,107,238	205 : 3,081,295	.3 : 3,075,967	.5 : 3,094,521	.3 : 3,094,527	.5 : 3,102,886
93.1 : 3,074,918	.9 : 3,108,094					



Class 260—Con.									
249.7	: 3,111,519	279	: 3,107,248	294.8	: 3,086,023	315	: 3,074,959	340.3	: 3,101,345
.7	: 3,112,312		: 3,109,002	.8	: 3,097,210		: 3,085,095	.5	: 3,077,480
.7	: 3,116,294		: 3,116,295	.8	: 3,101,342		: 3,096,341	.5	: 3,092,639
.8	: 3,079,391	281	: 3,076,809	.8	: 3,106,561	316	: 3,079,398	.6	: 3,072,677
.8	: 3,101,335		: 3,077,475	.8	: 3,109,846		: 3,106,563	.7	: 3,072,678
.9	: 3,074,947		: 3,081,308	.8	: 3,116,296	319	: 3,074,960	.7	: 3,072,679
.9	: 3,077,473		: 3,088,949	.9	: 3,094,533		: 3,075,992	.7	: 3,080,378
.9	: 3,091,612		: 3,095,418	.9	: 3,108,112		: 3,075,993	.7	: 3,092,640
.9	: 3,093,645		: 3,096,333	295	: 3,073,836		: 3,076,814	.7	: 3,096,345
.9	: 3,103,512		: 3,105,078		: 3,074,955		: 3,083,207	.9	: 3,086,025
.9	: 3,105,074		: 3,111,523		: 3,085,094		: 3,084,167	343	: 3,072,680
250	: 3,102,655	282	: 3,072,661		: 3,092,633		: 3,094,537	.2	: 3,072,681
	: 3,079,392	283	: 3,103,513		: 3,098,857		: 3,100,778	.2	: 3,074,963
	: 3,086,019		: 3,112,322		: 3,098,858		: 3,102,120	.2	: 3,075,996
	: 3,087,929	285	: 3,085,091		: 3,100,775		: 3,108,116	.2	: 3,077,481
	: 3,091,613		: 3,093,647		: 3,113,946	325	: 3,076,815	.2	: 3,079,401
	: 3,091,614		: 3,101,339	.5	: 3,075,988		: 3,077,477	.2	: 3,080,379
	: 3,094,530		: 3,108,106	.5	: 3,092,634		: 3,079,399	.2	: 3,080,380
	: 3,096,329		: 3,112,323	.5	: 3,096,336	326	: 3,086,024	.2	: 3,080,381
	: 3,096,330		: 3,113,133	.5	: 3,106,562		: 3,093,656	.2	: 3,082,217
	: 3,096,331		: 3,079,394	.5	: 3,108,113		: 3,071,592	.2	: 3,083,210
	: 3,100,206	286	: 3,096,334		: 3,077,476		: 3,074,961	.2	: 3,083,211
	: 3,105,833		: 3,096,334		: 3,080,374		: 3,078,275	.2	: 3,083,212
	: 3,108,103		: 3,107,249		: 3,096,337		: 3,083,208	.2	: 3,089,877
	: 3,113,132	287	: 3,073,828		: 3,100,776		: 3,086,978	.2	: 3,089,878
	: 3,075,980		: 3,079,395		: 3,105,836		: 3,087,936	.2	: 3,092,641
	: 3,080,368		: 3,084,165		: 3,116,297		: 3,092,635	.2	: 3,093,658
	: 3,086,020		: 3,093,648	297	: 3,073,837		: 3,097,211	.2	: 3,097,213
	: 3,092,631		: 3,095,419		: 3,073,838		: 3,105,080	.2	: 3,098,079
	: 3,096,332		: 3,105,079		: 3,075,989		: 3,113,950	.2	: 3,099,659
	: 3,105,075		: 3,108,107		: 3,098,077		: 3,073,843	.2	: 3,102,892
	: 3,107,245		: 3,109,003	299	: 3,082,213		: 3,076,816	.3	: 3,106,567
	: 3,107,246		: 3,113,134		: 3,090,788		: 3,077,478	.3	: 3,096,346
.5	: 3,071,587	288	: 3,075,984		: 3,093,653		: 3,077,478	.3	: 3,101,346
.5	: 3,077,474		: 3,076,811		: 3,096,338		: 3,078,276	.5	: 3,075,997
.5	: 3,080,369		: 3,087,930		: 3,109,847		: 3,080,377	.5	: 3,111,529
.5	: 3,104,242		: 3,102,118	301	: 3,115,495		: 3,092,637	.6	: 3,074,964
.5	: 3,105,076		: 3,105,835		: 3,115,496		: 3,092,638	.6	: 3,075,998
.5	: 3,111,520	289	: 3,108,109	302	: 3,072,669		: 3,095,423	.6	: 3,108,119
252	: 3,092,632		: 3,113,135		: 3,087,932		: 3,095,424	.6	: 3,113,138
	: 3,098,074		: 3,108,109	304	: 3,115,497		: 3,097,212	.7	: 3,100,781
	: 3,114,751	290	: 3,072,662		: 3,095,421		: 3,106,564	345.2	: 3,079,402
254	: 3,074,948		: 3,074,951		: 3,101,343		: 3,108,117	.2	: 3,099,660
256	: 3,094,531		: 3,082,211	305	: 3,090,789		: 3,109,005	.2	: 3,100,782
	: 3,112,313		: 3,093,649	306.6	: 3,075,990		: 3,109,006	.2	: 3,101,348
.4	: 3,073,826		: 3,093,650		: 3,072,671		: 3,115,500	.2	: 3,101,349
.4	: 3,075,981		: 3,095,420		: 3,107,250	327	: 3,071,593	.2	: 3,101,350
.4	: 3,075,982		: 3,106,560		: 3,108,114		: 3,071,594	.6	: 3,108,120
.4	: 3,075,983	292	: 3,073,829		: 3,103,517		: 3,072,675	.7	: 3,099,661
.4	: 3,098,075		: 3,073,830		: 3,107,251		: 3,072,676	.8	: 3,116,301
.4	: 3,105,077		: 3,073,831		: 3,113,947		: 3,073,844	.9	: 3,074,966
.4	: 3,105,834		: 3,075,985	307	: 3,072,672		: 3,073,845	.9	: 3,074,966
.4	: 3,108,105		: 3,083,204		: 3,073,839		: 3,075,994	.9	: 3,084,169
.4	: 3,111,521		: 3,103,515		: 3,073,840		: 3,078,277	.9	: 3,093,659
.4	: 3,112,314	293	: 3,072,663		: 3,074,956		: 3,078,278	.9	: 3,099,662
.4	: 3,112,315		: 3,073,832		: 3,074,957		: 3,079,400	9	: 3,116,302
.4	: 3,113,944		: 3,078,272		: 3,076,812		: 3,081,311	346.1	: 3,074,967
.4	: 3,113,945		: 3,085,093		: 3,079,396		: 3,082,214	.1	: 3,074,968
.5	: 3,072,656		: 3,090,786		: 3,083,206		: 3,091,619	.1	: 3,093,660
.5	: 3,080,370		: 3,093,651		: 3,095,422		: 3,096,342	.1	: 3,113,139
.5	: 3,098,856		: 3,097,207		: 3,108,115		: 3,098,078	.2	: 3,076,818
.5	: 3,109,000		: 3,100,774	308	: 3,102,889		: 3,100,779	.2	: 3,090,791
.5	: 3,112,316		: 3,101,341		: 3,111,524		: 3,100,780	.2	: 3,095,426
.6	: 3,090,785		: 3,101,342		: 3,111,525		: 3,101,344	.2	: 3,102,122
260	: 3,081,306		: 3,109,845		: 3,115,498		: 3,105,081	.2	: 3,102,123
	: 3,109,001		: 3,093,652	309.2	: 3,073,841		: 3,108,118	.2	: 3,108,121
268	: 3,072,657		: 3,073,833		: 3,075,991		: 3,113,137	.2	: 3,109,007
	: 3,072,658		: 3,074,952		: 3,103,518		: 3,115,501	.2	: 3,114,753
	: 3,073,827		: 3,078,273		: 3,105,837	328	: 3,073,847	.3	: Re. 25,430
	: 3,074,949		: 3,081,309		: 3,111,526		: 3,082,215	.3	: 3,071,597
	: 3,079,393		: 3,087,931		: 3,113,136		: 3,095,425	.3	: 3,072,684
	: 3,080,371		: 3,096,335		: 3,113,948		: 3,096,343	.3	: 3,072,685
	: 3,083,203		: 3,097,209		: 3,078,274		: 3,115,502	.3	: 3,074,976
	: 3,086,021	294	: 3,073,834		: 3,107,252		: 3,106,568	.3	: 3,080,388
	: 3,089,876		: 3,083,205		: 3,071,590		: 3,080,389	.3	: 3,080,389
	: 3,091,615		: 3,091,616		: 3,093,654		: 3,102,121	.4	: 3,106,569
	: 3,093,646		: 3,103,516		: 3,093,655		: 3,111,527	.4	: 3,108,122
	: 3,094,532		: 3,108,110		: 3,071,591		: 3,075,995	.4	: 3,112,324
	: 3,095,417		: 3,072,664		: 3,091,617		: 3,077,479	.6	: 3,085,096
	: 3,097,206		: 3,081,313		: 3,115,499		: 3,099,658	.8	: 3,074,969
	: 3,100,207		: 3,090,787	310	: 3,079,397		: 3,106,565	.8	: 3,086,026
	: 3,101,336		: 3,097,208		: 3,087,933		: 3,076,817	.8	: 3,094,539
	: 3,101,337		: 3,102,888		: 3,096,339		: 3,093,657	.8	: 3,115,503
	: 3,101,338		: 3,102,889		: 3,102,890		: 3,106,569	.8	: 3,115,503
	: 3,102,887		: 3,102,890		: 3,102,891		: 3,114,752	.8	: 3,115,503
	: 3,106,557		: 3,104,243		: 3,113,949	333	: 3,071,596	.8	: 3,115,503
	: 3,106,558		: 3,109,004	313	: 3,072,673		: 3,096,344	.8	: 3,115,503
	: 3,106,559		: 3,072,665		: 3,094,534		: 3,103,519	.8	: 3,115,503
	: 3,111,522		: 3,072,666		: 3,109,848		: 3,103,520	.8	: 3,115,503
	: 3,112,317		: 3,072,667	314	: 3,072,674		: 3,105,838	.8	: 3,115,503
	: 3,112,318		: 3,072,668		: 3,076,813		: 3,111,528	.8	: 3,115,503
	: 3,112,319		: 3,073,835		: 3,087,934		: 3,090,790	.8	: 3,115,503
	: 3,112,320		: 3,075,986		: 3,102,891		: 3,108,118	.8	: 3,115,503
	: 3,112,321		: 3,080,372		: 3,074,958		: 3,116,298	.8	: 3,115,503
	: 3,112,322		: 3,080,373		: 3,080,375		: 3,116,299	.8	: 3,115,503
	: 3,112,323		: 3,086,022		: 3,080,376		: 3,083,209	.8	: 3,115,503
	: 3,112,324		: 3,089,876		: 3,084,166		: 3,084,168	.8	: 3,115,503
	: 3,112,325		: 3,091,617		: 3,087,935		: 3,116,300	.8	: 3,115,503
	: 3,112,326		: 3,093,646		: 3,091,618		: 3,074,962	.8	: 3,115,503
	: 3,112,327		: 3,095,417		: 3,094,535		: 3,082,216	.8	: 3,115,503
	: 3,112,328		: 3,097,207		: 3,097,208		: 3,094,536	.8	: 3,115,503
	: 3,112,329		: 3,099,646		: 3,100,775		: 3,096,340	.8	: 3,115,503
	: 3,112,330		: 3,102,887		: 3,103,512				
	: 3,112,331		: 3,105,834		: 3,106,560				
	: 3,112,332		: 3,108,105		: 3,109,001				
	: 3,112,333		: 3,111,520		: 3,112,312				
	: 3,112,334		: 3,114,751		: 3,116,294				
	: 3,112,335		: 3,117,922		: 3,120,333				
	: 3,112,336		: 3,120,334		: 3,123,334				
	: 3,112,337		: 3,123,335		: 3,126,335				
	: 3,112,338		: 3,126,336		: 3,129,336				
	: 3,112,339		: 3,129,337		: 3,132,337				
	: 3,112,340		: 3,132,338		: 3,135,338				
	: 3,112,341		: 3,135,339		: 3,138,339				
	: 3,112,342		: 3,138,340		: 3,141,340				
	: 3,112,343		: 3,141,341		: 3,144,341				
	: 3,112,344		: 3,144,342		: 3,147,342				
	: 3,112,345		: 3,147,343		: 3,150,343				
	: 3,112,346		: 3,150,344		: 3,153,344				
	: 3,112,347								



397.5 : 3.077.486	429 : 3.091.624	439 : 3.088.962	455 : 3.090.798	462 : 3.091.628	470 : 3.072.707	486 : 3.089.897
.5 : 3.078.284	: 3.092.646	: 3.088.963	: 3.098.091	: 3.092.652	: 3.077.492	: 3.089.898
.5 : 3.080.399	: 3.093.668	: 3.091.626	456 : 3.082.238	: 3.093.674	: 3.077.493	: 3.089.899
.5 : 3.080.400	: 3.093.669	: 3.092.647	: 3.083.220	: 3.093.675	: 3.080.415	: 3.089.900
.5 : 3.080.401	: 3.094.544	: 3.097.224	: 3.111.537	: 3.099.677	: 3.112.337	: 3.089.901
.5 : 3.081.318	: 3.099.666	: 3.097.225	458 : 3.079.416	: 3.099.678	: 3.116.321	: 3.089.902
.5 : 3.082.223	: 3.099.667	: 3.098.863	: 3.089.888	: 3.100.221	471 : 3.072.708	: 3.093.680
.5 : 3.086.030	: 3.100.211	: 3.098.864	: 3.100.789	: 3.100.791	: 3.077.494	: 3.093.681
.5 : 3.092.645	: 3.100.212	: 3.099.669	459 : 3.083.221	: 3.100.792	: 3.081.335	: 3.097.233
.5 : 3.094.541	: 3.100.213	: 3.100.216	: 3.113.956	: 3.102.131	: 3.081.336	: 3.100.794
.5 : 3.096.354	: 3.100.214	: 3.101.360	461 : 3.071.608	: 3.102.902	: 3.083.226	: 3.100.795
.5 : 3.096.355	: 3.103.525	: 3.102.899	: 3.071.609	: 3.103.531	: 3.084.182	: 3.105.089
.5 : 3.101.358	: 3.105.084	: 3.103.528	: 3.071.610	: 3.103.532	: 3.093.679	: 3.109.021
.5 : 3.103.523	: 3.109.010	: 3.107.260	: 3.072.702	: 3.104.255	: 3.094.553	: 3.114.766
.5 : 3.103.524	: 3.112.331	: 3.108.128	: 3.072.703	: 3.106.573	: 3.095.443	: 3.114.767
.5 : 3.107.257	.1 : 3.087.948	: 3.109.855	: 3.073.857	: 3.112.336	: 3.097.228	487 : 3.080.417
.5 : 3.108.123	.1 : 3.088.955	: 3.111.533	: 3.073.858	: 3.096.359	: 3.097.229	: 3.089.903
.5 : 3.109.850	.1 : 3.089.885	: 3.113.145	: 3.073.859	: 3.114.762	: 3.100.222	: 3.099.685
.5 : 3.113.953	.2 : 3.107.259	: 3.115.511	: 3.074.990	464 : 3.074.994	: 3.105.847	: 3.100.225
.6 : 3.073.851	.3 : 3.076.831	: 3.082.231	: 3.074.991	: 3.079.420	: 3.105.848	488 : 3.075.003
.7 : 3.096.356	.3 : 3.087.949	: 3.094.545	: 3.074.992	: 3.079.421	: 3.106.576	: 3.075.004
.7 : 3.097.217	.3 : 3.098.861	: 3.108.129	: 3.074.993	: 3.086.040	: 3.116.322	: 3.076.022
.7 : 3.108.124	.3 : 3.104.248	: 3.114.758	: 3.076.008	: 3.088.967	: 3.116.323	: 3.076.023
.7 : 3.111.531	.5 : 3.072.691	: 3.116.309	: 3.076.009	: 3.096.360	472 : 3.100.223	: 3.084.185
399 : 3.082.226	.5 : 3.072.692	446 : 3.081.327	: 3.076.010	: 3.099.679	473 : 3.091.630	: 3.086.045
: 3.090.793	.5 : 3.089.886	: 3.109.853	: 3.076.011	: 3.099.680	: 3.097.230	: 3.086.988
400 : 3.084.176	.5 : 3.091.625	448 : 3.072.698	: 3.076.012	: 3.074.995	: 3.100.224	: 3.092.657
: 3.089.882	.5 : 3.104.249	: 3.074.986	: 3.077.491	: 3.074.996	: 3.112.338	: 3.100.796
: 3.090.794	.7 : 3.074.985	: 3.074.987	: 3.078.295	: 3.076.014	: 3.113.962	: 3.102.133
: 3.096.357	.7 : 3.078.289	: 3.076.006	: 3.079.417	: 3.079.422	: 3.113.963	: 3.102.904
: 3.097.218	.7 : 3.078.290	: 3.077.490	: 3.079.418	: 3.080.413	474 : 3.076.017	: 3.115.519
: 3.104.247	.7 : 3.080.408	: 3.080.411	: 3.079.419	: 3.091.629	475 : 3.071.612	489 : 3.076.839
403 : 3.072.689	.7 : 3.082.230	: 3.082.232	: 3.081.328	: 3.092.653	: 3.076.018	: 3.102.134
: 3.081.320	.7 : 3.085.102	: 3.082.233	: 3.081.329	: 3.093.676	: 3.076.019	490 : 3.072.713
: 3.085.100	.7 : 3.095.433	: 3.082.234	: 3.081.330	: 3.093.677	: 3.076.020	: 3.076.024
404 : 3.074.980	.7 : 3.095.434	: 3.082.235	: 3.081.331	: 3.094.551	: 3.076.837	491 : 3.077.495
: 3.080.403	.7 : 3.096.358	: 3.083.218	: 3.081.332	: 3.096.361	: 3.081.337	: 3.081.343
: 3.081.321	.7 : 3.098.088	: 3.084.180	: 3.081.333	: 3.097.227	: 3.086.985	: 3.098.093
: 3.081.322	.7 : 3.098.862	: 3.084.181	: 3.082.239	: 3.098.092	: 3.096.364	494 : 3.079.429
: 3.089.883	.7 : 3.099.668	: 3.086.038	: 3.082.240	: 3.102.132	: 3.097.231	: 3.081.344
: 3.097.219	.7 : 3.100.215	: 3.087.953	: 3.083.222	: 3.108.130	: 3.097.232	496 : 3.088.970
: 3.107.258	.7 : 3.100.785	: 3.087.954	: 3.083.223	: 3.110.722	: 3.101.366	497 : 3.073.860
.5 : 3.072.690	.7 : 3.108.126	: 3.092.648	: 3.083.224	: 3.113.147	: 3.108.132	: 3.076.840
.5 : 3.082.227	.7 : 3.113.144	: 3.094.546	: 3.087.955	: 3.114.763	: 3.109.017	: 3.082.246
.5 : 3.084.177	.7 : 3.115.509	: 3.097.226	: 3.087.956	: 3.115.514	: 3.109.018	: 3.085.108
.5 : 3.090.795	.7 : 3.116.307	: 3.100.217	: 3.087.957	: 3.116.311	476 : 3.072.709	: 3.096.365
.5 : 3.090.796	.9 : 3.080.409	: 3.100.218	: 3.087.958	: 3.116.312	: 3.078.299	: 3.102.905
.5 : 3.091.623	.9 : 3.087.950	: 3.100.219	: 3.088.965	: 3.116.313	: 3.079.426	499 : 3.072.714
.5 : 3.093.666	.9 : 3.088.956	: 3.100.786	: 3.088.966	: 3.116.314	: 3.081.338	: 3.108.133
406 : 3.079.411	430 : 3.097.221	: 3.100.787	: 3.089.889	: 3.116.315	: 3.090.805	500 : 3.072.715
: 3.112.329	431 : 3.076.832	: 3.104.251	: 3.089.890	: 3.116.316	: 3.091.631	: 3.082.247
407 : 3.076.003	: 3.087.951	: 3.104.252	: 3.089.891	.1 : 3.078.297	: 3.091.632	: 3.110.727
: 3.097.220	: 3.093.670	: 3.116.310	: 3.089.892	.1 : 3.106.574	: 3.110.725	501 : 3.071.613
: 3.100.784	: 3.103.526	.2 : 3.072.699	: 3.089.893	.1 : 3.116.317	: 3.081.339	: 3.072.716
408 : 3.080.404	433 : 3.087.952	.2 : 3.074.988	: 3.090.799	.1 : 3.116.318	: 3.081.340	: 3.090.806
: 3.080.405	: 3.106.572	.2 : 3.078.292	: 3.090.800	.3 : 3.079.423	: 3.084.183	: 3.098.868
409 : 3.105.844	: 3.109.851	.2 : 3.088.964	: 3.092.649	.3 : 3.079.424	: 3.084.184	: 3.101.367
410 : 3.086.981	434 : 3.071.606	.2 : 3.099.670	: 3.092.650	.3 : 3.086.041	: 3.099.681	: 3.105.849
.5 : 3.076.004	435 : 3.072.693	.2 : 3.099.671	: 3.092.651	.3 : 3.114.764	: 3.105.088	: 3.109.022
.5 : 3.078.286	: 3.079.415	.2 : 3.099.672	: 3.093.672	.4 : 3.078.298	: 3.110.726	: 3.109.857
.5 : 3.106.570	437 : 3.071.607	.2 : 3.100.788	: 3.093.673	.4 : 3.082.241	: 3.111.539	504 : 3.076.841
.5 : 3.116.305	: 3.072.694	.2 : 3.101.361	: 3.094.547	.4 : 3.090.803	: 3.091.633	: 3.082.248
.6 : 3.071.604	: 3.072.695	.2 : 3.103.529	: 3.094.548	.4 : 3.110.723	: 3.109.019	: 3.097.234
.6 : 3.074.981	: 3.072.696	.2 : 3.105.085	: 3.094.549	.5 : 3.076.015	: 3.086.986	505 : 3.075.005
.6 : 3.099.665	: 3.072.697	.2 : 3.109.011	: 3.094.550	.5 : 3.088.968	: 3.102.903	: 3.079.430
.7 : 3.079.412	: 3.073.852	.2 : 3.109.012	: 3.095.438	.5 : 3.095.441	: 3.072.710	: 3.088.971
.7 : 3.083.216	: 3.073.853	.2 : 3.109.013	: 3.095.439	.5 : 3.096.362	: 3.074.998	: 3.088.972
.7 : 3.095.431	: 3.073.854	.2 : 3.109.014	: 3.095.440	.5 : 3.115.515	: 3.078.300	: 3.097.235
.7 : 3.102.129	: 3.081.325	.2 : 3.109.855	: 3.098.865	.5 : 3.115.516	: 3.078.301	510 : 3.075.006
.9 : 3.079.413	: 3.081.326	.2 : 3.110.720	: 3.098.866	.5 : 3.116.319	: 3.081.341	513 : 3.082.249
.9 : 3.086.982	: 3.088.957	.2 : 3.110.721	: 3.099.674	.6 : 3.071.611	: 3.086.987	: 3.084.186
.9 : 3.089.884	: 3.097.222	.2 : 3.111.534	: 3.099.675	.6 : 3.100.793	: 3.087.961	: 3.084.187
.9 : 3.095.432	: 3.097.223	.2 : 3.112.332	: 3.099.676	.7 : 3.114.765	: 3.092.656	: 3.093.682
.9 : 3.112.330	: 3.098.089	.2 : 3.112.333	: 3.100.720	.8 : 3.076.836	: 3.094.554	: 3.094.555
.9 : 3.116.306	: 3.098.090	.2 : 3.114.759	: 3.100.729	.8 : 3.092.654	: 3.103.533	: 3.098.869
412.2 : 3.083.365	: 3.108.127	.8 : Re.25.371	: 3.101.362	.8 : 3.101.365	: 3.104.256	514 : 3.077.496
.2 : 3.106.571	: 3.110.719	.8 : 3.072.700	: 3.101.363	.8 : 3.113.959	: 3.109.020	: 3.080.418
.6 : 3.078.287	: 3.113.955	.8 : 3.073.856	: 3.101.364	.8 : 3.115.517	: 3.089.896	: 3.085.109
.6 : 3.087.945	: 3.116.308	.8 : 3.078.293	: 3.102.130	.9 : 3.090.804	: 3.072.711	: 3.086.989
.8 : 3.074.982	438 : 3.076.833	.8 : 3.083.219	: 3.102.900	.9 : 3.094.552	: 3.095.444	: 3.089.904
.8 : 3.113.954	: 3.076.834	.8 : 3.085.104	: 3.102.901	.9 : 3.109.856	: 3.072.712	: 3.091.634
413 : 3.074.983	: 3.088.958	.8 : 3.085.105	: 3.103.530	466 : 3.072.705	: 3.074.999	: 3.094.556
414 : 3.074.984	: 3.093.671	.8 : 3.105.086	: 3.104.253	: 3.080.414	: 3.076.021	: 3.112.339
: 3.078.288	: 3.095.435	.8 : 3.109.854	: 3.104.254	: 3.095.442	: 3.078.302	: 3.080.419
: 3.080.406	: 3.095.436	.8 : 3.111.535	: 3.105.846	: 3.106.575	: 3.079.427	: 3.088.973
: 3.083.217	: 3.103.527	.8 : 3.113.146	: 3.107.262	467 : 3.079.425	: 3.080.416	: 3.091.635
418 : 3.084.178	: 3.104.250	.8 : 3.114.760	: 3.112.335	: 3.086.042	: 3.081.342	: 3.093.683
420 : 3.082.228	: 3.111.532	.8 : 3.115.512	: 3.113.957	: 3.111.538	: 3.086.043	: 3.094.557
424 : 3.087.946	: 3.115.510	.8 : 3.085.106	: 3.113.958	: 3.116.320	: 3.086.044	: 3.095.445
.5 : 3.093.667	439 : 3.073.855	453 : 3.072.701	: 3.114.761	468 : 3.072.706	: 3.098.867	: 3.096.366
425 : 3.085.101	: 3.076.005	: 3.076.007	: 3.072.704	: 3.074.997	: 3.099.682	: 3.096.367
: 3.102.898	: 3.077.488	: 3.078.294	: 3.076.013	: 3.076.016	: 3.099.683	: 3.098.870
429 : 3.071.605	: 3.077.489	: 3.082.236	: 3.076.835	: 3.081.334	: 3.099.684	: 3.100.797
: 3.076.830	: 3.078.291	: 3.099.673	: 3.078.296	: 3.085.107	: 3.075.000	: 3.101.368
: 3.077.487	: 3.080.410	: 3.105.845	: 3.080.412	: 3.092.655	: 3.075.001	: 3.102.135
: 3.079.414	: 3.085.103	: 3.107.261	: 3.083.225	: 3.093.678	: 3.075.002	: 3.102.906
: 3.080.407	: 3.086.034	: 3.112.334	: 3.086.039	: 3.096.363	: 3.076.838	: 3.104.257
: 3.081.323	: 3.086.035	: 3.115.513	: 3.087.959	: 3.105.087	: 3.079.428	: 3.108.134
: 3.081.324	: 3.086.036	454 : 3.074.989	: 3.087.960	: 3.109.016	: 3.082.242	: 3.108.135
: 3.082.229	: 3.086.037	: 3.095.447	: 3.089.894	: 3.113.960	: 3.082.243	: 3.108.136
: 3.084.179	: 3.086.984	: 3.109.015	: 3.089.895	: 3.115.518	: 3.082.244	: 3.109.023
: 3.086.983	: 3.088.959	: 3.111.536	: 3.090.801	: 3.108.131	: 3.082.245	: 3.113.148
: 3.087.947	: 3.088.960	455 : 3.082.237	: 3.090.802	: 3.110.724	: 3.087.962	: 3.113.964
: 3.090.797	: 3.088.961	: 3.089.887	: 3.091.627	: 3.113.961	: 3.088.969	: 3.114.768



Class 260 - Con.											
515	: 3,116,324	551	: 3,079,432	567.6	: 3,102,140	603	: 3,106,581	609	: 3,098,104	644	: 3,113,975
517	: 3,075,007		: 3,080,422	.6	: 3,108,139		: 3,113,972		: 3,098,105		: 3,115,527
518	: 3,100,226		: 3,082,252	.6	: 3,113,969	604	: 3,086,995		: 3,100,229	645	: 3,078,317
	: 3,104,258		: 3,088,190		: 3,082,254		: 3,087,968		: 3,100,800		: 3,085,115
	: 3,107,263		: 3,090,871		: 3,075,014		: 3,089,909		: 3,100,801		: 3,086,062
519	: 3,102,136		: 3,098,871	.5	: 3,116,330		: 3,091,644		: 3,100,802		: 3,086,063
	: 3,109,024		: 3,101,369	.5	: 3,076,031		: 3,094,564		: 3,102,916		: 3,087,971
521	: 3,076,025		: 3,102,911	.5	: 3,082,255		: 3,094,565		: 3,102,917		: 3,087,972
	: 3,086,990		: 3,108,138	.7	: 3,106,578		: 3,095,452		: 3,106,586		: 3,087,973
	: 3,089,905		: 3,115,523	.7	: 3,095,449		: 3,098,101		: 3,114,776		: 3,092,671
	: 3,094,558		: 3,073,861	.7	: 3,102,912		: 3,098,102		: 3,114,777		: 3,110,738
	: 3,099,686		: 3,090,810	.7	: 3,105,854		: 3,102,147	610	: 3,076,852		: 3,112,346
	: 3,105,090		: 3,071,617	.8	: 3,078,307		: 3,104,263		: 3,079,443	646	: 3,076,037
	: 3,105,850		: 3,072,719	.8	: 3,091,640	605	: 3,095,453		: 3,096,376		: 3,077,502
	: 3,113,965		: 3,072,720	.9	: 3,081,347	606.5	: 3,116,333		: 3,100,803	647	: 3,076,038
523	: 3,075,008		: 3,075,012	.9	: 3,097,243		: 3,075,017		: 3,102,918		: 3,083,237
524	: 3,072,717		: 3,095,447	574	: 3,102,913		: 3,075,018	611	: 3,071,626		: 3,109,034
	: 3,075,009		: 3,096,372	575	: 3,102,141		: 3,076,034		: 3,072,727	648	: 3,073,869
	: 3,077,497		: 3,097,239	576	: 3,071,619		: 3,078,308		: 3,084,200		: 3,080,429
	: 3,080,420		: 3,097,240		: 3,081,348		: 3,078,309		: 3,084,201		: 3,082,261
	: 3,080,421		: 3,097,241		: 3,081,349		: 3,078,310	612	: 3,100,804		: 3,083,238
	: 3,082,250		: 3,098,872		: 3,092,662		: 3,078,311		: 3,072,728		: 3,090,817
	: 3,086,991		: 3,101,370	578	: 3,102,142		: 3,078,312		: 3,078,313		: 3,093,692
	: 3,086,992		: 3,102,260		: 3,102,143		: 3,078,313		: 3,083,233		: 3,099,693
	: 3,086,993		: 3,110,728		: 3,111,541		: 3,080,427		: 3,085,113		: 3,110,739
	: 3,088,974		: 3,112,342	580	: 3,073,865		: 3,082,256		: 3,090,814	649	: 3,112,347
	: 3,089,906		: 3,113,968		: 3,088,978		: 3,083,230	613	: 3,071,625		: 3,076,039
	: 3,089,907		: 3,115,524		: 3,093,685		: 3,085,112		: 3,081,355		: 3,084,203
	: 3,091,636	555	: 3,072,721		: 3,109,027		: 3,086,053		: 3,083,234	650	: 3,075,021
	: 3,092,658		: 3,090,811	583	: 3,076,846		: 3,086,055		: 3,088,980		: 3,077,503
	: 3,098,094		: 3,091,637		: 3,077,499		: 3,086,056		: 3,093,689		: 3,100,232
	: 3,105,091		: 3,103,536		: 3,079,449		: 3,086,056		: 3,100,230		: 3,113,976
	: 3,115,520		: 3,105,093		: 3,079,441		: 3,088,979	614	: 3,077,501	652	: 3,076,044
	: 3,071,614		: 3,112,343		: 3,083,229		: 3,092,665		: 3,080,428		: 3,088,983
	: 3,078,303	556	: 3,111,540		: 3,091,641		: 3,092,666		: 3,081,356		: 3,111,545
	: 3,098,095		: 3,116,325		: 3,094,562		: 3,093,687		: 3,086,060	.5	: 3,076,040
	: 3,098,855	557	: 3,079,433		: 3,094,563		: 3,095,454	615	: 3,072,729	.5	: 3,082,262
	: 3,102,137		: 3,091,638		: 3,098,873		: 3,095,455		: 3,078,315	.5	: 3,085,116
	: 3,102,907		: 3,110,729		: 3,102,144		: 3,098,876		: 3,082,257	.5	: 3,090,818
	: 3,105,851	558	: 3,072,722		: 3,110,730		: 3,098,877		: 3,083,235	.5	: 3,099,694
	: 3,115,521		: 3,073,862		: 3,110,731		: 3,098,878		: 3,110,736	.5	: 3,112,348
526	: 3,082,251		: 3,076,843		: 3,113,152		: 3,099,690		: 3,110,737	.5	: 3,113,154
	: 3,086,046		: 3,077,498		: 3,116,331		: 3,099,691	617	: 3,109,863	.5	: 3,113,155
	: 3,087,963		: 3,096,373	584	: 3,098,097		: 3,100,799	618	: 3,106,587	.5	: 3,113,156
	: 3,113,149	559	: 3,073,863		: 3,101,374		: 3,101,376		: 3,111,543	.5	: 3,114,779
	: 3,115,522		: 3,076,027		: 3,104,262		: 3,103,537	619	: 3,073,868	653	: 3,071,628
528	: 3,084,188		: 3,076,028		: 3,110,732		: 3,104,264		: 3,091,645		: 3,076,041
530	: 3,087,964		: 3,076,029		: 3,111,542		: 3,105,096		: 3,111,544		: 3,080,430
	: 3,100,798		: 3,076,844		: 3,114,771		: 3,105,097	620	: 3,087,969		: 3,080,431
	: 3,103,535		: 3,081,346		: 3,116,332		: 3,106,582	621	: 3,071,627		: 3,082,263
	: 3,114,769		: 3,082,253	585	: 3,080,424		: 3,106,583		: 3,076,035		: 3,087,974
531	: 3,076,026		: 3,093,684	586	: 3,075,015		: 3,106,584		: 3,091,646		: 3,087,975
	: 3,112,340		: 3,101,371		: 3,076,810		: 3,109,029		: 3,102,149		: 3,087,976
533	: 3,075,010	561	: 3,072,723		: 3,080,425		: 3,109,030		: 3,109,863	.1	: 3,091,648
	: 3,076,842		: 3,072,724		: 3,084,193		: 3,109,031	623	: 3,076,853	.3	: 3,073,870
	: 3,081,345		: 3,072,725		: 3,084,194		: 3,109,862		: 3,086,061	.3	: 3,081,358
	: 3,099,687		: 3,079,434		: 3,091,642		: 3,110,735	624	: 3,082,258	.3	: 3,089,910
	: 3,106,577		: 3,084,191		: 3,093,686		: 3,113,153		: 3,116,336	.3	: 3,096,379
534	Re 25,359		: 3,086,049		: 3,098,098		: 3,113,973		: 3,078,316	.3	: 3,106,589
	: 3,083,227		: 3,086,050		: 3,102,145		: 3,114,774	631	: 3,084,202	.5	: 3,116,337
	: 3,084,189		: 3,087,965		: 3,106,579		: 3,115,526		: 3,109,864	.6	: 3,073,871
	: 3,096,368		: 3,091,639		: 3,106,580		: 3,116,334	632	: 3,090,815	.7	: 3,072,730
	: 3,105,092		: 3,092,660		: 3,109,028	607	: 3,081,350		: 3,090,816	.7	: 3,086,064
	: 3,105,852		: 3,092,661		: 3,109,860		: 3,081,351		: 3,092,667	.8	: 3,089,911
	: 3,112,341		: 3,099,689		: 3,110,733		: 3,086,057		: 3,092,668	.8	: 3,099,695
	: 3,113,966	562	: 3,072,726		: 3,114,772		: 3,095,456		: 3,100,231	.8	: 3,113,157
535	: 3,092,659		: 3,076,030	587	: 3,109,861		: 3,095,457		: 3,102,150	654	: 3,079,444
536	: 3,114,770		: 3,076,845		: 3,110,734		: 3,101,377		: 3,103,538		: 3,083,239
537	: 3,090,807		: 3,079,435	590	: 3,090,813		: 3,102,148		: 3,113,974		: 3,085,117
	: 3,096,369		: 3,096,374		: 3,098,099		: 3,106,585	634	: 3,093,690		: 3,094,567
	: 3,102,908		: 3,101,372		: 3,098,874		: 3,114,775	635	: 3,101,357		: 3,100,233
	: 3,109,025		: 3,112,344		: 3,102,146	608	: 3,075,019		: 3,083,236		: 3,110,740
	: 3,109,858		: 3,113,150		: 3,102,914		: 3,075,020		: 3,088,981		: 3,115,529
539	: 3,071,615	563	: 3,085,110	591	: 3,073,866		: 3,100,228		: 3,091,647	655	: 3,076,042
	: 3,090,808		: 3,086,051		: 3,092,663		: 3,102,915		: 3,097,245		: 3,079,445
541	: 3,102,909		: 3,087,966		: 3,105,094		: 3,109,032		: 3,098,879		: 3,079,446
543	: 3,071,616		: 3,088,977		: 3,113,970		: 3,116,335		: 3,101,378	656	: 3,113,158
	: 3,078,304		: 3,095,448	592	: 3,073,867	609	: 3,071,621		: 3,105,098		: 3,113,159
	: 3,083,228		: 3,103,534	593	: 3,076,847		: 3,071,622		: 3,108,140	658	: 3,113,159
	: 3,086,047		: 3,112,345		: 3,084,195		: 3,071,623		: 3,092,669	659	: 3,113,157
	: 3,086,048	564	: 3,075,013		: 3,105,095		: 3,071,624	636	: 3,076,854	660	: 3,095,459
	: 3,094,559		: 3,080,423		: 3,113,971		: 3,071,625		: 3,082,259	663	: 3,108,141
	: 3,095,446		: 3,084,192		: 3,114,773		: 3,076,848		: 3,088,982	664	: 3,076,043
	: 3,096,370		: 3,105,853	594	: 3,077,500		: 3,076,849		: 3,096,377		: 3,083,240
	: 3,096,371		: 3,109,859	595	: 3,075,016		: 3,076,850		: 3,098,880		: 3,083,241
	: 3,097,236		: 3,113,151		: 3,091,643		: 3,076,851		: 3,099,692		: 3,109,866
	: 3,099,688		: 3,115,525		: 3,101,375		: 3,079,442	638	: 3,082,260		: 3,082,242
	: 3,102,910		: 3,116,326	596	: 3,080,426		: 3,081,352		: 3,085,114		: 3,083,242
	: 3,104,259		: 3,116,327		: 3,098,100		: 3,081,353		: 3,087,970		: 3,085,118
	: 3,108,137	566	: 3,078,306	597	: 3,076,032		: 3,081,354		: 3,092,670		: 3,085,119
544	: 3,088,975		: 3,090,812		: 3,086,052		: 3,083,231		: 3,093,691		: 3,085,120
	: 3,097,237		: 3,094,560		: 3,086,094		: 3,083,232		: 3,109,865		: 3,090,819
	: 3,098,096		: 3,104,261		: 3,095,450		: 3,084,196	639	: 3,095,458		: 3,095,460
	: 3,102,138	567	: 3,101,373	598	: 3,076,033		: 3,084,197	641	: 3,076,036		: 3,098,881
	: 3,109,026		: 3,116,328		: 3,095,451		: 3,084,198	643	: 3,105,099		: 3,113,160
	: 3,113,967		: 3,116,329		: 3,097,244		: 3,084,199	644	: 3,094,562	666	: 3,071,364
545	: 3,078,305	.6	: 3,071,618	599	: 3,087,967		: 3,086,058		: 3,096,378		: 3,073,872
546											



677	: 3,098,882	705	: 3,109,870	1	: 3,084,920	29	: 3,100,633	Class 267	107	: 3,106,389	Class 270	
	: 3,101,381	749	: 3,115,533		: 3,097,829		: 3,101,935	1	110	: 3,078,087	31	: 3,083,008
	: 3,102,919	758	: 3,078,324		: 3,097,830		: 3,102,719		111	: 3,081,077		: 3,094,319
	: 3,105,100	800	: 3,103,542		: 3,098,641		: 3,112,101		112	: 3,098,646	52	: 3,112,107
	: 3,106,592	815	: 3,100,235		: 3,107,902	30	: 3,071,357					: 3,094,320
	: 3,113,163				: 3,111,306	32	: 3,071,358		Class 268			: 3,097,844
	: 3,113,983	Class 261		3	: 3,086,760		: 3,075,756		14	: 3,097,842	.5	: 3,079,142
	: 3,113,984	16	: 3,074,697		: 3,086,717		: 3,089,688		34	: 3,084,927	54	: 3,087,721
678	: 3,116,342		: 3,092,677		: 3,096,969		: 3,091,442		34	: 3,084,927		: 3,089,693
679	: 3,093,696		: 3,092,677		: 3,096,969		: 3,091,443		53	: 3,104,098	55	: 3,071,369
	: 3,073,875		: 3,100,809		: 3,105,103		: 3,097,833		65	: 3,087,720	58	: 3,076,647
	: 3,093,697		: 3,105,103		: 3,108,788		: 3,116,054		66	: 3,099,438		: 3,083,009
	: 3,105,101		: 3,105,103		: 3,108,788		: 3,116,055			: 3,114,541		: 3,088,730
	: 3,116,343		: 3,105,103		: 3,108,788		: 3,116,055		74	: 3,081,078		: 3,103,354
	: 3,116,344		: 3,105,103		: 3,108,788		: 3,116,055		99	: 3,090,613		: 3,107,088
680	: 3,088,986		: 3,105,103		: 3,108,788		: 3,116,055		105	: 3,098,647		: 3,108,796
	: 3,092,674		: 3,105,103		: 3,108,788		: 3,116,055		108	: 3,081,994		: 3,108,797
	: 3,096,384		: 3,105,103		: 3,108,788		: 3,116,055			: 3,085,797		: 3,114,543
	: 3,097,247		: 3,105,103		: 3,108,788		: 3,116,055		109	: 3,083,958	61	: 3,089,694
	: 3,104,269		: 3,105,103		: 3,108,788		: 3,116,055			: 3,114,542		: 3,092,379
	: 3,105,856		: 3,105,103		: 3,108,788		: 3,116,055		111	: 3,116,057		: 3,109,642
	: 3,110,746		: 3,105,103		: 3,108,788		: 3,116,055		117	: 3,103,351		: 3,113,771
	: 3,111,547		: 3,105,103		: 3,108,788		: 3,116,055		121	: 3,092,377	62	: 3,083,010
	: 3,113,164		: 3,105,103		: 3,108,788		: 3,116,055		123	: 3,104,870	68	: 3,079,143
681	: 3,115,531		: 3,105,103		: 3,108,788		: 3,116,055		124	: 3,086,766		: 3,089,695
	: 3,105,857		: 3,105,103		: 3,108,788		: 3,116,055		126	: 3,072,395		: 3,094,321
	: 3,109,040		: 3,105,103		: 3,108,788		: 3,116,055			: 3,088,727		: 3,110,488
.5	: 3,075,025		: 3,105,103		: 3,108,788		: 3,116,055			: 3,093,368		: 3,116,059
.5	: 3,080,437		: 3,105,103		: 3,108,788		: 3,116,055		Class 269		69	: 3,079,144
.5	: 3,091,653		: 3,105,103		: 3,108,788		: 3,116,055		1	: 3,089,691	72	: 3,088,731
.5	: 3,091,654		: 3,105,103		: 3,108,788		: 3,116,055		7	: 3,083,002	79	: 3,086,768
.5	: 3,094,571		: 3,105,103		: 3,108,788		: 3,116,055		8	: 3,079,140		: 3,100,109
.5	: 3,097,248		: 3,105,103		: 3,108,788		: 3,116,055		10	: 3,086,767	81	: 3,108,798
.5	: 3,097,249		: 3,105,103		: 3,108,788		: 3,116,055		17	: 3,085,798	83	: 3,074,710
.5	: 3,105,858		: 3,105,103		: 3,108,788		: 3,116,055		20	: 3,078,088	86	: 3,111,310
.5	: 3,106,593		: 3,105,103		: 3,108,788		: 3,116,055			: 3,108,791	93	: 3,086,769
682	: 3,082,272		: 3,105,103		: 3,108,788		: 3,116,055		21	: 3,084,928	Class 271	
683	: 3,071,633		: 3,105,103		: 3,108,788		: 3,116,055		23	: 3,081,079	2	: 3,096,977
	: 3,082,273		: 3,105,103		: 3,108,788		: 3,116,055		25	: 3,112,925	3	: 3,090,616
	: 3,098,883		: 3,105,103		: 3,108,788		: 3,116,055		28	: 3,095,190		: 3,095,192
	: 3,113,980		: 3,105,103		: 3,108,788		: 3,116,055		31	: 3,116,058		: 3,105,680
	: 3,113,985		: 3,105,103		: 3,108,788		: 3,116,055		32	: 3,105,679	4	: 3,083,960
.15	: 3,071,634		: 3,105,103		: 3,108,788		: 3,116,055		38	: 3,108,792	5	: 3,074,711
.15	: 3,073,876		: 3,105,103		: 3,108,788		: 3,116,055		40	: 3,073,588		: 3,074,712
.15	: 3,075,026		: 3,105,103		: 3,108,788		: 3,116,055			: 3,097,843		: 3,079,145
.15	: 3,075,027		: 3,105,103		: 3,108,788		: 3,116,055		35	: 3,099,439		: 3,079,146
.15	: 3,076,047		: 3,105,103		: 3,108,788		: 3,116,055		37	: 3,079,138	43	: 3,103,355
.15	: 3,083,246		: 3,105,103		: 3,108,788		: 3,116,055		47	: 3,079,139	45	: 3,072,396
.15	: 3,084,206		: 3,105,103		: 3,108,788		: 3,116,055		52	: 3,097,840	7	: 3,071,370
.15	: 3,087,978		: 3,105,103		: 3,108,788		: 3,116,055		53	: 3,074,707	8	: 3,104,871
.15	: 3,087,979		: 3,105,103		: 3,108,788		: 3,116,055		54	: 3,113,768	12	: 3,094,322
.15	: 3,090,821		: 3,105,103		: 3,108,788		: 3,116,055		57	: 3,071,366	18	: 3,083,959
.15	: 3,090,822		: 3,105,103		: 3,108,788		: 3,116,055			: 3,107,908	22	: 3,110,489
.15	: 3,092,675		: 3,105,103		: 3,108,788		: 3,116,055		60	: 3,091,448	26	: 3,071,371
.15	: 3,094,573		: 3,105,103		: 3,108,788		: 3,116,055		63	: 3,086,765		: 3,079,147
.15	: 3,095,461		: 3,105,103		: 3,108,788		: 3,116,055		64	: 3,073,586	73	: 3,109,640
.15	: 3,096,385		: 3,105,103		: 3,108,788		: 3,116,055			: 3,108,793	75	: 3,112,104
.15	: 3,098,884		: 3,105,103		: 3,108,788		: 3,116,055		65	: 3,074,708	83	: 3,100,636
.15	: 3,104,270		: 3,105,103		: 3,108,788		: 3,116,055		66	: 3,074,709	89	: 3,107,909
.15	: 3,104,271		: 3,105,103		: 3,108,788		: 3,116,055		67	: 3,091,449	90	: 3,073,589
.15	: 3,108,145		: 3,105,103		: 3,108,788		: 3,116,055		68	: 3,087,717	91	: 3,083,005
.15	: 3,109,041		: 3,105,103		: 3,108,788		: 3,116,055		69	: 3,087,718	97	: 3,088,729
.15	: 3,109,869		: 3,105,103		: 3,108,788		: 3,116,055		70	: 3,087,719	101	: 3,102,723
.15	: 3,112,350		: 3,105,103		: 3,108,788		: 3,116,055		71	: 3,112,103	102	: 3,083,006
.15	: 3,113,165		: 3,105,103		: 3,108,788		: 3,116,055		72	: 3,112,104	103	: 3,083,007
.15	: 3,113,166		: 3,105,103		: 3,108,788		: 3,116,055		73	: 3,112,105	104	: 3,083,008
.15	: 3,113,167		: 3,105,103		: 3,108,788		: 3,116,055		74	: 3,112,106	105	: 3,083,009
.15	: 3,116,345		: 3,105,103		: 3,108,788		: 3,116,055		75	: 3,112,107	106	: 3,083,010
.2	: 3,078,320		: 3,105,103		: 3,108,788		: 3,116,055		76	: 3,112,108	107	: 3,083,011
.2	: 3,114,785		: 3,105,103		: 3,108,788		: 3,116,055		77	: 3,112,109	108	: 3,083,012
.48	: 3,073,877		: 3,105,103		: 3,108,788		: 3,116,055		78	: 3,112,110	109	: 3,083,013
.48	: 3,073,878		: 3,105,103		: 3,108,788		: 3,116,055		79	: 3,112,111	110	: 3,083,014
.48	: 3,078,321		: 3,105,103		: 3,108,788		: 3,116,055		80	: 3,112,112	111	: 3,083,015
.48	: 3,080,438		: 3,105,103		: 3,108,788		: 3,116,055		81	: 3,112,113	112	: 3,083,016
.48	: 3,082,274		: 3,105,103		: 3,108,788		: 3,116,055		82	: 3,112,114	113	: 3,083,017
.48	: 3,083,247		: 3,105,103		: 3,108,788		: 3,116,055		83	: 3,112,115	114	: 3,083,018
.48	: 3,113,987		: 3,105,103		: 3,108,788		: 3,116,055		84	: 3,112,116	115	: 3,083,019
.53	: 3,075,028		: 3,105,103		: 3,108,788		: 3,116,055		85	: 3,112,117	116	: 3,083,020
.53	: 3,076,048		: 3,105,103		: 3,108,788		: 3,116,055		86	: 3,112,118	117	: 3,083,021
.51	: 3,078,322		: 3,105,103		: 3,108,788		: 3,116,055		87	: 3,112,119	118	: 3,083,022
.51	: 3,080,439		: 3,105,103		: 3,108,788		: 3,116,055		88	: 3,112,120	119	: 3,083,023
.58	: 3,105,102		: 3,105,103		: 3,108,788		: 3,116,055		89	: 3,112,121	120	: 3,083,024
.58	: 3,109,042		: 3,105,103		: 3,108,788		: 3,116,055		90	: 3,112,122	121	: 3,083,025
.53	: 3,113,988		: 3,105,103		: 3,108,788		: 3,116,055		91	: 3,112,123	122	: 3,083,026
.67	: 3,077,504		: 3,105,103		: 3,108,788		: 3,116,055		92	: 3,112,124	123	: 3,083,027
.65	: 3,078,323		: 3,105,103		: 3,108,788		: 3,116,055		93	: 3,112,125	124	: 3,083,028
.61	: 3,088,987		: 3,105,103		: 3,108,788		: 3,116,055		94	: 3,112,126	125	: 3,083,029
.66	: 3,092,676		: 3,105,103		: 3,108,788		: 3,116,055		95	: 3,112,127	126	: 3,083,030
.62	: 3,098,108		: 3,105,103		: 3,108,788		: 3,116,055		96	: 3,112,128	127	: 3,083,031
.68	: 3,105,859		: 3,105,103		: 3,108,788		: 3,116,055		97	: 3,112,129	128	: 3,083,032
.65	: 3,115,532		: 3,105,103		: 3,108,788		: 3,116,055		98	: 3,112,130	129	: 3,083,033
.63	: 3,116,346		: 3,105,103		: 3,108,788		: 3,116,055		99	: 3,112,131	130	: 3,083,034
.74	: 3,071,635		: 3,105,103		: 3,108,788		: 3,116,055		100	: 3,112,132	131	: 3,083,035
.75	: 3,072,731		: 3,105,103		: 3,108,788		: 3,116,055		1			



## Class 271—Con.

57 : 3,098,650  
 : 3,108,801  
 58 : 3,107,090  
 : 3,073,593  
 : 3,080,163  
 : 3,081,080  
 61 : 3,104,872  
 : 3,104,873  
 : 3,110,491  
 : 3,072,398  
 : 3,104,100  
 63 : 3,084,932  
 64 : 3,074,713  
 : 3,081,081  
 : 3,083,012  
 : 3,096,089  
 : 3,106,393  
 : 3,112,926  
 68 : 3,081,082  
 : 3,101,942  
 : 3,109,644  
 69 : 3,079,150  
 : 3,087,723  
 : 3,104,101  
 71 : 3,075,760  
 : 3,076,649  
 : 3,078,089  
 : 3,079,151  
 : 3,087,724  
 : 3,087,725  
 : 3,092,380  
 : 3,100,113  
 74 : 3,081,996  
 79 : 3,071,374  
 : 3,095,194  
 : 3,100,637  
 86 : 3,083,013  
 87 : 3,092,381  
 : 3,111,312  
 88 : 3,097,846  
 : 3,107,912  
 89 : 3,083,014  
 : 3,092,382

## Class 272

1 : 3,073,594  
 : 3,086,773  
 : 3,088,732  
 : 3,091,453  
 : 3,099,443  
 : 3,108,802  
 7 : 3,081,083  
 8 : 3,071,375  
 : 3,081,997  
 : 3,106,394  
 10 : 3,084,933  
 : 3,085,799  
 25 : 3,074,714  
 : 3,081,084  
 : 3,084,934  
 29 : 3,078,090  
 30 : 3,078,091  
 : 3,107,913  
 32 : 3,080,164  
 33 : 3,073,595  
 : 3,075,761  
 : 3,084,935  
 : 3,100,638  
 : 3,104,102  
 34 : 3,093,372  
 : 3,116,060  
 36 : 3,072,399  
 : 3,101,943  
 : 3,104,103  
 : 3,112,927  
 39 : 3,075,762  
 44 : 3,086,774  
 : 3,090,617  
 : 3,088,733  
 51 : 3,080,165  
 : 3,103,356  
 : 3,075,763  
 53.2 : 3,090,618  
 54 : 3,075,764  
 : 3,089,699  
 : 3,109,645  
 : 3,078,092  
 55 : 3,100,114  
 : 3,083,015  
 : 3,114,544  
 57 : 3,074,715  
 : 3,094,324  
 : 3,096,979  
 : 3,100,639  
 : 3,106,395  
 : 3,107,914  
 : 3,115,338  
 : 3,116,061  
 58 : 3,072,400  
 : 3,081,085

58 : 3,112,108  
 : 3,116,062  
 59 : 3,075,765  
 : 3,105,682  
 : 3,107,091  
 60 : 3,077,347  
 : 3,083,964  
 : 3,114,545  
 66 : 3,072,401  
 : 3,083,965  
 : 3,092,383  
 : 3,096,980  
 70.2 : 3,110,492  
 : 3,098,651  
 71 : 3,074,716  
 : 3,112,928  
 73 : 3,075,766  
 : 3,076,650  
 : 3,100,640  
 : 3,107,915  
 74 : 3,072,402  
 : 3,074,717  
 : 3,104,104  
 : 3,107,916  
 : 3,110,493  
 75 : 3,075,767  
 : 3,107,092  
 78 : 3,114,546  
 79 : 3,101,944  
 : 3,103,357  
 : 3,109,646  
 80 : 3,089,700  
 81 : 3,115,339  
 85 : 3,088,734

## Class 273

1 : Re.25,474  
 : 3,074,718  
 : 3,078,093  
 : 3,081,998  
 : 3,081,999  
 : 3,091,454  
 : 3,092,384  
 : 3,095,195  
 : 3,098,652  
 : 3,111,313  
 : 3,112,929  
 : 3,114,547  
 : 3,114,548  
 : 3,115,340  
 : 3,085,800  
 : 3,105,683  
 : 3,108,802  
 : 3,109,647  
 11 : 3,084,936  
 : 3,096,981  
 : 3,115,341  
 26 : 3,086,775  
 : 3,110,494  
 : 3,111,314  
 : 3,115,342  
 : 3,099,444  
 : 3,108,804  
 30 : 3,078,094  
 : 3,078,095  
 : 3,088,735  
 33 : 3,074,719  
 35 : 3,079,152  
 : 3,083,016  
 : 3,110,495  
 : 3,079,153  
 : 3,111,315  
 41 : 3,078,096  
 : 3,082,000  
 : 3,104,874  
 : 3,108,805  
 : 3,113,773  
 42 : 3,072,403  
 : 3,072,404  
 : 3,094,325  
 : 3,094,326  
 : 3,107,093  
 43 : 3,072,405  
 : 3,077,348  
 : 3,079,154  
 : 3,081,086  
 : 3,082,001  
 : 3,083,017  
 : 3,084,937  
 : 3,089,701  
 : 3,093,373  
 : 3,093,374  
 : 3,094,327  
 : 3,097,847  
 : 3,098,653  
 : 3,103,358  
 : 3,116,063  
 : 3,116,064  
 : 3,073,596  
 : 3,090,619  
 47 : 3,071,376  
 : 3,092,385

47 : 3,099,445  
 : 3,106,396  
 49 : 3,085,801  
 : 3,086,776  
 : 3,094,328  
 : 3,094,329  
 : 3,099,446  
 : 3,101,195  
 : 3,101,945  
 : 3,105,684  
 : 3,107,917  
 : 3,108,806  
 : 3,109,648  
 : 3,109,649  
 : 3,110,496  
 : 3,111,316  
 50 : 3,083,966  
 : 3,113,774  
 51 : Re.25,496  
 : 3,093,375  
 52 : 3,099,447  
 : 3,102,724  
 : 3,109,650  
 53 : 3,079,155  
 : 3,096,090  
 54 : 3,076,651  
 : 3,076,652  
 : 3,083,967  
 : 3,091,455  
 : 3,091,456  
 : 3,091,457  
 : 3,091,458  
 : 3,094,330  
 : 3,095,196  
 : 3,098,654  
 : 3,099,448  
 : 3,101,196  
 : 3,105,685  
 55 : 3,087,726  
 : 3,104,875  
 : 3,105,686  
 : 3,111,317  
 : 3,114,549  
 58 : 3,106,397  
 63 : 3,078,097  
 : 3,087,727  
 : 3,089,702  
 : 3,090,620  
 : 3,102,725  
 : 3,113,775  
 : 3,100,641  
 65 : 3,087,728  
 66 : 3,103,359  
 72 : 3,084,938  
 : 3,104,876  
 73 : 3,078,098  
 : 3,083,968  
 : 3,086,777  
 74 : 3,079,156  
 80 : 3,081,087  
 : 3,083,969  
 : 3,088,736  
 : 3,096,982  
 81 : 3,075,768  
 : 3,102,726  
 : 3,077,349  
 : 3,087,729  
 82 : 3,073,597  
 : 3,092,386  
 : 3,098,655  
 : 3,099,449  
 : 3,104,105  
 84 : 3,106,398  
 85 : 3,074,720  
 : 3,086,778  
 : 3,088,737  
 : 3,105,687  
 : 3,112,930  
 : 3,113,776  
 86 : 3,071,377  
 : 3,103,360  
 : 3,072,406  
 88 : 3,091,459  
 89 : 3,101,197  
 90 : 3,111,318  
 93 : 3,105,688  
 94 : 3,103,361  
 95 : 3,073,598  
 : 3,083,018  
 : 3,090,621  
 : 3,091,460  
 : 3,092,387  
 : 3,104,877  
 : 3,106,399  
 : 3,107,094  
 : 3,110,497  
 96 : 3,075,769  
 : 3,078,099  
 : 3,091,462  
 : 3,108,807  
 97 : 3,093,376  
 98 : 3,087,730

99 : 3,083,970  
 101 : 3,071,378  
 : 3,083,019  
 : 3,094,331  
 : 3,108,808  
 : 3,111,319  
 : 3,112,109  
 : 3,115,343  
 102 : 3,080,166  
 : 3,095,197  
 : 3,092,388  
 : 3,082,002  
 : 3,091,463  
 : 3,097,848  
 : 3,101,198  
 : 3,112,110  
 : 3,088,738  
 : 3,100,115  
 105 : 3,100,642  
 : 3,103,362  
 : 3,107,095  
 : 3,089,703  
 106 : 3,089,704  
 : 3,099,450  
 : 3,100,116  
 : 3,114,550  
 : 3,084,939  
 : 3,096,091  
 : 3,106,400  
 108 : 3,073,599  
 : 3,091,464  
 : 3,106,401  
 109 : 3,075,770  
 : 3,080,167  
 : 3,088,739  
 : 3,093,377  
 : 3,105,689  
 : 3,109,651  
 110 : 3,108,809  
 113 : 3,101,946  
 116 : 3,115,344  
 118 : 3,085,802  
 119 : 3,087,731  
 : 3,100,643  
 : 3,073,600  
 : 3,108,810  
 123 : 3,098,657  
 126 : 3,082,003  
 : 3,088,740  
 : 3,090,622  
 : 3,110,498  
 128 : 3,092,389  
 : 3,102,727  
 129 : 3,091,465  
 130 : 3,072,407  
 : 3,081,094  
 : 3,083,022  
 : 3,083,971  
 : 3,085,805  
 : 3,086,780  
 : 3,090,624  
 : 3,091,468  
 134 : 3,075,772  
 : 3,093,378  
 : 3,099,451  
 : 3,101,947  
 : 3,104,106  
 : 3,109,652  
 : 3,114,551  
 : 3,115,345  
 : 3,097,850  
 : 3,100,644  
 135 : 3,072,408  
 : 3,092,390  
 : 3,096,092  
 : 3,111,320  
 136 : 3,073,601  
 : 3,111,321  
 138 : 3,072,409  
 : 3,104,107  
 139 : 3,110,499  
 : 3,112,931  
 : 3,113,778  
 : 3,090,623  
 142 : 3,106,402  
 148 : 3,113,779  
 : 3,114,552  
 149 : 3,107,096  
 : 3,114,553  
 : 3,102,728  
 153 : 3,087,732  
 156 : 3,081,089  
 157 : 3,107,918  
 161 : 3,107,097  
 164 : 3,077,350  
 165 : 3,095,198  
 : 3,109,653  
 167 : 3,079,157  
 168 : 3,085,804  
 173 : 3,084,940  
 176 : 3,081,090  
 : 3,083,021  
 : 3,084,941  
 : 3,104,879  
 : 3,114,554

176 : 3,114,555  
 177 : 3,074,722  
 : 3,086,779  
 : 3,107,919  
 178 : 3,114,556  
 180 : 3,097,849  
 181 : 3,082,005  
 183 : 3,101,948  
 : 3,109,654  
 : 3,111,322  
 184 : 3,091,466  
 185 : 3,072,410  
 : 3,115,346  
 186 : 3,071,379  
 : 3,073,602  
 : 3,075,773  
 : 3,081,091  
 : 3,101,949  
 : 3,106,403  
 : 3,107,920  
 : 3,113,780  
 : 3,113,781  
 : 3,113,782  
 189 : 3,074,723  
 190 : 3,104,880  
 192 : 3,104,108  
 199 : 3,099,452  
 201 : 3,075,774  
 : 3,112,932  
 202 : 3,114,557  
 203 : 3,112,111  
 212 : 3,079,158  
 230 : Re.25,427  
 : 3,098,658

## Class 274

1 : 3,104,109  
 : 3,104,110  
 4 : 3,074,724  
 : 3,091,467  
 9 : 3,081,092  
 : 3,082,006  
 : 3,096,983  
 : 3,101,950  
 : 3,105,690  
 : 3,109,655  
 : 3,111,323  
 10 : 3,071,380  
 : 3,072,411  
 : 3,073,603  
 : 3,073,604  
 : 3,074,725  
 : 3,080,168  
 : 3,081,093  
 : 3,081,094  
 : 3,083,022  
 : 3,083,971  
 : 3,085,805  
 : 3,086,780  
 : 3,090,624  
 : 3,091,468  
 : 3,092,391  
 : 3,093,378  
 : 3,094,332  
 : 3,095,199  
 : 3,096,093  
 : 3,096,094  
 : 3,096,095  
 : 3,097,850  
 : 3,100,644  
 : 3,103,363  
 : 3,107,098  
 : 3,109,656  
 : 3,110,500  
 : 3,116,065  
 11 : 3,080,169  
 : 3,095,200  
 14 : 3,079,159  
 15 : 3,090,625  
 17 : 3,075,775  
 20 : 3,089,705  
 23 : 3,074,726  
 : 3,078,100  
 : 3,088,741  
 : 3,088,742  
 : 3,089,379  
 : 3,101,951  
 : 3,101,952  
 : 3,108,811  
 : 3,107,605  
 25 : 3,073,605  
 26 : 3,095,201  
 36 : 3,085,806  
 : 3,088,743  
 : 3,105,691  
 : 3,113,783  
 37 : 3,102,729  
 39 : 3,071,381  
 : 3,103,364  
 : 3,105,692  
 : 3,108,812  
 42 : 3,079,160  
 : 3,089,706

42 : 3,090,626  
 : 3,102,730  
 : 3,110,501  
 46 : 3,104,881  
 Class 275  
 1 : 3,107,921  
 2 : 3,076,653  
 : 3,082,007  
 3 : 3,104,111  
 : 3,105,693  
 4 : 3,075,776  
 6 : Re.25,503  
 : 3,076,654  
 : 3,084,942  
 : 3,095,202  
 7 : 3,077,351  
 : 3,082,008  
 : 3,102,731  
 8 : 3,071,382  
 : 3,073,606  
 : 3,075,777  
 : 3,085,807  
 : 3,094,333  
 : 3,094,334  
 : 3,097,851  
 : 3,097,852  
 : 3,100,645  
 : 3,105,694  
 : 3,109,657  
 : 3,113,784  
 12 : 3,096,984  
 14 : 3,073,607  
 : 3,074,727

## Class 276

8 : 3,071,383  
 Class 277  
 1 : 3,081,095  
 : 3,082,009  
 : 3,091,469  
 : 3,093,380  
 : 3,108,813  
 2 : 3,072,412  
 : 3,101,953  
 3 : 3,071,384  
 : 3,074,728  
 : 3,075,778  
 : 3,085,808  
 : 3,088,744  
 : 3,107,099  
 : 3,109,658  
 4 : 3,076,655  
 : 3,081,096  
 : 3,084,943  
 5 : 3,092,392  
 : 3,094,335  
 : 3,072,413  
 8 : 3,093,381  
 : 3,093,382  
 9 : 3,101,199  
 : 3,104,882  
 11 : 3,112,112  
 13 : 3,083,972  
 : 3,097,853  
 16 : 3,076,656  
 : 3,082,010  
 : 3,092,393  
 : 3,081,097  
 23 : 3,097,854  
 24 : 3,074,729  
 : 3,082,011  
 : 3,084,944  
 27 : 3,073,608  
 : 3,079,605  
 : 3,081,098  
 : 3,093,382  
 : 3,096,985  
 : 3,099,453  
 : 3,100,646  
 : 3,083,973  
 32 : 3,096,986  
 : 3,108,814  
 36 : 3,083,974  
 : 3,088,747  
 37 : 3,075,779  
 : 3,108,815  
 : 3,114,558  
 38 : 3,109,659  
 : 3,109,660  
 : 3,116,066  
 39 : 3,086,781  
 : 3,087,733  
 : 3,101,954  
 47 : 3,084,945  
 : 3,099,454  
 53 : 3,083,975  
 56 : 3,085,809  
 59 : 3,075,780  
 : 3,087,734  
 : 3,087,735

## Class 279

1 : 3,085,811  
 : 3,090,632  
 : 3,100,649  
 2 : 3,073,610  
 : 3,076,660  
 : 3,076,661  
 : 3,102,732  
 : 3,104,885  
 : 3,111,326  
 : 3,111,327  
 : 3,112,116  
 4 : 3,072,416  
 : 3,073,611  
 : 3,073,612  
 : 3,076,662  
 : 3,087,736  
 : 3,087,737  
 : 3,096,988  
 : 3,097,856  
 : 3,097,857  
 : 3,101,956  
 : 3,108,819  
 : 3,081,103







<b>Class 289—Con.</b>		229 : 3,111,340	67 : 3,081,120	28 : 3,080,189	61 : 3,074,758	280 : 3,099,484	8 : 3,094,359
		240 : 3,099,473	70 : 3,086,807	3,080,190	3,102,753	284 : 3,086,817	11 : 3,111,346
12 : 3,108,832		241 : 3,091,488	3,086,808	3,084,971	3,104,912	3,093,413	13 : 3,083,058
17 : 3,103,636		244 : 3,095,227	3,097,875	3,084,972	3,107,940	3,106,423	14 : 3,099,489
3,085,823		251.5 : 3,078,114	3,101,967	3,091,493	3,095,234	3,112,137	17 : 3,082,039
3,086,802		.5 : 3,100,663	69 : 3,104,125	3,094,351	3,095,235	285 : 3,071,411	18 : 3,083,059
3,098,670		.5 : 3,100,664	73 : 3,089,725	3,097,877	3,083,996	3,110,519	22 : 3,101,974
3,101,964		.5 : 3,102,748	74 : 3,107,114	3,097,878	3,096,118	286 : 3,083,999	22 : Re.25,315
3,106,417		.5 : 3,102,749	75 : 3,079,192	3,114,573	3,114,573	291 : 3,092,417	23 : 3,085,828
		254 : 3,073,640	3,083,993	3,103,379	3,080,192	306 : 3,095,238	23 : 3,072,438
		3,104,904	3,086,809	3,103,380	3,086,814	3,111,343	24 : 3,072,439
<b>Class 290</b>		256.5 : 3,099,474	3,104,909	3,105,716	3,103,381	307 : 3,090,647	24 : 3,087,759
1 : 3,076,096		.67 : 3,077,360	77 : 3,084,966	3,116,086	3,075,808	308 : 3,106,424	27 : 3,088,774
3,077,541		.69 : 3,091,489	81 : 3,091,492	3,075,802	3,086,815	312 : 3,080,195	35 : 3,071,414
3,102,205		.6 : 3,104,905	83 : 3,071,404	3,084,973	3,093,408	313 : 3,102,756	37 : 3,076,680
3,105,153		263 : 3,106,418	86 : 3,084,967	3,097,879	3,096,119	316 : 3,072,436	
2 : 3,109,102		264 : 3,087,751	88 : 3,073,643	3,108,191	3,103,382	318 : 3,074,759	<b>Class 300</b>
3 : 3,079,509		266 : 3,100,122	3,081,121	3,105,717	3,104,128	321 : 3,077,120	2 : 3,072,440
4 : 3,073,964		275 : 3,086,804	3,081,122	3,111,341	3,076,676	323 : 3,093,414	3 : 3,107,945
3,076,097		280 : 3,104,124	3,101,213	3,112,952	3,081,128	325 : 3,116,091	4 : 3,112,957
17 : 3,107,304		322 : 3,110,517	3,106,420	3,097,880	3,101,216	332 : 3,098,677	16 : 3,100,670
36 : 3,076,098		325 : 3,107,935	3,106,421	3,081,126	3,084,974	339 : 3,076,678	17 : 3,107,123
3,108,190		336.3 : 3,074,750	3,107,938	3,085,826	3,086,816	340 : 3,087,756	17 : 3,095,240
37 : 3,102,961		.3 : 3,075,796	84 : 3,109,676	3,088,771	3,087,754	344 : 3,098,678	19 : 3,071,415
40 : 3,098,935		.3 : 3,075,797	85 : 3,076,673	3,074,754	3,092,415	345 : 3,083,055	21 : 3,080,197
3,110,817		.3 : 3,096,114	86 : 3,084,967	3,074,755	3,092,416	349 : 3,086,818	22 : 3,086,820
3,112,406		.3 : 3,104,906	88 : 3,092,413	3,076,675	3,093,409	354 : 3,114,576	23 : 3,086,821
3,116,420		.3 : 3,113,798	29 : 3,081,123	3,078,119	3,100,126	355 : 3,104,130	24 : 3,093,416
52 : 3,071,691		346 : 3,097,008	87 : 3,077,362	3,083,408	3,100,668	359 : 3,075,811	25 : 3,104,915
3,072,799		347 : 3,096,115	3,081,124	3,086,810	3,107,117	367 : 3,079,199	26 : 3,106,426
<b>Class 291</b>		352 : 3,091,490	.2 : 3,073,644	3,089,729	3,107,118	373 : 3,093,415	27 : 3,107,124
2 : 3,093,399		357 : 3,101,965	.2 : 3,075,799	3,093,404	3,115,363	377 : 3,101,972	<b>Class 301</b>
11 : 3,088,764		359 : 3,079,189	.2 : 3,097,010	3,094,352	3,112,951	378 : 3,077,885	1 : 3,084,000
41 : 3,112,942		<b>Class 293</b>	.2 : 3,099,475	3,112,952	3,108,975	385 : 3,076,679	2 : 3,092,419
<b>Class 292</b>		19 : 3,074,751	88 : 3,071,405	3,078,120	3,093,410	386 : 3,096,122	3 : 3,093,417
1 : 3,082,028		34 : 3,104,907	3,073,645	3,075,800	3,093,405	388 : 3,074,761	4 : 3,097,887
3,084,965		48 : 3,073,641	3,089,726	3,088,778	3,093,406	391 : 3,107,119	5 : Re.25,383
3,093,400		62 : 3,110,515	92 : 3,084,968	3,104,910	3,100,669	399 : 3,116,092	6 : 3,103,387
3,116,080		65 : 3,110,516	93 : 3,088,768	3,078,121	3,094,355	399 : 3,109,490	7 : 3,073,650
3,077,359		70 : 3,116,083	97 : 3,104,126	3,071,407	3,115,364	389 : 3,099,486	8 : 3,102,758
3,096,112		85 : 3,096,116	99 : 3,115,360	3,095,232	3,082,034	391 : 3,071,412	9 : 3,079,200
5 : 3,094,346		<b>Class 294</b>	103 : 3,076,674	3,097,881	3,093,411	396 : 3,073,649	13 : 3,090,649
3,110,512		1 : 3,092,409	104 : 3,071,406	3,113,801	3,083,052	397 : 3,095,239	16 : 3,079,201
3,115,357		3,112,134	3,074,753	3,114,570	3,073,648	398 : 3,090,648	17 : 3,082,040
7 : 3,099,471		2 : 3,072,428	3,097,011	3,114,571	3,076,677	399 : 3,104,914	18 : 3,078,123
11 : 3,088,765		3,092,410	3,101,968	3,089,728	3,083,053	404 : 3,104,131	19 : 3,078,124
17 : 3,086,803		3,106,419	3,112,136	3,090,645	3,097,884	416 : 3,074,762	20 : 3,078,125
3,103,378		5.5 : 3,105,713	110 : 3,092,414	3,097,882	3,100,127	417 : 3,082,036	21 : 3,081,132
25 : 3,089,719		7 : 3,092,411	111 : 3,082,031	3,106,422	3,075,809	418 : 3,103,386	22 : 3,081,133
27 : 3,074,749		15 : 3,075,798	112 : 3,082,032	3,107,939	3,079,197	419 : 3,115,366	23 : 3,082,041
36 : 3,104,902		16 : 3,101,211	112 : 3,082,033	3,088,772	3,080,193	426 : 3,116,093	24 : 3,083,060
49 : 3,082,029		3,112,135	115 : 3,115,361	3,097,014	3,096,866	427 : 3,102,757	25 : 3,083,061
69 : 3,083,045		3,116,084	118 : 3,094,349	3,074,756	3,099,481	428 : 3,107,122	26 : 3,083,062
76 : 3,083,046		3,113,796	118 : 3,084,969	3,085,827	3,109,678	429 : 3,099,487	27 : 3,085,829
3,109,674		19 : 3,072,429	3,089,727	3,095,233	3,112,954	430 : 3,100,129	28 : 3,085,830
3,113,797		20 : 3,101,212	<b>Class 295</b>	3,105,718	3,102,754	434 : 3,087,757	29 : 3,092,421
78 : 3,115,358		3,101,966	1 : 3,101,214	3,086,811	3,107,941	435 : 3,092,437	30 : 3,095,241
87 : 3,104,903		22 : 3,091,491	31 : 3,107,115	3,101,215	3,082,035	436 : 3,106,425	31 : 3,096,124
92 : 3,097,007		26 : 3,085,824	<b>Class 296</b>	3,075,804	3,100,128	439 : 3,097,886	32 : 3,097,887
99 : 3,087,749		27 : 3,086,805	1 : 3,073,642	3,083,994	3,099,482	440 : 3,082,037	33 : 3,101,975
109 : 3,109,675		31.2 : 3,073,642	.2 : 3,088,767	3,090,646	3,114,574	441 : 3,115,367	34 : 3,112,958
111 : 3,111,338		.2 : 3,105,714	.2 : 3,113,799	3,096,117	3,083,998	445 : 3,084,979	35 : 3,083,063
3,112,943		33 : 3,086,806	3,082,032	3,107,940	3,071,410	446 : 3,087,758	36 : 3,116,094
113 : 3,082,030		49 : 3,095,228	3,084,970	3,075,806	3,077,363	450 : 3,091,497	37 : 3,074,763
3,105,711		50.7 : 3,079,190	3,087,752	3,075,807	3,111,342	451 : 3,115,368	38 : 3,078,126
128 : 3,112,133		.7 : 3,089,721	3,094,350	3,078,122	3,112,955	452 : 3,081,129	39 : 3,088,738
137 : 3,113,797		.7 : 3,098,672	3,100,124	3,079,195	3,093,412	453 : 3,083,056	40 : 3,080,198
147 : 3,096,113		53.5 : 3,074,752	3,104,127	3,079,196	3,093,413	454 : 3,094,357	41 : 3,077,125
150 : 3,107,934		.5 : 3,115,359	3,113,800	3,091,494	3,116,093	455 : 3,100,520	42 : 3,082,042
161 : 3,087,750		54 : 3,104,908	5 : 3,095,230	3,097,015	3,104,913	456 : 3,111,344	43 : 3,111,347
169 : 3,072,427		55 : 3,107,936	10 : 3,093,403	3,097,883	3,083,054	457 : 3,094,358	44 : 3,072,441
3,089,720		3,112,944	3,097,012	3,112,952	3,099,483	458 : 3,081,130	45 : 3,099,491
3,095,225		57 : 3,100,665	14 : 3,080,187	<b>Class 297</b>	3,112,956	459 : 3,081,131	46 : 3,111,348
3,097,872		61 : 3,107,937	20 : 3,088,770	1 : 3,099,477	3,113,803	460 : 3,084,980	47 : 3,099,492
3,099,472		63 : 3,105,715	22 : 3,073,646	4 : 3,093,407	3,108,837	461 : 3,101,218	48 : 3,111,345
3,105,712		64 : 3,097,009	23 : 3,078,117	16 : 3,083,050	3,108,838	462 : 3,071,413	49 : 3,086,819
3,112,944		65 : 3,112,949	3,083,047	18 : 3,112,953	3,087,755	463 : 3,109,679	50 : 3,105,720
170 : 3,090,643		66 : 3,071,402	3,095,231	19 : 3,083,051	3,095,236	464 : 3,114,578	51 : 3,072,442
173 : 3,112,945		67 : 3,071,403	3,097,876	26 : 3,100,125	3,077,364	465 : 3,082,038	52 : 3,095,243
192 : 3,107,112		68 : 3,095,229	3,098,674	28 : 3,099,478	3,095,237	466 : 3,089,730	53 : 3,093,418
201 : 3,073,637		69 : 3,102,750	3,107,116	30 : 3,074,757	3,114,572	467 : 3,099,488	54 : 3,112,139
207 : 3,093,401		70 : 3,110,517	24 : 3,101,969	3,086,812	3,115,365	252 : 3,113,804	55 : 3,085,831
209 : 3,088,766		71 : 3,110,518	26 : 3,082,033	35 : 3,113,802	3,115,366	253 : 3,103,385	56 : 3,077,365
212 : 3,116,081		72 : 3,110,519	27 : 3,079,191	36 : 3,099,479	3,107,942	254 : 3,094,356	57 : 3,106,427
216 : 3,075,795		73 : 3,110,520	28 : Re.25,382	39 : 3,083,995	3,072,435	258 : 3,072,435	58 : 3,115,366
221 : 3,111,339		74 : 3,110,521	30 : 3,073,647	40 : 3,072,433	3,101,971	259 : 3,101,971	59 : 3,073,651
223 : 3,112,946		75 : 3,110,522	31 : 3,075,801	45 : 3,071,409	3,096,121	269 : 3,096,121	60 : 3,097,889
224 : 3,116,082		76 : 3,110,523	32 : 3,078,118	48 : 3,086,813	3,075,810	270 : 3,075,810	
226 : 3,073,638		77 : 3,110,524		51 : 3,075,814			
3,081,118		78 : 3,110,525					
3,110,513		79 : 3,110,526					
227 : 3,073,639		80 : 3,110,527					
228 : 3,094,347		81 : 3,110,528					
3,107,113		82 : 3,110,529					
229 : 3,090,644		83 : 3,110,530					



29	: 3,099,493	10	: 3,071,692	88.5	: 3,076,101	88.5	: 3,095,513	88.5	: 3,113,219	9	: 3,115,372	187	: 3,107,956
31	: 3,099,494		: 3,090,871	.5	: 3,076,102	.5	: 3,096,445	.5	: 3,113,220	10	: 3,107,948		: 3,108,839
	: 3,103,388		: 3,105,909	.5	: 3,076,103	.5	: 3,096,446	.5	: 3,113,221		: 3,112,962	.1	: 3,073,657
36	: 3,086,823	19	: 3,083,301	.5	: 3,076,104	.5	: 3,096,447	.5	: 3,113,222		: 3,114,582	.1	: 3,076,684
37	: 3,085,832	34	: 3,077,542	.5	: 3,076,105	.5	: 3,096,448	.5	: 3,114,049	15	: 3,088,781	.1	: 3,098,684
49	: 3,085,834	39	: 3,088,038	.5	: 3,076,899	.5	: 3,096,449	.5	: 3,114,050	18	: 3,088,782	.1	: 3,113,812
50	: 3,091,499	41	: 3,076,099	.5	: 3,076,900	.5	: 3,096,450	.5	: 3,114,051	19	: 3,098,680	.2	: 3,084,004
	: 3,093,419	43	: 3,089,960	.5	: 3,076,901	.5	: 3,097,307	.5	: 3,114,052	20	: 3,097,022	.2	: 3,097,896
	: 3,099,495	44	: 3,076,100	.5	: 3,076,902	.5	: 3,097,308	.5	: 3,114,053	22	: 3,084,003	.2	: 3,113,813
	: 3,099,496	49	: 3,105,910	.5	: 3,077,544	.5	: 3,097,309	.5	: 3,114,054		: 3,098,681	.2	: 3,113,814
	: 3,106,428	53	: 3,071,693	.5	: 3,077,545	.5	: 3,097,310	.5	: 3,114,055		: 3,115,373	189	: 3,097,027
52	: 3,088,776	57	: 3,076,898	.5	: 3,078,375	.5	: 3,097,311	.5	: 3,114,056	23	: 3,097,735	190	: 3,097,898
	: 3,088,777		: 3,078,374	.5	: 3,078,376	.5	: 3,097,312	.5	: 3,114,057	26	: 3,073,654	193	: 3,097,897
	: 3,088,778		: 3,107,305	.5	: 3,078,377	.5	: 3,097,313	.5	: 3,114,058		: 3,101,979	195	: 3,081,135
	: 3,099,497	65	: 3,079,510	.5	: 3,078,378	.5	: 3,097,314	.5	: 3,114,059		: 3,110,526		: 3,105,725
	: 3,105,721	66	: 3,108,191	.5	: 3,078,379	.5	: 3,098,158	.5	: 3,114,060		: 3,113,809	207	: 3,080,199
53	: 3,084,001		: 3,108,192	.5	: 3,078,380	.5	: 3,098,159	.5	: 3,114,061	27	: 3,112,963	211	: 3,082,047
	: 3,093,420	80	: 3,110,818	.5	: 3,079,511	.5	: 3,098,160	.5	: 3,115,581	35	: 3,088,783	217	: 3,087,762
	: 3,099,498	87	: 3,073,965	.5	: 3,079,512	.5	: 3,098,161	.5	: 3,115,582		: 3,107,949		: 3,090,657
	: 3,103,389	88	: 3,071,694	.5	: 3,079,513	.5	: 3,098,162	.5	: 3,115,583	36	: 3,096,127		: 3,091,500
	: 3,106,429		: 3,071,695	.5	: 3,079,514	.5	: 3,098,936	.5	: 3,115,584		: 3,106,432		: 3,102,760
56	: 3,089,733		: 3,071,696	.5	: 3,080,487	.5	: 3,098,937	.5	: 3,115,585		: 3,107,950		: 3,110,529
58	: 3,097,017		: 3,072,800	.5	: 3,080,488	.5	: 3,098,938	.5	: 3,115,586	.1	: 3,076,683	219	: 3,103,394
59	: 3,083,064		: 3,075,084	.5	: 3,080,489	.5	: 3,098,939	.5	: 3,115,587	.1	: 3,086,825	222	: 3,091,501
	: 3,111,348		: 3,077,543	.5	: 3,081,404	.5	: 3,099,753	.5	: 3,116,422	.1	: 3,089,736	236	: 3,082,048
	: 3,115,370		: 3,080,486	.5	: 3,081,405	.5	: 3,099,754	.5	: 3,116,423	.1	: 3,093,425		: 3,113,815
60	: 3,078,127		: 3,084,263	.5	: 3,081,406	.5	: 3,100,266	.5	: 3,116,424	.1	: 3,096,128	237	: 3,071,422
	: 3,105,722		: 3,084,264	.5	: 3,081,407	.5	: 3,100,267	.5	: 3,116,425	.1	: 3,104,918		: 3,073,658
61	: 3,075,813		: 3,085,161	.5	: 3,081,408	.5	: 3,100,268	.5	: 3,116,426	.1	: 3,107,951		: 3,083,065
	: 3,088,779		: 3,085,162	.5	: 3,082,329	.5	: 3,100,269	.5	: 3,116,427	.1	: 3,107,952		: 3,089,739
64	: 3,110,521		: 3,086,124	.5	: 3,082,330	.5	: 3,100,848	.5		.1	: 3,107,953		: 3,104,135
66	: 3,073,652		: 3,087,070	.5	: 3,082,331	.5	: 3,100,849	.5		.1	: 3,113,810		: 3,104,136
<b>Class 303</b>													
1	: 3,106,430		: 3,087,071	.5	: 3,082,332	.5	: 3,100,850	.5		.2	: 3,097,023	238	: 3,072,448
2	: 3,093,421		: 3,087,072	.5	: 3,083,302	.5	: 3,102,207	.5		.2	: 3,097,893		: 3,072,449
	: 3,114,580		: 3,087,073	.5	: 3,083,303	.5	: 3,102,208	.5		.3	: 3,090,654	243	: 3,076,685
	: 3,114,581		: 3,088,035	.5	: 3,083,304	.5	: 3,102,209	.5		.3	: 3,097,024		: 3,077,369
6	: 3,081,134		: 3,089,035	.5	: 3,083,305	.5	: 3,102,210	.5		.4	: 3,105,724		: 3,080,200
	: 3,090,650		: 3,090,872	.5	: 3,083,306	.5	: 3,103,595	.5					: 3,086,828
	: 3,090,651		: 3,091,700	.5	: 3,084,265	.5	: 3,103,596	.5					: 3,086,829
	: 3,097,018		: 3,093,746	.5	: 3,085,163	.5	: 3,103,597	.5					: 3,090,650
	: 3,101,219		: 3,093,747	.5	: 3,085,164	.5	: 3,103,598	.5					: 3,090,651
	: 3,112,959		: 3,094,626	.5	: 3,085,165	.5	: 3,103,599	.5					: 3,090,652
9	: 3,087,760		: 3,095,507	.5	: 3,086,125	.5	: 3,103,600	.5					: 3,090,653
	: 3,090,652		: 3,097,304	.5	: 3,086,126	.5	: 3,103,601	.5					: 3,090,654
	: 3,095,244		: 3,097,305	.5	: 3,086,127	.5	: 3,103,602	.5					: 3,090,655
	: 3,110,522		: 3,097,306	.5	: 3,086,128	.5	: 3,103,603	.5					: 3,090,656
	: 3,116,095		: 3,098,157	.5	: 3,086,129	.5	: 3,103,604	.5					: 3,090,657
13	: 3,107,126		: 3,099,752	.5	: 3,086,130	.5	: 3,103,605	.5					: 3,090,658
14	: 3,095,245		: 3,101,416	.5	: 3,087,074	.5	: 3,103,606	.5					: 3,090,659
18	: 3,076,681		: 3,101,417	.5	: 3,087,075	.5	: 3,103,607	.5					: 3,090,660
20	: 3,097,019		: 3,102,206	.5	: 3,087,076	.5	: 3,103,608	.5					: 3,090,661
21	: 3,093,422		: 3,103,593	.5	: 3,088,040	.5	: 3,103,609	.5					: 3,090,662
	: 3,099,499		: 3,103,594	.5	: 3,088,041	.5	: 3,103,610	.5					: 3,090,663
22	: 3,084,002		: 3,104,325	.5	: 3,089,036	.5	: 3,103,611	.5					: 3,090,664
	: 3,101,220		: 3,104,326	.5	: 3,089,037	.5	: 3,103,612	.5					: 3,090,665
	: 3,107,127		: 3,105,154	.5	: 3,089,038	.5	: 3,103,613	.5					: 3,090,666
24	: 3,109,681		: 3,105,155	.5	: 3,089,039	.5	: 3,103,614	.5					: 3,090,667
29	: 3,087,761		: 3,105,911	.5	: 3,089,040	.5	: 3,103,615	.5					: 3,090,668
	: 3,085,833		: 3,108,193	.5	: 3,089,041	.5	: 3,103,616	.5					: 3,090,669
	: 3,088,780		: 3,108,194	.5	: 3,089,042	.5	: 3,103,617	.5					: 3,090,670
	: 3,092,422		: 3,108,195	.5	: 3,089,043	.5	: 3,103,618	.5					: 3,090,671
	: 3,097,020		: 3,109,934	.5	: 3,089,044	.5	: 3,103,619	.5					: 3,090,672
	: 3,115,371		: 3,109,935	.5	: 3,089,045	.5	: 3,103,620	.5					: 3,090,673
40	: 3,095,246		: 3,109,936	.5	: 3,089,046	.5	: 3,103,621	.5					: 3,090,674
49	: 3,099,500		: 3,109,937	.5	: 3,089,047	.5	: 3,103,622	.5					: 3,090,675
50	: 3,104,133		: 3,111,588	.5	: 3,089,048	.5	: 3,103,623	.5					: 3,090,676
53	: 3,073,653		: 3,111,589	.5	: 3,089,049	.5	: 3,103,624	.5					: 3,090,677
	: 3,075,814		: 3,112,407	.5	: 3,089,050	.5	: 3,103,625	.5					: 3,090,678
	: 3,085,835		: 3,112,408	.5	: 3,089,051	.5	: 3,103,626	.5					: 3,090,679
	: 3,085,836		: 3,112,409	.5	: 3,089,052	.5	: 3,103,627	.5					: 3,090,680
71	: 3,110,523		: 3,113,216	.5	: 3,089,053	.5	: 3,103,628	.5					: 3,090,681
86	: 3,089,734		: 3,113,217	.5	: 3,089,054	.5	: 3,103,629	.5					: 3,090,682
<b>Class 305</b>													
10	: 3,082,043		: 3,114,047	.5	: 3,089,055	.5	: 3,103,630	.5					: 3,090,683
	: 3,101,977		: 3,114,048	.5	: 3,089,056	.5	: 3,103,631	.5					: 3,090,684
11	: 3,074,764		: 3,114,049	.5	: 3,089,057	.5	: 3,103,632	.5					: 3,090,685
	: 3,092,423		: 3,114,050	.5	: 3,089,058	.5	: 3,103,633	.5					: 3,090,686
12	: 3,082,044		: 3,114,051	.5	: 3,089,059	.5	: 3,103,634	.5					: 3,090,687
15	: 3,113,805		: 3,114,052	.5	: 3,089,060	.5	: 3,103,635	.5					: 3,090,688
18	: 3,111,349		: 3,114,053	.5	: 3,089,061	.5	: 3,103,636	.5					: 3,090,689
19	: 3,084,981		: 3,114,054	.5	: 3,089,062	.5	: 3,103,637	.5					: 3,090,690
34	: 3,072,443		: 3,114,055	.5	: 3,089,063	.5	: 3,103,638	.5					: 3,090,691
35	: 3,107,128		: 3,114,056	.5	: 3,089,064	.5	: 3,103,639	.5					: 3,090,692
38	: 3,078,128		: 3,114,057	.5	: 3,089,065	.5	: 3,103,640	.5					: 3,090,693
54	: 3,071,417		: 3,114,058	.5	: 3,089,066	.5	: 3,103,641	.5					: 3,090,694
	: 3,101,221		: 3,114,059	.5	: 3,089,067	.5	: 3,103,642	.5					: 3,090,695
56	: 3,093,423		: 3,114,060	.5	: 3,089,068	.5	: 3,103,643	.5					: 3,090,696
<b>Class 306</b>													
4	: 3,097,890		: 3,114,061	.5	: 3,089,069	.5	: 3,103,644	.5					: 3,090,697
33	: 3,090,653		: 3,114,062	.5	: 3,089,070	.5	: 3,103,645	.5					: 3,090,698



## Class 310—Con.

9.5 : Re.25,413	83 : 3,087,078	268 : 3,096,455	263 : 3,087,768	84 : 3,092,745	257 : 3,105,165	13 : 3,098,170
.5 : 3,072,806	86 : 3,109,950	269 : 3,101,425	267 : 3,094,362	258 : 3,102,211	266 : 3,073,985	14 : 3,109,956
.6 : 3,113,224	87 : 3,072,810	269 : 3,109,114	269 : 3,087,769	259 : 3,106,659	269 : 3,109,119	15 : 3,109,957
.7 : 3,097,315	90 : 3,112,417	269 : 3,089,049	270 : 3,087,770	260 : 3,092,746	270 : 3,114,069	16 : 3,080,500
.8 : 3,114,849	94 : 3,073,977	Class 311	271 : 3,075,819	261 : 3,109,116	270 : 3,085,175	18 : 3,116,436
11 : 3,072,807	95 : 3,076,906	83 : 3,071,423	277 : 3,097,028	262 : 3,095,517	271 : 3,092,748	20 : 3,090,889
.5 : 3,091,709	96 : 3,114,850	87 : 3,072,451	278 : 3,085,844	263 : 3,111,598	271 : 3,116,434	21 : 3,103,610
12 : 3,094,635	97 : 3,084,268	90 : 3,074,770	284 : 3,112,144	264 : 3,115,590	271 : 3,082,349	21 : 3,088,049
13 : 3,109,113	97 : 3,085,170	101 : 3,073,660	296 : 3,078,131	265 : 3,076,910	279 : 3,073,986	22 : 3,089,977
15 : 3,100,852	97 : 3,112,418	109 : 3,074,771	297 : 3,076,686	266 : 3,087,085	285 : 3,113,235	22 : 3,090,890
17 : 3,106,652	97 : 3,073,978	Class 312	298 : 3,113,818	267 : 3,087,086	310 : 3,105,166	22 : 3,077,550
21 : 3,080,492	102 : 3,111,597	6 : 3,094,361	300 : 3,101,227	268 : 3,099,763	311 : 3,102,968	22 : 3,099,769
22 : 3,115,589	103 : 3,084,269	7 : 3,089,740	303 : 3,097,029	269 : 3,102,967	315 : 3,075,120	23 : 3,105,168
22 : 3,098,940	103 : 3,107,310	8 : 3,090,661	305 : 3,071,426	270 : 3,106,660	318 : 3,082,350	23 : 3,114,858
23 : 3,092,740	104 : 3,113,228	10 : 3,080,203	306 : 3,104,141	271 : 3,109,117	318 : 3,093,768	23 : 3,096,460
23 : 3,105,162	105 : 3,072,811	13 : 3,084,983	311 : 3,098,685	271 : 3,114,065	329 : 3,109,954	23 : 3,104,343
25 : 3,110,826	105 : 3,076,109	14 : 3,100,671	312 : 3,078,135	272 : 3,075,116	337 : 3,087,082	24 : 3,108,204
25 : 3,085,168	108 : 3,089,971	27 : 3,071,424	315 : 3,079,208	273 : 3,092,747	340 : 3,114,856	24 : 3,114,859
26 : Re.25,433	108 : 3,103,605	30 : 3,078,132	317 : 3,072,453	274 : 3,098,944	346 : 3,076,915	25 : 3,089,978
26 : 3,072,808	111 : 3,113,229	31 : 3,084,984	319 : 3,081,138	275 : 3,114,835	346 : 3,076,916	26 : 3,076,119
26 : 3,076,904	111 : 3,114,579	33 : 3,085,839	320 : 3,098,686	276 : 3,082,342	350 : 3,113,236	26 : 3,076,120
26 : 3,094,636	111 : 3,071,703	35 : 3,102,761	322 : 3,107,959	277 : 3,099,764	350 : 3,113,236	27 : 3,088,050
26 : 3,099,759	115 : 3,079,518	36 : 3,097,899	323 : 3,113,819	278 : 3,112,422	350 : 3,092,749	27 : 3,092,753
26 : 3,100,853	115 : 3,079,518	39 : 3,104,006	324 : 3,089,745	279 : 3,073,982	357 : 3,080,499	27 : 3,094,645
26 : 3,101,422	126 : 3,075,108	45 : 3,104,923	326 : 3,075,820	280 : 3,075,117	Class 314	27 : 3,098,171
26 : 3,102,210	126 : 3,075,108	50 : 3,112,142	330 : 3,097,901	281 : 3,075,118	5 : 3,095,520	27 : 3,111,602
26 : 3,113,225	153 : 3,114,851	50 : 3,112,142	331 : 3,093,429	282 : 3,078,382	68 : 3,109,120	30 : 3,076,121
27 : 3,075,100	154 : 3,072,812	71 : 3,083,067	332 : 3,087,771	283 : 3,082,343	71 : 3,109,121	30 : 3,112,425
28 : 3,093,761	155 : 3,077,549	72 : 3,103,957	333 : 3,092,429	284 : 3,089,051	Class 315	31 : 3,101,430
29 : 3,072,809	156 : 3,072,813	97.1 : 3,102,762	338 : 3,104,142	285 : 3,096,458	3 : 3,072,817	35 : 3,101,437
29 : 3,075,101	156 : 3,072,813	107 : 3,087,764	341 : 3,095,250	286 : 3,103,607	5 : Re.25,329	36 : 3,096,461
29 : 3,076,108	156 : 3,072,813	109 : 3,079,206	343 : Re.25,428	287 : 3,103,608	5 : Re.25,343	36 : 3,099,770
29 : 3,105,163	155 : 3,077,549	111 : 3,084,985	350 : 3,110,535	288 : 3,104,339	5 : 3,071,709	39 : 3,071,710
30 : 3,103,603	156 : 3,072,813	126 : 3,079,130	351 : 3,081,139	289 : 3,114,066	5 : 3,076,115	39 : 3,073,990
36 : 3,086,133	156 : 3,072,813	138 : 3,085,840	352 : 3,084,009	290 : 3,114,853	5 : 3,078,386	39 : 3,073,990
36 : 3,089,044	156 : 3,072,813	140 : 3,085,841	Class 313	291 : 3,114,854	5 : 3,095,521	39 : 3,073,990
37 : 3,079,517	156 : 3,072,813	140 : 3,085,841	1 : 3,084,271	292 : 3,099,765	5 : 3,098,169	39 : 3,073,990
37 : 3,087,077	156 : 3,072,813	140 : 3,085,841	7 : 3,071,704	293 : 3,114,067	5 : 3,099,766	39 : 3,073,990
37 : 3,105,195	156 : 3,072,813	140 : 3,085,841	11.5 : 3,113,232	294 : 3,114,067	5 : 3,107,312	39 : 3,112,426
38 : 3,113,226	156 : 3,072,813	140 : 3,085,841	17 : 3,075,113	295 : 3,114,067	5 : 3,110,839	39 : 3,113,238
39 : 3,075,102	156 : 3,072,813	140 : 3,085,841	21 : 3,098,165	296 : 3,114,067	5 : 3,110,839	39 : 3,113,238
41 : 3,111,596	156 : 3,072,813	140 : 3,085,841	23.1 : 3,115,591	297 : 3,114,067	5 : 3,110,839	39 : 3,113,238
42 : 3,096,451	156 : 3,072,813	140 : 3,085,841	24 : 3,104,338	298 : 3,114,067	5 : 3,110,839	39 : 3,113,238
42 : 3,095,515	156 : 3,072,813	140 : 3,085,841	25 : 3,085,171	299 : 3,114,067	5 : 3,110,839	39 : 3,113,238
46 : 3,076,905	156 : 3,072,813	140 : 3,085,841	26 : 3,110,833	300 : 3,114,067	5 : 3,110,839	39 : 3,113,238
46 : 3,096,452	156 : 3,072,813	140 : 3,085,841	29 : 3,086,135	301 : 3,114,067	5 : 3,110,839	39 : 3,113,238
49 : 3,077,546	156 : 3,072,813	140 : 3,085,841	32 : 3,097,321	302 : 3,114,067	5 : 3,110,839	39 : 3,113,238
49 : 3,093,762	156 : 3,072,813	140 : 3,085,841	33 : 3,105,916	303 : 3,114,067	5 : 3,110,839	39 : 3,113,238
50 : 3,077,547	156 : 3,072,813	140 : 3,085,841	34 : 3,089,972	304 : 3,114,067	5 : 3,110,839	39 : 3,113,238
51 : 3,114,060	156 : 3,072,813	140 : 3,085,841	42 : 3,075,114	305 : 3,114,067	5 : 3,110,839	39 : 3,113,238
53 : 3,089,045	156 : 3,072,813	140 : 3,085,841	44 : 3,087,083	306 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,089,969	156 : 3,072,813	140 : 3,085,841	47 : 3,086,136	307 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,103	156 : 3,072,813	140 : 3,085,841	54 : 3,106,657	308 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	55 : 3,110,834	309 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	57 : 3,107,311	310 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	60 : 3,081,413	311 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	63 : 3,071,705	312 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	65 : 3,073,981	313 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	68 : 3,089,050	314 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	70 : 3,071,706	315 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	73 : 3,087,084	316 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	74 : 3,099,762	317 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	77 : 3,088,046	318 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	78 : 3,112,421	319 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	82 : 3,085,172	320 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	83 : 3,076,909	321 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	322 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	323 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	324 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	325 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	326 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	327 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	328 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	329 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	330 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	331 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	332 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	333 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	334 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	335 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	336 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	337 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	338 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	339 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	340 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	341 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	342 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	343 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	344 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	345 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841	84 : 3,071,707	346 : 3,114,067	5 : 3,110,839	39 : 3,113,238
54 : 3,075,104	156 : 3,072,813	140 : 3,085,841				



131 : 3,099,771	22 : 3,082,355	148.5 : 3,078,395	234 : 3,116,443	29 : 3,080,514	264 : 3,075,134	8 : 3,085,188
135 : 3,090,893	22 : 3,100,854	.5 : 3,081,419	235 : Re.25,473	30 : 3,089,990	265 : 3,096,469	9 : 3,089,074
138 : 3,112,428	22 : 3,109,961	.5 : 3,084,311	235 : 3,072,832	30 : 3,109,129	266 : 3,104,350	10 : 3,098,189
151 : 3,116,438	22 : 3,113,246	.5 : 3,086,147	235 : 3,078,397	30 : 3,078,401	267 : 3,087,103	11 : 3,102,976
153 : 3,107,314	22 : 3,114,079	.5 : 3,092,760	235 : 3,087,100	30 : 3,079,540	268 : 3,084,318	12 : 3,110,855
158 : 3,102,970	27 : 3,116,439	.5 : 3,098,953	235 : 3,095,526	30 : 3,082,363	269 : 3,102,975	13 : 3,108,066
163 : 3,092,755	31 : 3,092,758	.5 : 3,102,215	235 : 3,108,210	30 : 3,093,777	270 : 3,078,405	14 : 3,110,856
166 : 3,082,352	31 : 3,079,532	.5 : 3,104,346	235 : 3,111,611	30 : 3,100,859	271 : 3,078,405	15 : 3,110,856
166 : 3,105,169	31 : 3,094,647	.5 : 3,105,175	235 : 3,114,867	30 : 3,109,971	272 : 3,086,156	16 : 3,074,000
168 : 3,075,121	33 : 3,105,919	.5 : 3,105,924	237 : 3,071,715	31 : 3,111,614	273 : 3,093,788	17 : 3,083,328
168 : 3,084,282	33 : 3,108,205	.5 : 3,106,667	237 : 3,099,776	31 : 3,114,089	274 : 3,093,788	18 : 3,071,720
168 : 3,088,052	36 : 3,099,949	.5 : 3,106,668	242 : 3,085,181	32 : 3,086,152	275 : 3,082,366	19 : 3,087,107
168 : 3,089,984	36 : 3,079,533	.5 : 3,107,320	242 : 3,088,149	32 : 3,102,218	276 : 3,090,902	20 : 3,099,785
168 : 3,114,077	36 : 3,099,775	.5 : 3,109,125	242 : 3,085,181	32 : 3,091,727	277 : 3,082,366	21 : 3,114,090
169 : 3,073,992	36 : 3,105,920	.5 : 3,109,964	242 : 3,097,330	32 : 3,100,860	278 : 3,096,470	22 : 3,099,785
169 : 3,075,122	36 : 3,109,962	.5 : 3,112,430	242 : 3,098,955	32 : 3,109,972	279 : 3,082,366	23 : 3,114,090
169 : 3,086,143	40 : 3,088,053	.5 : 3,112,431	243 : 3,111,612	32 : 3,114,090	280 : 3,092,766	24 : 3,113,258
169 : 3,098,173	47 : 3,110,844	.5 : 3,113,250	243 : 3,098,956	32 : 3,108,153	281 : 3,082,367	25 : 3,113,258
169 : 3,107,315	48 : 3,113,247	.5 : 3,113,250	244 : 3,109,968	32 : 3,078,402	282 : 3,113,254	26 : 3,114,098
169 : 3,114,860	54 : 3,114,083	.5 : 3,114,083	246 : 3,098,183	32 : 3,109,130	283 : 3,089,993	27 : 3,116,446
171 : 3,102,971	58 : 3,105,921	.5 : 3,116,441	249 : 3,071,716	32 : 3,073,997	284 : 3,089,994	28 : 3,087,107
171 : 3,115,593	59 : 3,079,534	149 : 3,080,509	249 : 3,084,313	32 : 3,083,325	285 : 3,098,994	29 : 3,095,534
174 : 3,098,174	61 : 3,072,828	149 : 3,091,724	249 : 3,071,716	32 : 3,099,778	286 : 3,098,994	30 : 3,102,977
176 : 3,080,502	61 : 3,094,648	149 : 3,092,761	249 : 3,084,313	32 : 3,083,325	287 : 3,102,322	31 : 3,105,182
177 : 3,086,144	70 : 3,087,094	149 : 3,098,180	249 : 3,085,182	32 : 3,099,778	288 : 3,072,838	32 : 3,113,258
180 : 3,089,059	70 : 3,091,721	149 : 3,101,433	249 : 3,100,855	32 : 3,078,403	289 : 3,089,994	33 : 3,113,258
183 : 3,105,170	74 : 3,111,606	149 : 3,108,207	249 : 3,100,856	32 : 3,085,185	290 : 3,098,994	34 : 3,102,977
185 : 3,078,389	74 : 3,112,429	149 : 3,115,595	258 : 3,079,537	32 : 3,109,973	291 : 3,102,322	35 : 3,105,182
187 : 3,080,503	75 : 3,093,772	153 : 3,071,713	258 : 3,085,183	32 : 3,114,091	292 : 3,072,838	36 : 3,113,258
188 : 3,098,947	79 : 3,073,994	153 : 3,075,130	258 : 3,086,150	32 : 3,088,062	293 : 3,072,838	37 : 3,113,258
189 : 3,114,861	80 : 3,075,125	155.5 : 3,108,208	258 : 3,089,987	32 : 3,098,185	294 : 3,072,838	38 : 3,102,977
197 : 3,078,390	80 : 3,110,845	157 : 3,082,358	258 : 3,094,650	32 : 3,100,278	295 : 3,082,367	39 : 3,102,977
200 : 3,113,241	83 : 3,110,846	157 : 3,109,966	258 : 3,095,527	32 : 3,084,316	296 : 3,082,367	40 : 3,102,977
205 : 3,072,823	83 : 3,072,829	157 : 3,078,396	258 : 3,095,528	32 : 3,095,528	297 : 3,090,903	41 : 3,102,977
205 : 3,078,391	100 : 3,075,126	157 : 3,086,148	258 : 3,095,529	32 : 3,095,529	298 : 3,090,903	42 : 3,102,977
205 : 3,084,283	100 : 3,091,722	157 : 3,093,774	258 : 3,114,092	32 : 3,114,092	299 : 3,090,903	43 : 3,102,977
205 : 3,087,090	100 : 3,106,665	158 : 3,076,919	260 : 3,090,895	32 : 3,083,326	300 : 3,090,903	44 : 3,102,977
206 : 3,072,824	101 : 3,082,356	158 : 3,084,312	260 : 3,093,775	32 : 3,089,069	301 : 3,115,597	45 : 3,102,977
209 : 3,113,242	101 : 3,085,177	158 : 3,090,894	260 : 3,094,651	32 : 3,090,897	302 : 3,115,597	46 : 3,102,977
218 : 3,099,772	101 : 3,087,095	158 : 3,098,181	260 : 3,100,857	32 : 3,091,728	303 : 3,115,597	47 : 3,102,977
219 : 3,115,594	101 : 3,087,096	158 : 3,102,973	260 : 3,106,671	32 : 3,096,467	304 : 3,115,597	48 : 3,102,977
224 : 3,089,060	101 : 3,089,062	158 : 3,105,176	260 : 3,109,127	32 : 3,098,958	305 : 3,097,333	49 : 3,102,977
240 : 3,075,123	101 : 3,092,759	158 : 3,106,669	262 : 3,085,184	32 : 3,105,180	306 : 3,098,961	50 : 3,102,977
241 : 3,087,091	101 : 3,096,466	159 : 3,089,066	262 : 3,105,178	32 : 3,109,131	307 : 3,104,351	51 : 3,102,977
241 : 3,093,770	101 : 3,098,177	159 : 3,095,525	262 : 3,108,211	32 : 3,093,779	308 : 3,087,105	52 : 3,102,977
248 : 3,107,316	101 : 3,098,950	159 : 3,100,275	Class 318	32 : 3,089,991	309 : 3,071,718	53 : 3,102,977
248 : 3,109,960	101 : 3,098,951	159 : 3,109,967	5 : 3,104,347	32 : 3,108,214	310 : 3,071,719	54 : 3,102,977
250 : 3,098,175	101 : 3,098,952	159 : 3,110,847	6 : 3,073,996	32 : 3,077,554	311 : 3,079,524	55 : 3,102,977
257 : 3,099,773	101 : 3,102,213	162 : 3,089,986	7 : 3,103,613	32 : 3,093,780	312 : 3,078,407	56 : 3,102,977
269 : 3,072,825	101 : 3,105,922	171 : 3,091,725	8 : 3,082,361	32 : 3,095,530	313 : 3,077,557	57 : 3,102,977
277 : Re.25,347	101 : 3,107,319	171 : 3,105,925	9 : 3,092,764	32 : 3,102,219	314 : 3,100,861	58 : 3,102,977
278 : 3,080,504	101 : 3,109,124	172 : 3,113,251	10 : 3,105,179	32 : 3,075,133	315 : 3,110,854	59 : 3,102,977
278 : 3,080,505	101 : 3,113,248	172 : 3,071,714	11 : 3,079,538	32 : 3,099,779	316 : 3,093,786	60 : 3,102,977
278 : 3,072,826	101 : 3,114,080	172 : 3,076,920	12 : 3,103,613	32 : 3,088,063	317 : 3,104,352	61 : 3,102,977
278 : 3,096,465	109 : 3,087,097	172 : 3,109,126	13 : 3,098,184	32 : 3,072,833	318 : 3,089,078	62 : 3,102,977
282 : 3,107,317	112 : 3,081,416	172 : 3,114,862	13 : 3,104,348	32 : 3,072,834	319 : 3,089,078	63 : 3,102,977
330 : 3,087,092	117 : 3,093,773	176 : 3,102,974	16 : 3,110,850	32 : 3,073,998	320 : 3,088,068	64 : 3,102,977
Class 316	119 : 3,095,524	176 : 3,110,848	19 : 3,078,398	32 : 3,078,404	321 : 3,088,068	65 : 3,102,977
9 : 3,084,010	119 : 3,089,063	178 : 3,103,612	19 : 3,083,321	32 : 3,079,522	322 : 3,088,068	66 : 3,102,977
19 : 3,095,251	119 : 3,097,326	187 : 3,101,434	19 : 3,083,321	32 : 3,086,154	323 : 3,088,068	67 : 3,102,977
24 : 3,093,430	119 : 3,098,178	189 : 3,114,084	19 : 3,083,321	32 : 3,087,101	324 : 3,088,068	68 : 3,102,977
25 : 3,102,764	120 : 3,105,173	191 : 3,082,359	19 : 3,083,321	32 : 3,093,781	325 : 3,088,068	69 : 3,102,977
27 : 3,103,397	120 : 3,088,054	192 : 3,073,995	19 : 3,083,321	32 : 3,098,186	326 : 3,088,068	70 : 3,102,977
Class 317	122 : 3,088,055	195 : 3,088,058	19 : 3,083,321	32 : 3,098,187	327 : 3,088,068	71 : 3,102,977
2 : 3,076,124	123 : 3,076,125	197 : 3,072,830	19 : 3,083,321	32 : 3,098,188	328 : 3,088,068	72 : 3,102,977
2 : 3,079,530	123 : 3,078,393	199 : 3,082,359	21 : 3,105,927	32 : 3,098,189	329 : 3,088,068	73 : 3,102,977
3 : 3,083,318	123 : 3,080,507	199 : 3,082,359	21 : 3,109,128	32 : 3,098,190	330 : 3,088,068	74 : 3,102,977
3 : 3,086,145	123 : 3,084,310	199 : 3,082,359	21 : 3,091,726	32 : 3,101,435	331 : 3,088,068	75 : 3,102,977
3 : 3,095,523	123 : 3,089,064	199 : 3,082,359	22 : 3,104,349	32 : 3,101,436	332 : 3,088,068	76 : 3,102,977
3 : 3,099,774	123 : 3,099,963	199 : 3,082,359	24 : 3,076,921	32 : 3,103,614	333 : 3,088,068	77 : 3,102,977
4 : 3,111,605	124 : 3,111,607	199 : 3,082,359	24 : 3,111,613	32 : 3,109,974	334 : 3,088,068	78 : 3,102,977
5 : 3,079,531	124 : 3,081,417	199 : 3,082,359	28 : Re.25,487	32 : 3,100,279	335 : 3,088,068	79 : 3,102,977
5 : 3,082,353	124 : 3,085,178	199 : 3,082,359	28 : 3,075,132	32 : 3,086,155	336 : 3,088,068	80 : 3,102,977
5 : 3,082,354	124 : 3,085,179	199 : 3,082,359	28 : 3,077,552	32 : 3,090,898	337 : 3,088,068	81 : 3,102,977
5 : 3,084,010	124 : 3,086,146	199 : 3,082,359	28 : 3,077,553	32 : 3,089,992	338 : 3,088,068	82 : 3,102,977
5 : 3,089,061	124 : 3,091,723	199 : 3,082,359	28 : 3,078,399	32 : 3,098,959	339 : 3,088,068	83 : 3,102,977
5 : 3,092,756	124 : 3,114,081	199 : 3,082,359	28 : 3,078,401	32 : 3,093,782	340 : 3,088,068	84 : 3,102,977
5 : 3,098,948	128 : 3,081,418	199 : 3,082,359	28 : 3,078,403	32 : 3,083,327	341 : 3,088,068	85 : 3,102,977
9 : 3,114,078	130 : 3,071,711	199 : 3,082,359	28 : 3,078,405	32 : 3,090,899	342 : 3,088,068	86 : 3,102,977
11 : 3,075,124	130 : 3,078,394	199 : 3,082,359	28 : 3,078,407	32 : 3,105,181	343 : 3,088,068	87 : 3,102,977
11 : 3,105,172	130 : 3,082,353	199 : 3,082,359	28 : 3,078,409	32 : 3,076,126	344 : 3,088,068	88 : 3,102,977
12 : 3,080,506	130 : 3,084,314	199 : 3,082,359	28 : 3,078,411	32 : 3,087,102	345 : 3,088,068	89 : 3,102,977
12 : 3,087,093	130 : 3,086,146	199 : 3,082,359	28 : 3,078,413	32 : 3,088,063	346 : 3,088,068	90 : 3,102,977
13 : 3,078,392	130 : 3,088,055	199 : 3,082,359	28 : 3,078,415	32 : 3,088,064	347 : 3,088,068	91 : 3,102,977
13 : 3,094,646	130 : 3,089,065	199 : 3,082,359	28 : 3,078,417	32 : 3,088,065	348 : 3,088,068	92 : 3,102,977
13 : 3,101,432	130 : 3,090,966	199 : 3,082,359	28 : 3,078,419	32 : 3,088,066	349 : 3,088,068	93 : 3,102,977
13 : 3,107,318	130 : 3,092,756	199 : 3,082,359	28 : 3,078,421	32 : 3,088,067	350 : 3,088,068	94 : 3,102,977
14 : 3,113,243	130 : 3,094,647	199 : 3,082,359	28 : 3,078,423	32 : 3,088,068	351 : 3,088,068	95 : 3,102,977
14 : 3,084,308	130 : 3,096,467	199 : 3,082,359	28 : 3,078,425	32 : 3,088,069	352 : 3,088,068	96 : 3,102,977
14 : 3,093,771	130 : 3,098,177	199 : 3,082,359	28 : 3,078,427	32 : 3,088,070	353 : 3,088,068	97 : 3,102,977
15 : 3,073,993	130 : 3,100,859	199 : 3,082,359	28 : 3,078,429	32 : 3,088,071	354 : 3,088,068	98 : 3,102,977
15 : 3,105,172	13					



## Class 322—Con.

87 : 3,109,978  
90 : 3,092,767  
3,105,932  
95 : 3,089,997

## Class 323

4 : 3,113,260  
3,114,872  
7 : 3,079,541  
9 : 3,074,006  
3,099,789  
3,112,435  
16 : 3,101,440  
22 : 3,072,841  
3,072,842  
3,074,007  
3,074,008  
3,076,135  
3,076,923  
3,076,924  
3,076,925  
3,078,410  
3,079,542  
3,079,543  
3,080,516  
3,081,425  
3,083,330  
3,086,163  
3,088,067  
3,089,080  
3,089,998  
3,090,905  
3,093,790  
3,094,654  
3,096,475  
3,098,192  
3,099,790  
3,099,791  
3,100,863  
3,101,441  
3,101,442  
3,102,225  
3,102,226  
3,103,617  
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3,104,353  
3,105,187  
3,105,188  
3,105,933  
3,106,674  
3,108,218  
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3,109,979  
3,109,980  
3,109,981  
3,109,982  
3,112,436  
3,114,873  
3,115,600  
3,116,447  
24 : 3,112,437  
25 : 3,114,099  
38 : 3,084,325  
43.5 : 3,078,411  
3,086,164  
3,090,906  
3,100,864  
3,100,865  
3,100,866  
3,106,675  
3,112,438  
3,113,261  
45 : 3,075,138  
3,079,544  
3,114,100  
3,114,874  
3,079,545  
48 : 3,083,331  
49 : 3,079,546  
50 : 3,085,191  
51 : 3,085,192  
3,089,081  
52 : 3,105,189  
53 : 3,094,655  
54 : 3,081,426  
56 : 3,087,108  
3,089,999  
3,103,619  
3,112,439  
3,112,440  
58 : 3,074,009  
3,079,547  
3,076,136  
3,094,656  
3,111,618  
61 : 3,094,657  
3,111,619  
64 : 3,076,926  
3,102,227  
66 : 3,074,010  
3,075,139  
3,075,140

66 : 3,080,517  
3,080,518  
3,083,332  
3,086,165  
3,089,082  
3,092,768  
3,098,193  
3,098,194  
3,102,228  
3,114,101  
3,115,601  
67 : 3,090,000  
69 : 3,085,193  
3,087,109  
3,107,327  
74 : 3,074,011  
3,087,110  
3,101,443  
3,109,983  
75 : 3,076,927  
3,081,427  
3,085,194  
3,109,137  
3,109,984  
3,111,620  
3,113,262  
76 : 3,090,907  
3,111,621  
79 : 3,086,166  
3,090,001  
3,090,908  
3,098,195  
3,114,102  
88 : 3,107,328  
89 : 3,074,012  
3,076,137  
3,083,333  
3,083,334  
3,090,909  
3,092,769  
3,098,196  
3,102,229  
3,110,857  
94 : 3,097,336  
3,098,967  
3,099,792  
3,102,230  
3,109,985  
102 : 3,091,731  
109 : 3,079,548  
123 : 3,108,219  
125 : 3,089,083

## Class 324

.5 : 3,071,721  
.5 : 3,080,519  
.5 : 3,081,428  
.5 : 3,083,335  
.5 : 3,085,195  
.5 : 3,085,196  
.5 : 3,090,002  
.5 : 3,090,003  
.5 : 3,091,732  
.5 : 3,096,476  
.5 : 3,098,197  
.5 : 3,099,793  
.5 : 3,100,280  
.5 : 3,100,866  
.5 : 3,103,620  
.5 : 3,103,621  
.5 : 3,103,622  
.5 : 3,103,623  
.5 : 3,103,624  
.5 : 3,110,858  
.5 : 3,109,986  
.5 : 3,114,100  
.5 : 3,112,441  
.5 : 3,113,263  
.5 : 3,113,264  
.5 : 3,114,103  
1 : 3,075,141  
3,075,142  
3,076,138  
3,076,928  
3,079,549  
3,079,550  
3,086,167  
3,087,111  
3,096,477  
3,098,198  
3,103,625  
3,103,626  
3,112,442  
3,113,265  
3,114,875  
3,116,448  
3,116,449  
2 : 3,116,450  
4 : 3,105,934  
6 : 3,086,168  
3,090,910  
3,090,911  
3,094,658

6 : 3,105,190  
3,108,220  
3,112,443  
8 : 3,085,197  
10 : 3,072,843  
3,105,191  
3,115,602  
20 : 3,110,859  
24 : 3,100,867  
28 : 3,105,935  
29.4 : 3,116,451  
.5 : 3,082,371  
30 : 3,075,143  
3,082,372  
3,086,169  
3,095,535  
3,106,676  
32 : 3,093,791  
3,097,337  
33 : Re.25,369  
3,071,722  
3,076,139  
3,085,198  
3,087,112  
3,087,113  
3,093,792  
3,100,868  
3,101,444  
3,109,136  
3,071,723  
3,075,144  
3,088,068  
3,109,139  
3,114,876  
36 : 3,076,929  
37 : 3,075,145  
3,089,084  
3,091,733  
3,110,860  
40 : 3,100,281  
3,116,452  
43 : 3,076,930  
51 : 3,074,013  
52 : 3,113,266  
54 : 3,071,724  
3,072,844  
3,090,912  
3,093,793  
3,096,478  
3,106,677  
3,072,845  
57 : 3,077,560  
3,077,561  
3,082,373  
3,090,913  
3,102,231  
3,111,622  
58 : Re.25,396  
3,098,968  
3,104,354  
3,105,936  
3,107,329  
3,113,267  
.5 : 3,079,551  
.5 : 3,079,552  
.5 : 3,080,520  
.5 : 3,102,232  
.5 : 3,103,627  
60 : 3,115,603  
61 : 3,081,429  
3,090,004  
62 : 3,086,170  
63 : 3,098,969  
64 : 3,078,412  
66 : 3,076,931  
68 : 3,078,413  
3,080,521  
3,089,085  
3,090,914  
3,090,915  
70 : 3,079,553  
3,090,005  
3,095,536  
3,098,970  
3,103,628  
3,106,678  
3,108,221  
3,109,140  
3,115,604  
71 : 3,087,114  
3,102,979  
3,104,355  
3,114,877  
73 : 3,082,374  
3,087,414  
77 : 3,076,932  
3,079,554  
3,089,086  
3,096,479  
3,108,222  
3,110,861  
3,115,605  
78 : 3,074,015

78 : 3,107,330  
79 : 3,071,725  
3,071,726  
3,102,980  
3,105,192  
80 : 3,079,555  
81 : 3,082,375  
3,085,199  
82 : 3,105,193  
83 : 3,083,336  
3,096,480  
88 : 3,078,415  
95 : 3,081,430  
3,114,104  
98 : 3,102,981  
99 : 3,072,846  
3,075,146  
3,081,431  
100 : 3,087,115  
105 : 3,112,444  
111 : 3,093,794  
115 : 3,090,916  
123 : 3,109,141  
125 : 3,102,233  
3,114,878  
3,114,880  
3,107,556  
131 : 3,101,445  
139 : 3,076,933  
142 : 3,090,006  
146 : 3,094,659  
147 : 3,074,019  
151 : 3,095,537  
152 : 3,076,934  
154 : 3,090,007  
3,111,623  
158 : 3,074,017  
3,076,140  
3,080,522  
3,084,326  
3,094,660

## Class 325

2 : 3,106,679  
3,111,624  
4 : 3,092,770  
3,095,538  
6 : 3,113,268  
7 : 3,082,376  
9 : 3,079,557  
3,098,971  
13 : 3,085,200  
15 : 3,080,521  
16 : 3,085,201  
3,114,105  
17 : 3,096,481  
18 : 3,087,116  
19 : 3,112,445  
20 : 3,112,446  
24 : 3,092,771  
3,099,794  
3,113,269  
25 : 3,085,202  
3,091,734  
29 : 3,072,847  
30 : 3,099,795  
3,099,796  
3,110,862  
31 : 3,093,795  
3,104,356  
38 : 3,097,338  
3,100,869  
3,103,629  
3,105,194  
3,109,142  
3,109,987  
41 : 3,096,482  
43 : 3,075,147  
44 : 3,071,727  
3,090,008  
45 : 3,084,327  
47 : 3,091,735  
49 : 3,084,328  
3,088,069  
3,088,070  
50 : 3,085,203  
3,088,071  
3,105,937  
55 : 3,086,171  
3,094,661  
3,113,270  
56 : 3,114,106  
65 : 3,083,337  
3,083,338  
3,084,329  
67 : 3,081,432  
3,100,870  
3,101,446  
3,113,271  
104 : 3,102,234  
105 : 3,101,447  
3,105,938

105 : 3,108,223  
3,110,863  
3,114,107  
112 : 3,102,982  
118 : 3,087,117  
3,112,447  
132 : 3,072,848  
133 : 3,090,917  
134 : 3,074,018  
141 : 3,076,935  
163 : 3,095,539  
3,102,235  
3,112,448  
167 : 3,112,452  
180 : 3,085,204  
187 : 3,080,524  
3,106,680  
303 : 3,077,601  
312 : 3,071,728  
3,076,936  
3,087,118  
3,099,797  
3,103,630  
319 : 3,072,849  
3,077,562  
3,089,087  
3,092,772  
3,094,662  
3,098,972  
3,104,357  
3,110,864  
3,116,453  
320 : 3,109,143  
321 : 3,108,224  
3,114,108  
323 : 3,095,540  
329 : 3,076,141  
330 : 3,100,871  
348 : 3,079,558  
3,090,918  
349 : 3,111,625  
353 : 3,077,563  
355 : 3,091,736  
356 : 3,090,919  
364 : 3,081,433  
3,088,072  
3,094,663  
3,109,988  
370 : 3,092,773  
373 : 3,094,664  
375 : 3,098,973  
391 : 3,116,454  
392 : 3,076,142  
406 : 3,079,559  
410 : 3,109,989  
415 : 3,108,225  
421 : 3,106,681  
438 : 3,083,339  
439 : 3,103,631  
440 : 3,084,330  
445 : 3,092,774  
446 : 3,071,729  
3,072,850  
3,109,144  
448 : 3,098,974  
451 : 3,107,331  
455 : 3,089,088  
461 : 3,092,775  
466 : 3,098,975  
468 : 3,090,920  
474 : 3,092,776  
475 : 3,094,665  
478 : 3,102,236  
479 : 3,090,009  
482 : 3,102,237  
487 : 3,115,606  
491 : 3,114,881  
3,114,882

## Class 328

1 : 3,109,145  
3,113,272  
3 : 3,088,073  
5 : 3,071,730  
9 : 3,084,284  
15 : 3,093,796  
16 : 3,085,205  
21 : 3,085,206  
22 : 3,081,434  
3,086,172  
26 : 3,112,449  
27 : 3,078,416  
3,102,238  
3,116,455  
31 : 3,076,937  
34 : 3,084,285  
3,105,939  
38 : 3,080,525  
40 : 3,089,089  
3,102,239  
42 : 3,084,286  
3,108,226  
3,116,456

43 : 3,105,195  
3,108,227  
3,109,990  
44 : 3,114,883  
3,116,457  
45 : 3,078,417  
48 : 3,096,483  
53 : 3,072,851  
55 : 3,089,090  
3,098,976  
58 : 3,071,731  
3,075,148  
59 : 3,082,377  
61 : 3,093,797  
62 : 3,076,143  
63 : 3,096,484  
3,097,340  
3,107,332  
3,114,109  
65 : 3,090,921  
67 : 3,078,418  
3,088,074  
3,090,010  
3,093,798  
3,097,341  
3,100,872  
69 : 3,098,977  
71 : 3,110,865  
72 : 3,088,075  
3,090,922  
3,091,737  
3,108,228  
76 : 3,106,682  
91 : 3,105,196  
3,115,607  
92 : 3,077,564  
3,103,632  
93 : 3,090,923  
3,106,683  
94 : 3,072,852  
99 : 3,072,853  
101 : 3,076,938  
103 : 3,097,342  
3,113,273  
104 : 3,084,287  
3,089,091  
105 : 3,115,608  
108 : 3,094,666  
109 : 3,112,450  
110 : 3,074,019  
3,110,866  
111 : 3,091,738  
112 : 3,071,732  
115 : 3,093,799  
3,095,541  
121 : 3,075,149  
3,114,884  
127 : 3,114,885  
132 : 3,082,378  
3,105,940  
133 : 3,092,777  
3,103,633  
134 : 3,086,173  
135 : 3,116,458  
137 : 3,076,939  
139 : 3,086,174  
140 : 3,103,634  
142 : 3,106,684  
3,106,685  
144 : 3,113,274  
145 : 3,090,011  
3,111,627  
147 : 3,076,144  
3,082,379  
148 : 3,115,609  
150 : 3,102,983  
154 : 3,105,197  
155 : 3,072,854  
3,089,092  
3,112,451  
162 : 3,094,667  
164 : 3,071,733  
165 : 3,072,855  
3,076,145  
3,092,778  
3,100,873  
3,100,874  
167 : 3,114,110  
171 : 3,109,991  
175 : 3,104,358  
177 : 3,084,288  
178 : 3,089,093  
183 : 3,079,561  
184 : 3,102,240  
185 : 3,072,856  
186 : 3,076,146  
187 : 3,080,526  
194 : 3,074,020  
203 : 3,090,924  
209 : 3,094,668  
210 : 3,079,560  
225 : 3,089,094

267 : 3,093,800  
270 : 3,071,734

**Class 329**

50 : 3,075,150  
3,084,288  
3,101,449  
101 : 3,079,562  
3,084,290  
102 : 3,110,867  
103 : 3,092,779  
105 : 3,078,229  
116 : 3,077,565  
3,079,563  
117 : 3,074,021  
3,108,230  
119 : 3,094,669  
124 : 3,099,798  
126 : 3,099,799  
128 : 3,099,800  
130 : 3,072,857  
132 : 3,086,175  
135 : 3,089,095  
3,089,096  
137 : 3,083,340  
138 : 3,084,291  
139 : 3,092,780  
140 : 3,076,147  
3,076,940  
141 : Re.25,436  
145 : 3,100,875  
162 : 3,074,022  
3,079,564  
170 : 3,084,292  
178 : 3,109,992

**Class 330**

2 : 3,072,858  
3 : 3,094,670  
3,114,111  
4 : 3,072,859  
3,074,023  
3,076,148  
3,080,527  
.5 : 3,111,628  
.6 : 3,076,149  
.6 : 3,078,419  
.6 : 3,092,782  
.6 : 3,093,801  
.6 : 3,096,485  
.7 : 3,085,207  
.7 : 3,086,176  
.7 : 3,087,119  
.7 : 3,090,925  
.7 : 3,101,449  
.7 : 3,109,146  
.8 : 3,090,012  
.9 : 3,076,941  
.9 : 3,094,671  
.9 : 3,094,672  
.9 : 3,105,941  
.9 : 3,111,629  
7 : 3,101,450  
8 : 3,085,208  
9 : 3,081,435  
3,088,076  
10 : 3,079,565  
3,099,801  
3,101,451  
3,101,452  
11 : 3,076,150  
12 : 3,098,978  
3,109,147  
14 : 3,077,566  
3,096,486  
15 : 3,102,984  
3,094,673  
3,105,198  
3,105,199  
16 : 3,102,985  
17 : 3,096,487  
3,099,802  
3,100,876  
3,114,112  
18 : 3,082,380  
3,086,177  
19 : 3,089,098  
20 : 3,075,151  
3,079,566  
21 : 3,079,567  
3,110,868  
22 : 3,080,528  
3,101,453  
3,102,241  
24 : 3,075,152  
3,090,926  
3,116,459



28	: 3.100.877	111	: 3.074.028	8	: 3.109.997	79	: 3.090.017	165	: 3.111.637	174	: 3.105.216	49	: 3.086.188
	: 3.103.635		: 3.083.342	9	: 3.089.103		: 3.106.689	172	: 3.098.990		: 3.105.217		: 3.112.974
	: 3.105.942		: 3.101.454		: 3.091.743	80	: 3.112.463	174	: 3.082.389		: 3.105.949	50	: 3.111.353
29	: 3.078.420		: 3.114.114		: 3.103.638	81	: 3.072.869	176	: 3.102.988		: 3.108.245	55	: 3.097.903
	: 3.090.927	112	: 3.116.465		: 3.105.945		: 3.080.539	183	: 3.111.638		: 3.115.614	56	: 3.116.098
	: 3.098.199	113	: 3.074.029		: 3.112.460		: 3.080.540	198	: 3.092.797	179	: 3.071.747	59	Re 25.506
	: 3.103.636		: 3.074.030	10	: 3.074.033		: 3.081.441	199	: 3.074.037	180	: 3.092.801		: 3.093.432
30	: 3.075.153		: 3.074.031		: 3.075.158		: 3.096.494	200	: 3.080.541		: 3.107.336		: 3.101.229
	: 3.091.739		: 3.076.152		: 3.092.790		: 3.096.495		: 3.089.106		: 3.116.470		: 3.101.983
	: 3.097.343		: 3.078.422		: 3.094.677		: 3.100.289	210	: 3.082.390	183	: 3.089.110		: 3.109.689
	: 3.097.344		: 3.080.534		: 3.095.544		: 3.105.210		: 3.082.391		: 3.090.025	60	: 3.076.168
34	: 3.108.231		: 3.081.437		: 3.098.983		: 3.105.211		: 3.110.873		: 3.096.500		: 3.107.132
	: 3.112.453		: 3.092.786		: 3.105.207		: 3.107.334		: 3.110.874		: 3.099.812		: 3.107.133
38	: 3.080.529		: 3.098.200		: 3.113.277		: 3.107.335	211	: 3.108.241	214	: 3.105.218		: 3.109.690
43	: 3.072.861		: 3.098.201		: 3.114.888		: 3.108.238	212	: 3.071.744		: 3.105.219	61	: 3.076.950
	: 3.075.154		: 3.105.944	11	: 3.071.738		: 3.110.872		: 3.090.935	221	: 3.111.641		: 3.084.304
	: 3.084.293		: 3.110.870		: 3.089.104	82	: 3.082.385	213	: 3.074.038	224	: 3.100.884		: 3.091.774
44	: 3.098.979		: 3.111.632		: 3.109.998		: 3.105.947		: 3.074.039	237	: 3.086.186	62	: 3.078.433
	: 3.108.232		: 3.112.456		: 3.114.119	83	: 3.076.157		: 3.104.364	257	: 3.111.642	64	: 3.083.346
46	: 3.089.099		: 3.114.115	13	: 3.072.865		: 3.082.386	218	: 3.076.160	260	: 3.089.111		: 3.094.364
58	: 3.105.943		: 3.098.202		: 3.072.866		: 3.087.128			268	: 3.071.748		: 3.097.904
59	: 3.082.381	114	: 3.076.153		: 3.092.791		: 3.090.018			270	: 3.114.890	65	: 3.082.396
	: 3.087.120		: 3.116.466	14	: 3.086.179		: 3.093.804			273	: 3.080.543		: 3.091.748
61	: 3.080.530	117	: 3.072.862		: 3.111.635		: 3.108.239	2	: 3.071.745		: 3.087.134	69	: 3.101.984
	: 3.112.454		: 3.074.032		: 3.112.461		: 3.108.240		: 3.074.040		: 3.101.466	74	: 3.107.962
62	: 3.088.077		: 3.076.945		: 3.112.462		: 3.093.805	84	: 3.093.805	274	: 3.102.248	75	: 3.091.749
	: 3.105.200		: 3.090.013	16	: 3.109.999		: 3.095.549		: 3.079.575		: 3.113.284		: 3.094.365
66	Re 25.317		: 3.105.204	18	: 3.071.739		: 3.104.363		: 3.084.300	280	: 3.074.042		: 3.097.032
68	: 3.100.282		: 3.109.995	21	: 3.100.881	95	: 3.077.569		: 3.089.107		: 3.075.162		: 3.097.034
69	: 3.075.155	135	: 3.100.879	22	: 3.095.545		: 3.078.428		: 3.089.108	283	: 3.086.187		: 3.111.354
	: 3.080.531	139	: 3.114.116		: 3.098.984		: 3.090.019		: 3.092.798		: 3.088.085		: 3.111.355
	: 3.096.488	141	: 3.114.117		: 3.109.150		: 3.090.020		: 3.094.678	308	: 3.107.337		: 3.114.587
71	: 3.095.542	148	: 3.072.863	24	: 3.106.687		: 3.098.988	3	: 3.116.469	314	: 3.071.749	88	: 3.083.347
	: 3.105.201		: 3.110.871	.1	: 3.078.425		: 3.110.001	4	: 3.079.576	316	: 3.102.249	89	: 3.076.169
74	: 3.085.209	164	: 3.092.787	.1	: 3.080.536	96	: 3.082.387	5	: 3.075.160	330	: 3.094.679		: 3.091.750
76	: 3.094.674	174	: 3.088.079	.1	: 3.090.015	97	: 3.076.158		: 3.088.083				: 3.104.144
79	: 3.071.735	177	: 3.076.154	.1	: 3.090.930		: 3.092.794		: 3.095.551				: 3.112.975
81	: 3.100.878	183	: 3.091.741	.1	: 3.099.805		: 3.072.870	98	: 3.100.290			91	: 3.075.165
82	: 3.111.630		: 3.115.611	.1	: 3.100.287		: 3.076.159		: 3.101.464	2	: 3.099.503		: 3.076.951
84	: 3.105.202			.2	: 3.071.740		: 3.076.948		: 3.115.377	6	: 3.115.377		: 3.101.230
87	: 3.106.686			.2	: 3.072.867		: 3.084.296		: 3.098.991	13	: 3.098.991	4	: 3.076.163
88	: 3.112.455			.2	: 3.075.159		: 3.087.129		: 3.108.242	18	: 3.076.949	92	: 3.110.538
94	: 3.116.460	1	: 3.104.360	.2	: 3.076.946		: 3.087.130		: 3.090.931	13	: 3.098.991	94	: 3.103.398
98	: 3.092.783	7	: 3.098.980	.2	: 3.095.546		: 3.090.931		: 3.095.549	18	: 3.080.542	95	: 3.088.089
108	: 3.109.993	9	: 3.090.929	.2	: 3.095.547		: 3.095.550		: 3.098.207	18	: 3.082.392	95	: 3.083.348
109	: 3.116.461		: 3.091.742	.2	: 3.099.806		: 3.098.207		: 3.084.301		: 3.102.765		: 3.093.433
110	: 3.094.675	13	: 3.114.886	.2	: 3.100.288		: 3.099.807		: 3.104.365		: 3.104.143		: 3.099.505
112	: 3.107.333	14	: 3.075.157	.2	: 3.101.458		: 3.101.460		: 3.106.692		: 3.105.728	96	: 3.107.134
126	: 3.079.568		: 3.100.285	.2	: 3.102.244		: 3.101.461	21	: 3.096.496		: 3.112.970	97	: 3.071.750
130	: 3.080.532	16	: 3.077.567	.2	: 3.103.639		: 3.110.002	22	: 3.110.875		: 3.112.971		: 3.094.366
	: 3.105.203	19	: 3.087.124	.2	: 3.105.946		: 3.114.123	28	: 3.075.161	8	: 3.078.432		: 3.112.147
131	: 3.074.025	19	: 3.072.864	.2	: 3.108.236				: 3.085.216		: 3.089.113	98	: 3.083.349
132	: 3.083.341	22	: 3.100.880	.2	: 3.113.278				: 3.103.641		: 3.107.960	99	: 3.078.434
133	: 3.111.631	23	: 3.111.633	25	: 3.114.120			4	: 3.114.125	12	: 3.112.972		: 3.097.035
144	: 3.074.026	24	: 3.088.080	28	: 3.087.126			6	: 3.110.003	14	: 3.072.873	100	: 3.071.751
145	: 3.092.784	26	: 3.098.981		: 3.106.688			15	: 3.110.004		: 3.081.442		: 3.083.350
	: 3.093.802	29	: 3.080.535	29	: 3.114.121			50	: 3.071.742	33	: 3.115.612	101	: 3.072.875
157	: 3.116.462	30	: 3.112.457	30	: 3.071.741			51	: 3.090.932	33	: 3.106.693	103	: 3.104.145
178	: 3.092.785	30	: 3.105.205		: 3.080.537			64	: 3.098.208	16	: 3.075.163		: 3.107.135
185	: 3.079.569	31	: 3.098.982		: 3.092.792			70	: 3.079.572	34	: 3.092.799	108	: 3.072.876
205	: 3.089.100	37	: 3.100.286		: 3.098.204			82	: 3.077.572	35	: 3.071.746		: 3.072.877
		43	: 3.096.492		: 3.098.985			70	: 3.090.021		: 3.105.214	109	: 3.075.166
			: 3.101.455		: 3.103.640						: 3.105.005	110	: 3.112.976
		44	: 3.098.203		: 3.113.279						: 3.098.209	111	: 3.078.435
			: 3.112.458	31	: 3.076.156						: 3.085.217	112	: 3.102.766
		51	: 3.084.295		: 3.081.439						: 3.089.109	116	: 3.112.148
			: 3.095.543		: 3.081.440						: 3.093.806	117	: 3.115.380
			: 3.102.243		: 3.085.214						: 3.113.283	122	: 3.094.367
4	: 3.076.943		: 3.102.243		: 3.086.180						: 3.074.041	128	: 3.079.581
	: 3.076.943	52	: 3.090.014		: 3.092.793						: 3.114.124	130	: 3.103.400
	: 3.091.740		: 3.108.233		: 3.108.237						: 3.115.613		: 3.108.843
8	: 3.080.533		: 3.111.634		: 3.109.152						: 3.096.497	131	: 3.113.821
9	: 3.099.803	59	: 3.108.234		: 3.109.152						: 3.087.133	143	: 3.078.436
	: 3.116.463				: 3.101.459						: 3.103.642		: 3.099.506
11	: 3.087.121			33	: 3.090.016						: 3.102.247	148	: 3.074.043
14	: 3.109.148				: 3.101.459						: 3.094.680	150	: 3.076.952
17	: 3.078.421	1	: 3.108.235	34	: 3.086.181						: 3.101.465		: 3.096.134
19	: 3.114.113	.1	: 3.079.570		: 3.087.127						: 3.112.465	154	: 3.111.356
31	: 3.085.210	.1	: 3.082.383	71	: 3.080.538						: 3.105.215	155	: 3.099.507
38	: 3.090.928	.1	: 3.085.212		: 3.080.538						: 3.101.465	157	: 3.082.397
47	: 3.082.382	.1	: 3.089.101		: 3.086.182						: 3.110.875	164	: 3.078.437
	: 3.100.283	.1	: 3.092.788		: 3.098.205						: 3.102.249	170	: 3.105.730
51	: 3.096.489	.1	: 3.092.789		: 3.098.986						: 3.099.809	174	: 3.090.028
52	: 3.085.211	.1	: 3.101.456		: 3.098.987						: 3.088.084	30	: 3.084.303
55	: 3.100.284	.1	: 3.104.361		: 3.105.208						: 3.100.883	31	: 3.083.344
57	: 3.102.986	.1	: 3.105.206	72	: 3.074.034						: 3.102.249	32	: 3.090.027
59	: 3.103.637	.1	: 3.116.467		: 3.078.427						: 3.076.161	32	: 3.075.164
66	: 3.109.149	6	: 3.078.423		: 3.086.183						: 3.099.810		: 3.088.088
69	: 3.071.736		: 3.086.178		: 3.109.153						: 3.102.990	36	: 3.096.132
71	: 3.109.994		: 3.089.102	73	: 3.074.035						: 3.085.218	44	: 3.096.133
	: 3.115.610		: 3.109.996		: 3.082.384						: 3.096.499	45	: 3.097.902
82	: 3.096.490												



## Class 339—Con.

184	: 3,109,692	5	: 3,098,993	40	: 3,078,442	163	: 3,099,815	173.1	: 3,078,445	174	: 3,114,137	227	: 3,105,229
186	: 3,077,571		: 3,110,877		: 3,079,587		: 3,099,816	.1	: 3,082,408		: 3,114,138		: 3,114,901
	: 3,085,221	6	: 3,116,472	41	: 3,090,032		: 3,107,340	.1	: 3,086,197		: 3,114,896	233	: 3,104,385
	: 3,092,804		: 3,089,118		: 3,105,954		: 3,109,160	.1	: 3,093,816		: 3,114,897	236	: 3,097,352
	: 3,096,135		: 3,113,286	43	: 3,107,338		: 3,110,013	.1	: 3,094,685		: 3,114,898	237	: 3,078,450
188	: 3,097,905	8	: 3,098,211	44	: 3,089,120	164	: 3,074,051	.1	: 3,111,650		: 3,115,619		: 3,090,038
	: 3,098,687		: 3,108,247	50	: 3,113,293		: 3,077,577	.1	: 3,114,136		: 3,116,475		: 3,102,257
	: 3,110,539		: 3,113,287	51	: 3,105,221		: 3,082,404	.2	: 3,079,591	.1	: Re. 25,405	238	: 3,092,821
191	: 3,107,963	9	: 3,090,939		: 3,110,010		: 3,097,348	.2	: 3,082,409	.1	: 3,071,757	239	: 3,091,758
192	: 3,088,091	10	: 3,079,584		: 3,114,128		: 3,110,014	.2	: 3,084,335	.1	: 3,072,893	244	: 3,079,596
	: 3,101,985		: 3,100,291	52	: 3,072,884	166	: 3,077,578	.2	: 3,094,686	.1	: 3,076,183		: 3,103,002
193	: 3,087,136		: 3,113,288		: 3,077,576		: 3,079,588	.2	: 3,100,887	.1	: 3,077,587	248	: 3,072,895
	: 3,099,508	11	: 3,082,401		: 3,110,882		: 3,093,813	.2	: 3,104,377	.1	: 3,078,448		: 3,095,557
195	: 3,093,434	12	: 3,099,813		: 3,112,467		: 3,098,216	.2	: 3,105,225	.1	: 3,079,594		: 3,098,999
196	: 3,086,191	13	: 3,075,170	54	: 3,088,093		: 3,105,224	.1	: Re. 25,367	.1	: 3,080,551		: 3,099,000
198	: Re. 25,442	15	: 3,075,171		: 3,105,222		: 3,107,341		: 3,071,754	.1	: 3,080,552		: 3,099,001
	: Re. 25,446		: 3,077,573	56	: 3,110,011		: 3,109,161		: 3,071,755	.1	: 3,082,411		: 3,099,827
	: 3,072,879		: 3,077,574	58	: 3,092,806		: 3,114,133		: 3,071,756	.1	: 3,083,356		: 3,099,828
	: 3,078,438		: 3,086,195		: 3,093,812		: 3,115,617		: 3,072,891	.1	: 3,084,337		: 3,103,653
	: 3,087,137		: 3,093,809		: 3,111,644	167	: 3,088,099		: 3,072,892	.1	: 3,088,101		: 3,103,654
	: 3,107,136		: 3,098,212	65	: 3,074,049		: 3,103,647		: 3,075,052	.1	: 3,088,102		: 3,110,021
202	: 3,116,099		: 3,100,886	66	: 3,109,158	168	: 3,104,374		: 3,074,157	.1	: 3,090,947		: 3,116,477
205	: 3,084,305		: 3,109,155	67	: 3,109,159		: 3,106,697		: 3,075,180	.1	: 3,092,814	250	: 3,071,760
	: 3,081,443	.5	: Re. 25,377	69	: 3,096,505	171	: 3,072,887		: 3,075,181	.1	: 3,092,815	252	: 3,090,039
	: 3,086,192	.5	: 3,075,172	71	: 3,108,252		: 3,078,444		: 3,075,182	.1	: 3,092,816		: 3,109,164
	: 3,107,964	.5	: 3,076,175	72	: 3,072,885		: 3,082,405		: 3,075,183	.1	: 3,092,817	253	: 3,090,040
	: 3,090,936	.5	: 3,076,176	74	: 3,110,012	172.5	: 3,072,888		: 3,075,184	.1	: 3,096,511		: 3,097,353
210	: 3,072,880	.5	: 3,076,177	84	: 3,090,033		: 3,075,178	.5	: 3,075,185	.1	: 3,098,998	258	: 3,074,053
217	: 3,075,169	.5	: 3,080,545	87	: 3,114,129		: 3,076,179	.5	: 3,076,181	.1	: 3,099,822		: 3,074,054
	: 3,076,170	.5	: 3,084,332	100	: 3,110,883		: 3,076,956	.5	: 3,076,182	.1	: 3,100,296		: 3,103,003
	: 3,077,572	.5	: 3,092,805	105	: 3,085,224		: 3,077,579	.5	: 3,076,958	.1	: 3,100,297		: 3,103,655
	: 3,078,439	.5	: 3,095,552	107	: 3,075,174		: 3,077,580	.5	: 3,077,582	.1	: 3,103,297		: 3,109,165
	: 3,079,582	.5	: 3,096,501	136	: 3,094,683		: 3,079,589	.5	: 3,077,583	.1	: 3,103,650		: 3,110,891
	: 3,083,351	.5	: 3,099,814	146.1	: 3,075,175		: 3,079,590	.5	: 3,077,584	.1	: 3,104,381		: 3,111,657
	: 3,085,222	.5	: 3,101,467		: 3,078,443		: 3,080,548	.5	: 3,077,585	.1	: 3,105,227		: 3,112,476
	: 3,090,937	.5	: 3,105,220		: 3,088,095		: 3,081,445	.5	: 3,077,586	.1	: 3,105,228	259	: 3,099,829
	: 3,102,768	.5	: 3,108,248		: 3,091,752		: 3,081,446	.5	: 3,078,446	.1	: 3,105,963		: 3,100,889
	: 3,104,925	.5	: 3,108,249		: 3,091,753		: 3,081,447	.5	: 3,078,447	.1	: 3,105,964		: 3,103,656
	: 3,107,965	.5	: 3,108,250		: 3,092,807		: 3,082,406	.5	: 3,079,592	.1	: 3,105,965		: 3,114,902
	: 3,112,149	.5	: 3,109,156		: 3,098,994		: 3,082,407	.5	: 3,079,593	.1	: 3,106,705	261	: 3,092,822
	: 3,112,978	.5	: 3,110,878		: 3,100,293		: 3,084,333	.5	: 3,080,549	.1	: 3,107,346	262	: 3,089,129
	: 3,115,381	16	: 3,074,048		: 3,102,253		: 3,085,229	.5	: 3,080,550	.1	: 3,107,347	263	: 3,082,413
220	: 3,106,436		: 3,090,030		: 3,102,254		: 3,085,230	.5	: 3,081,448	.1	: 3,108,259	266	: 3,114,903
223	: 3,098,688		: 3,108,251		: 3,105,955		: 3,089,124	.5	: 3,082,410	.1	: 3,108,260	268	: 3,094,691
226	: 3,116,100	17	: 3,100,292		: 3,108,253		: 3,089,125	.5	: 3,083,352	.1	: 3,108,261		: 3,108,263
239	: 3,084,306		: 3,102,540		: 3,110,884		: 3,090,034	.5	: 3,083,353	.1	: 3,110,889	269	: 3,108,264
241	: 3,107,966		: 3,103,643		: 3,114,130		: 3,090,943	.5	: 3,083,354	.1	: 3,112,473	270	: 3,072,896
245	: 3,097,037		: 3,115,616		: 3,114,894		: 3,090,944	.5	: 3,083,355	.1	: 3,112,474	271	: 3,072,897
246	: 3,085,223	18	: 3,076,955		: 3,075,176		: 3,090,945	.5	: 3,084,336	.1	: 3,113,298		: 3,103,004
248	: 3,088,092		: 3,090,031	.2	: 3,089,121		: 3,092,810	.5	: 3,085,232	.1	: 3,114,899	274	: 3,087,145
251	: 3,107,967		: 3,090,940	.2	: 3,090,942		: 3,092,811	.5	: 3,085,233	.1	: 3,115,620		: 3,110,892
253	: 3,097,906		: 3,093,810	.2	: 3,092,808		: 3,093,814	.5	: 3,085,234	.1	: 3,115,621	278	: 3,074,055
254	: 3,104,926		: 3,093,811	.2	: 3,098,995		: 3,094,684	.5	: 3,088,100	176	: 3,111,653	279	: 3,076,186
255	: 3,090,029		: 3,096,502	.2	: 3,102,255		: 3,095,553	.5	: 3,089,127	181	: 3,082,412		: 3,082,414
	: 3,099,509		: 3,102,251	.2	: 3,102,994		: 3,096,508	.5	: 3,089,128	182	: 3,072,897		: 3,089,130
	: 3,101,986		: 3,102,992	.2	: 3,107,339		: 3,097,349	.5	: 3,090,035		: 3,114,900	280	: 3,090,948
256	: 3,074,046		: 3,103,644	.3	: 3,072,886		: 3,098,217	.5	: 3,090,036	183	: 3,078,449		: 3,114,904
	: 3,099,510		: 3,112,466	.3	: 3,074,050		: 3,099,817	.5	: 3,090,037		: 3,079,595		: 3,114,905
	: 3,104,927		: 3,113,289	.3	: 3,081,444		: 3,099,818	.5	: 3,092,812		: 3,111,654	281	: 3,114,141
258	: 3,076,171		: 3,113,290	.3	: 3,085,225		: 3,099,819	.5	: 3,092,813	187	: 3,071,758	282	: 3,071,761
	: 3,076,172	20	: 3,110,879	.3	: 3,085,226		: 3,102,256	.5	: 3,093,817		: 3,075,186		: 3,116,478
	: 3,086,193	21	: 3,103,645	.3	: 3,085,227		: 3,102,996	.5	: 3,093,818		: 3,091,755	286	: 3,095,558
	: 3,116,101	22	: 3,094,682	.3	: 3,107,141		: 3,102,997	.5	: 3,094,687		: 3,103,001		: 3,103,005
259	: 3,076,953		: 3,114,891	.3	: 3,088,096		: 3,103,648	.5	: 3,094,688	196	: 3,114,139	293	: 3,085,235
	: 3,082,399	23	: 3,079,585	.3	: 3,088,097		: 3,104,375	.5	: 3,094,689	198	: 3,076,184	304	: 3,116,479
265	: 3,100,672		: 3,105,951	.3	: 3,089,122		: 3,104,376	.5	: 3,095,554		: 3,092,818	309.1	: 3,104,386
272	: 3,072,881		: 3,110,006	.3	: 3,089,123		: 3,106,699	.5	: 3,095,555	199	: 3,099,823	311	: 3,098,220
	: 3,076,954		: 3,111,643	.3	: 3,092,809		: 3,106,699	.5	: 3,096,509	200	: 3,072,894		: 3,114,142
	: 3,086,194		: 3,113,291	.3	: 3,096,506		: 3,107,342	.5	: 3,096,510	203	: 3,103,651	317	: 3,103,657
	: 3,113,822	25	: 3,102,993	.3	: 3,102,993		: 3,107,343	.5	: 3,097,350	204	: 3,083,357	319	: 3,089,131
276	: 3,093,435	26	: 3,079,586	.3	: 3,103,646		: 3,108,256	.5	: 3,098,218		: 3,104,382	321	: 3,114,143
	: 3,096,136		: 3,087,139	.3	: 3,104,368		: 3,108,257	.5	: 3,099,821	206	: 3,071,759		: 3,114,906
	: 3,112,150		: 3,091,751	.3	: 3,104,369		: 3,109,162	.5	: 3,100,295	207	: 3,097,351	324	: 3,074,056
			: 3,096,503	.3	: 3,104,370		: 3,111,648	.5	: 3,100,888	213	: 3,075,187		: 3,090,041
			: 3,104,366	.3	: 3,104,371		: 3,113,295	.5	: 3,101,468		: 3,076,185		: 3,091,759
			: 3,113,292	.3	: 3,104,372		: 3,114,134	.5	: 3,102,999		: 3,081,449		: 3,098,221
			: 3,114,892	.3	: 3,105,956	173	: 3,072,889		: 3,103,649		: 3,084,338		: 3,103,006
1	: 3,093,807		: 3,116,473	.3	: 3,108,254		: 3,072,890		: 3,104,378		: 3,087,144		: 3,103,658
	: 3,098,992		: 3,116,473	.3	: 3,111,645		: 3,076,180		: 3,104,379		: 3,091,756		: 3,104,387
	: 3,105,950	27	: 3,077,575	.3	: 3,111,646		: 3,076,957		: 3,104,380		: 3,091,757		: 3,109,166
2	: 3,074,047		: 3,080,546	.3	: 3,111,647		: 3,077,581		: 3,105,226		: 3,092,819	325	: 3,109,167
	: 3,093,808		: 3,089,119	.3	: 3,111,647		: 3,084,334		: 3,105,959		: 3,094,690		: 3,111,658
	: 3,113,285		: 3,096,504	.3	: 3,112,468		: 3,						



347	: 3.081.453	397	: 3.116.481	3	: 3.103.661	14	: 3.112.481	106	: 3.110.027	750	: 3.104.394	33	: 3.076.966
	: 3.084.339	407	: 3.103.660		: 3.106.707		: 3.113.309		: 3.115.632	753	: 3.099.836		: 3.082.423
	: 3.085.236		: 3.108.268		: 3.109.170		: 3.116.483		: 3.115.633		: 3.108.278		: 3.084.011
	: 3.085.237	<b>Class 343</b>				16	: 3.072.903	107	: 3.098.228		: 3.111.672		: 3.085.845
	: 3.086.198				: 3.113.307		: 3.089.136		: 3.099.007	754	: 3.071.768		: 3.094.368
	: 3.086.199	5	: 3.074.061		: 3.082.415		: 3.090.951		: 3.104.390		: 3.072.905		: 3.104.147
	: 3.087.147		: 3.076.188		: 3.091.761		: 3.090.952		: 3.110.028		: 3.086.205		: 3.104.148
	: 3.087.148		: 3.078.453		: 3.110.896		: 3.098.226	108	: 3.082.419		: 3.116.485		: 3.106.437
	: 3.087.149		: 3.078.454		: 3.078.458		: 3.099.833		: 3.103.663	755	: 3.116.486		: 3.107.137
	: 3.087.150		: 3.080.555		: 3.080.557		: 3.101.471		: 3.115.634	756	: 3.092.834		: 3.112.979
	: 3.088.103		: 3.083.360		: 3.081.455		: 3.104.389	109	: 3.113.314		: 3.096.519	34	: 3.072.910
	: 3.088.104		: 3.085.239		: 3.096.514		: 3.106.708		: 3.071.767		: 3.100.894		: 3.096.138
	: 3.089.132		: 3.085.240		: 3.109.171		: 3.112.482	112	: 3.076.192		: 3.101.473		: 3.099.512
	: 3.089.133		: 3.085.241		: 3.114.907		: 3.113.310		: 3.076.962	761	: 3.076.964	45	: 3.074.065
	: 3.089.134		: 3.086.200		: 3.115.626		: 3.077.596		: 3.082.420		: 3.084.342		: 3.081.458
	: 3.092.823		: 3.088.105	8	: 3.072.900		: 3.079.600		: 3.087.155		: 3.109.175	46	: 3.108.844
	: 3.092.824		: 3.092.828		: 3.072.901		: 3.088.113		: 3.089.139	770	: 3.106.713	49	: 3.076.967
	: 3.093.819		: 3.093.820		: 3.077.593		: 3.090.953		: 3.090.957	771	: 3.078.463		: 3.084.012
	: 3.095.559		: 3.095.560		: 3.077.594		: 3.090.954		: 3.090.958		: 3.100.300		: 3.098.689
	: 3.098.222		: 3.095.561		: 3.082.417		: 3.091.763		: 3.094.698		: 3.105.968	68	: 3.071.772
	: 3.098.223		: 3.102.260		: 3.084.341		: 3.095.565		: 3.095.567	775	: 3.108.279		: 3.103.402
	: 3.098.224		: 3.102.261		: 3.086.201		: 3.096.517		: 3.097.357	778	: 3.071.769	72	: 3.104.928
	: 3.099.002		: 3.103.008		: 3.088.109		: 3.103.009		: 3.099.008	781	: 3.071.770	74	: 3.071.773
	: 3.099.003		: 3.107.351		: 3.090.950		: 3.113.311		: 3.108.276	787	: 3.087.158		: 3.071.774
	: 3.099.004		: 3.108.269		: 3.092.832		: 3.114.148		: 3.111.670	792.5	: 3.101.474		: 3.074.066
	: 3.099.830		: 3.109.169		: 3.095.562		: 3.115.629		: 3.111.671		: 3.106.714		: 3.075.193
	: 3.099.831		: 3.110.022		: 3.095.563	2	: 3.105.967		: 3.112.484		: 3.108.280		: 3.075.194
	: 3.100.298		: 3.115.625		: 3.099.832	2	: 3.114.909		: 3.076.963		: 3.110.030		: 3.076.968
	: 3.100.299	5	: 3.116.482		: 3.102.263	7	: 3.083.361	113	: 3.090.944	5	: 3.113.316		: 3.076.969
	: 3.102.258	6	: 3.076.189		: 3.105.234	7	: 3.090.955		: 3.104.391	795	: 3.114.913		: 3.080.560
	: 3.102.259		: 3.076.961		: 3.105.235	7	: 3.098.227		: 3.106.709	802	: Re. 25.437		: 3.085.246
	: 3.103.007		: 3.080.556		: 3.105.966	7	: 3.103.010		: 3.113.315		: 3.089.141		: 3.088.094
	: 3.105.230		: 3.081.454		: 3.108.271	7	: 3.108.274		: 3.115.635		: 3.092.835		: 3.091.767
	: 3.105.231		: 3.108.270		: 3.113.308	7	: 3.109.173	114	: 3.082.421	803	: 3.082.422		: 3.094.699
	: 3.105.232		: 3.110.023		: 3.115.627	7	: 3.110.026		: 3.093.827		: 3.083.363		: 3.094.700
	: 3.108.266		: 3.111.663	9	: 3.096.515	7	: 3.113.312		: 3.077.597	807	: 3.074.064		: 3.095.569
	: 3.110.894		: 3.111.664		: 3.101.469	7	: 3.114.910		: 3.112.485	815	: 3.086.206		: 3.096.521
	: 3.110.895	5	: 3.072.899		: 3.101.470	18	: 3.078.461		: 3.106.710	828	: 3.071.771		: 3.103.665
	: 3.111.659	5	: 3.076.190		: 3.102.264		: 3.086.202	118	: 3.076.193	834	: 3.096.520		: 3.108.281
	: 3.111.660	5	: 3.085.242		: 3.112.480		: 3.103.662		: 3.076.194	843	: 3.083.364		: 3.114.150
	: 3.111.661	5	: 3.087.151	10	: 3.075.190		: 3.108.275		: 3.077.598	848	: 3.087.159	89	: 3.084.013
	: 3.111.662	5	: 3.090.042		: 3.081.456		: 3.114.911		: 3.081.457	872	: 3.075.191	105	: 3.090.663
	: 3.112.477	5	: 3.092.829		: 3.087.154		: 3.115.630		: 3.091.766	881	: 3.102.267		: 3.104.929
	: 3.112.478	5	: 3.097.354		: 3.108.272		: 3.083.362	100	: 3.093.828		: 3.107.353	107	: 3.082.424
	: 3.113.300	5	: 3.114.145		: 3.114.908		: 3.086.203		: 3.110.029	895	: 3.102.268		: 3.091.506
	: 3.113.301	5	: 3.114.146		: 3.072.902		: 3.089.137		: 3.080.559	906	: 3.090.960		: 3.092.434
	: 3.113.302	8	: 3.087.152		: 3.077.595		: 3.090.956		: 3.097.358	908	: 3.079.602		: 3.101.232
	: 3.114.144	8	: 3.088.106		: 3.078.459		: 3.093.824		: 3.099.009	911	: 3.089.142		: 3.101.233
	: 3.115.623	8	: 3.092.830		: 3.082.418		: 3.093.825	178	: 3.104.392	915	: 3.105.969		: 3.112.980
	: 3.115.624	7	: 3.071.765		: 3.085.244		: 3.093.826	180	: 3.105.236	<b>Class 346</b>			
353	: 3.092.825		: 3.075.188		: 3.088.110		: 3.094.695	200	: 3.104.393	1	: 3.072.906	108	: 3.085.846
364	: 3.108.267		: 3.078.455		: 3.090.043		: 3.097.356	225	: 3.087.156		: 3.072.907	109	: 3.107.138
365	: 3.074.059		: 3.084.340		: 3.091.762		: 3.100.892		: 3.090.959		: 3.112.151	110	: 3.102.769
366	: 3.071.764		: 3.088.107		: 3.093.822		: 3.101.472		: 3.103.664	8	: 3.072.908		: 3.112.152
	: 3.078.452		: 3.088.108		: 3.093.823		: 3.102.265		: 3.112.486		: 3.092.432	113	: 3.112.153
	: 3.080.553		: 3.093.821		: 3.094.694		: 3.109.174	227	: 3.072.904		: 3.092.433	114	: 3.115.382
	: 3.085.238		: 3.094.693		: 3.096.516		: 3.111.668		: 3.085.245	17	: 3.097.907	116	: 3.080.561
	: 3.090.949		: 3.096.513		: 3.100.891		: 3.111.669		: 3.106.711		: 3.099.511		: 3.104.149
	: 3.092.826		: 3.099.005	11	: 3.078.460		: 3.112.483	228	: 3.077.599		: 3.103.401	125	: 3.093.436
	: 3.092.827		: 3.102.262	12	: 3.088.111		: 3.116.484		: 3.098.229	18	: 3.104.146	136	: 3.079.604
373	: 3.074.060		: 3.110.024		: 3.098.225		: 3.091.764	708	: 3.074.063	20	: 3.095.253		: 3.113.823
	: 3.109.168		: 3.112.479		: 3.111.665		: 3.099.834		: 3.086.204		: 3.101.987	137	: 3.109.694
376	: 3.083.359		: 3.113.305		: 3.115.628		: 3.091.765	709	: 3.095.568		: 3.105.731	138	: 3.089.746
378	: 3.076.187		: 3.113.306	13	: 3.071.766		: 3.079.601		: 3.098.230		: 3.116.102		: 3.101.234
	: 3.080.554		: 3.114.147		: 3.074.062		: 3.094.696		: 3.106.712	22	: 3.076.965	139	: 3.074.067
	: 3.091.760	3	: 3.075.189		: 3.088.112		: 3.099.835	713	: 3.100.893		: 3.079.603		: 3.084.014
	: 3.096.512	3	: 3.077.592		: 3.095.564		: 3.092.833	720	: 3.114.149		: 3.092.433		: 3.088.788
	: 3.103.659	3	: 3.078.456		: 3.110.025		: 3.102.266	721	: 3.108.277		: 3.097.038		: 3.104.930
	: 3.113.303	3	: 3.078.457		: 3.110.897		: 3.113.313	722	: 3.089.140		: 3.110.540	139	: 3.108.845
381	: 3.107.350	3	: 3.079.599		: 3.111.666		: 3.114.912	729	: 3.087.157	23	: 3.075.192	140	: 3.085.847
	: 3.116.480	3	: 3.085.243	14	: 3.076.191		: 3.089.138	742	: 3.096.518	25	: 3.084.986		: 3.087.772
384	: 3.072.898	3	: 3.087.153		: 3.080.558		: 3.094.697	744	: 3.078.462	29	: 3.091.505		: 3.102.770
	: 3.113.304	3	: 3.089.135		: 3.108.273		: 3.095.566	745	: 3.098.231	32	: 3.095.254		
392	: 3.076.960	3	: 3.092.831		: 3.109.172		: 3.099.006	749	: 3.099.010		: 3.096.137	<b>Class 373</b>	
394	: 3.105.233	3	: 3.097.355		: 3.111.667		: 3.107.352		: 3.103.011	33	: 3.072.909	18	: 3.115.631







1 9 6 3

CLASSIFICATION OF DESIGNS

<b>Class D1</b>	3 : 196,033 : 196,034 : 196,098 12 : 194,304 : 194,342 : 194,657 : 194,737 : 194,829 : 195,394 : 195,756 : 195,936 : 196,421 : 196,703 : 196,957 : 197,206	3 : 196,033 : 196,034 : 196,098 : 196,226 : 196,422 : 196,484 : 196,557 : 196,775 : 196,900 : 197,002 4 : 194,308 : 195,453 : 195,495 : 196,290 : 196,901 5 : 194,776 : 194,777 : 195,080 : 195,327 : 195,397 : 195,617 : 196,167	2 : 195,249 : 195,398 : 195,544 : 195,668 : 195,669 : 195,717 : 195,718 : 195,719 : 195,818 : 195,819 : 195,820 : 195,821 : 195,940 : 195,941 : 196,035 : 196,100 : 196,168 : 196,227 : 196,291 : 196,292 : 196,293 : 196,356 : 196,357 : 196,492 : 196,493 4 : 194,495 : 194,660 : 196,485 : 197,207 5 : 196,558	8 : 196,294 : 196,424 : 196,494 : 196,563 : 196,710 : 196,711 : 196,712 : 196,833 : 196,834 : 196,903 : 196,963 : 196,964 : 196,965 : 197,003 : 197,050 : 197,051 : 197,052 : 197,209 : 197,210 : 197,211 : 197,212 : 197,213 9 : 195,164 : 195,827 10 : 194,348 11 : 196,713	1 : 195,548 : 195,549 : 195,670 : 195,671 : 195,760 : 195,761 : 195,762 : 195,763 : 195,764 : 195,765 : 195,829 : 195,830 : 195,942 : 196,037 : 196,038 : 196,039 : 196,101 : 196,102 : 196,171 : 196,172 : 196,173 : 196,230 : 196,231 : 196,359 : 196,360 : 196,425 : 196,426 : 196,495 : 196,496 : 196,497 : 196,498 : 196,564 : 196,565 : 196,566 : 196,567 : 196,568 : 196,637 : 196,715 : 196,716 : 196,717 : 196,778 : 196,904 : 196,966 : 196,967 : 196,968 : 197,004 : 197,005 : 197,053 : 197,054 : 197,055 : 197,117 : 197,118 : 197,119 : 197,120 : 197,174 : 197,214 : 197,215 : 197,216 : 197,217 : 197,218 : 197,219 : 197,220 : 197,221 : 197,222 4 : 195,831 6 : 194,585 : 194,586 : 194,587 : 195,026 : 196,232 : 196,295 7 : 194,313 : 194,392 : 194,835 : 195,082 : 195,504 : 196,040	3 : 194,530 : 194,588 : 194,589 : 194,662 : 194,663 : 194,972 : 195,121 : 195,122 : 195,195 : 195,254 : 195,329 : 195,505 : 195,550 : 195,551 : 195,721 : 195,766 : 195,767 : 195,832 : 195,833 : 195,943 : 195,944 : 196,103 : 196,104 : 196,174 : 196,175 : 196,296 : 196,297 : 196,361 : 196,427 : 196,499 : 196,500 : 196,501 : 196,569 : 196,570 : 196,638 : 196,779 : 196,835 : 196,836 : 196,905 : 196,906 : 197,006 : 197,007 : 197,056 : 197,121 : 197,223 : 197,224 : 197,225 6 : 194,315 : 194,531 : 194,590 : 194,664 : 194,907 : 195,552 : 196,105 : 196,571 : 196,572 : 197,175 : 195,196 18 : 194,532 27 : 194,665 : 194,908 : 196,573 30 : 194,496 : 194,666 : 195,330 : 195,506 : 195,768 : 195,769 : 195,945 : 196,041 : 196,042 : 196,428 : 196,718 : 196,780 : 196,781 : 196,782 : 196,783 : 196,784 : 196,785 : 196,786 : 196,787 : 196,788 : 196,789 : 196,790 : 196,791 : 196,792	30 : 196,969 : 197,057	<b>Class D15</b>	1 : 194,457 : 194,458 : 194,591 : 194,667 : 194,668 : 194,669 : 194,670 : 194,671 : 194,740 : 194,741 : 194,742 : 194,836 : 194,837 : 194,838 : 194,839 : 195,169 : 195,255 : 195,256 : 195,257 : 195,298 : 195,401 : 195,553 : 195,620 : 195,672 : 195,770 : 195,946 : 196,106 : 196,176 : 196,233 : 196,234 : 196,298 : 196,429 : 196,430 : 196,574 : 196,575 : 196,576 : 196,577 : 196,578 : 196,719 : 196,720 : 196,721 : 196,722 : 197,058 3 : 194,459 : 194,460 : 194,672 : 194,673 : 195,457 : 197,059 : 197,060 : 197,840 6 : 194,973 : 194,592 8 : 194,593 : 194,594 : 194,743 : 194,841 : 195,197 : 195,331 : 195,621 : 196,043 : 196,235 : 196,299 : 197,061 11 : 194,461 : 194,497 : 194,498 : 194,674 : 194,974 : 196,793 : 196,837	<b>Class D16</b>	1 : 194,744 : 195,458 : 195,622 : 196,723 : 196,724 2 : 194,316 : 194,316																								
<b>Class D2</b>	3 : 194,343 : 194,389 : 194,420 : 194,527 : 194,658 : 195,450 : 195,663 : 195,664 : 195,713 : 195,714 : 195,810 : 195,811 : 196,629 : 196,704	<b>Class D5</b>	4 : 194,495 : 194,660 : 196,485 : 197,207 5 : 196,558	<b>Class D11</b>	1 : 196,229	<b>Class D12</b>	2 : 194,783 : 194,784 : 195,165 : 195,166 : 195,167 : 195,168 : 195,251 : 195,545 : 195,828 : 196,170 : 196,358 : 196,714 : 196,777	<b>Class D13</b>	1 : 194,311 : 194,312 : 194,390 : 194,391 : 194,421 : 194,453 : 194,454 : 194,529 : 194,583 : 194,584 : 194,863 : 194,864 : 194,969 : 194,970 : 194,971 : 195,024 : 195,025 : 195,117 : 195,118 : 195,119 : 195,120 : 195,193 : 195,194 : 195,252 : 195,253 : 195,328 : 195,399 : 195,400 : 195,455 : 195,456 : 195,499 : 195,500 : 195,501 : 195,502 : 195,503 : 195,546 : 195,547	<b>Class D14</b>	3 : 194,314 : 194,349 : 194,350 : 194,422 : 194,455 : 194,456	<b>Class D17</b>	3 : 196,096 4 : 194,967 : 196,482 9 : 194,659 : 195,020 10 : 195,812 : 196,353 11 : 195,189 13 : 194,305 : 195,079 : 195,813 : 195,814 : 195,937 : 196,166 : 196,483 : 196,899 16 : 195,021 : 195,190 : 195,665 : 195,938 : 195,939 : 197,114 19 : 195,666 25 : 196,097 26 : 194,774 : 195,191 : 195,395 : 195,541 : 196,032 : 197,115	<b>Class D3</b>	3 : 196,096 4 : 194,967 : 196,482 9 : 194,659 : 195,020 10 : 195,812 : 196,353 11 : 195,189 13 : 194,305 : 195,079 : 195,813 : 195,814 : 195,937 : 196,166 : 196,483 : 196,899 16 : 195,021 : 195,190 : 195,665 : 195,938 : 195,939 : 197,114 19 : 195,666 25 : 196,097 26 : 194,774 : 195,191 : 195,395 : 195,541 : 196,032 : 197,115	<b>Class D7</b>	3 : 194,831 : 194,832 4 : 194,833 : 195,618 : 196,776 5 : 194,778 : 195,496 : 195,542 : 195,715 : 195,717 : 196,355 : 196,486 : 196,487 : 196,488 : 196,489 : 196,490 : 196,491 : 196,559 : 196,705 7 : 194,309 : 194,310 : 194,345 : 194,346 : 194,739 : 195,163 : 195,454 : 195,497 : 195,543 : 195,667 : 195,716 : 195,758 : 195,816 : 195,817	<b>Class D10</b>	7 : 194,451 : 194,452 : 196,423 : 197,049 8 : 194,582 : 194,661 : 194,782 : 194,834 : 194,968 : 195,023 : 195,619 : 195,720 : 195,759 : 195,822 : 195,823 : 195,824 : 195,825 : 195,826 : 196,036 : 196,228	<b>Class D18</b>	1 : 195,091 2 : 194,580 : 195,113 : 195,396 : 196,225 : 196,354 3 : 194,306 : 194,307 : 194,344 : 194,528 : 194,775 : 194,830 : 195,192 : 195,297 : 195,326 : 195,451 : 195,452 : 195,815	<b>Class D4</b>	1 : 195,091 2 : 194,580 : 195,113 : 195,396 : 196,225 : 196,354 3 : 194,306 : 194,307 : 194,344 : 194,528 : 194,775 : 194,830 : 195,192 : 195,297 : 195,326 : 195,451 : 195,452 : 195,815	<b>Class D6</b>	1 : 196,099	<b>Class D9</b>	2 : 194,561 : 194,781 : 195,081 : 195,114 : 195,115 : 195,247 : 195,248	<b>Class D8</b>	1 : 194,779 : 194,780 : 195,498	<b>Class D19</b>	2 : 194,561 : 194,781 : 195,081 : 195,114 : 195,115 : 195,247 : 195,248	<b>Class D20</b>	1 : 194,457 : 194,458 : 194,591 : 194,667 : 194,668 : 194,669 : 194,670 : 194,671 : 194,740 : 194,741 : 194,742 : 194,836 : 194,837 : 194,838 : 194,839 : 195,169 : 195,255 : 195,256 : 195,257 : 195,298 : 195,401 : 195,553 : 195,620 : 195,672 : 195,770 : 195,946 : 196,106 : 196,176 : 196,233 : 196,234 : 196,298 : 196,429 : 196,430 : 196,574 : 196,575 : 196,576 : 196,577 : 196,578 : 196,719 : 196,720 : 196,721 : 196,722 : 197,058 3 : 194,459 : 194,460 : 194,672 : 194,673 : 195,457 : 197,059 : 197,060 : 197,840 6 : 194,973 : 194,592 8 : 194,593 : 194,594 : 194,743 : 194,841 : 195,197 : 195,331 : 195,621 : 196,043 : 196,235 : 196,299 : 197,061 11 : 194,461 : 194,497 : 194,498 : 194,674 : 194,974 : 196,793 : 196,837	<b>Class D21</b>	1 : 194,744 : 195,458 : 195,622 : 196,723 : 196,724 2 : 194,316 : 194,316



## Class D16—Con.

2 : 195,027  
 : 195,332  
 : 195,333  
 : 195,459  
 : 195,771  
 : 195,947  
 : 195,948  
 : 196,044  
 : 196,107  
 : 196,108  
 : 196,579  
 : 196,580  
 : 196,639  
 : 196,725  
 : 196,794  
 : 196,907  
 : 196,726

## Class D17

1 : 194,351  
 : 194,595  
 : 196,109  
 : 196,908  
 2 : 195,258  
 3 : 194,596  
 : 194,785  
 : 195,949  
 : 196,045  
 : 196,431  
 : 197,226  
 8 : 194,352  
 : 196,795  
 10 : 194,842  
 12 : 194,597  
 : 195,123  
 : 195,124  
 : 195,299  
 : 195,300  
 : 196,300  
 : 196,581

## Class D18

2 : 194,462  
 : 194,533  
 : 194,598  
 : 194,599  
 : 194,675  
 : 195,028  
 : 195,170  
 : 195,198  
 : 195,199  
 : 195,200  
 : 195,201  
 : 195,301  
 : 195,334  
 : 195,335  
 : 195,460  
 : 195,554  
 : 195,555  
 : 195,673  
 : 195,674  
 : 195,834  
 : 195,835  
 : 195,836  
 : 195,950  
 : 196,046  
 : 196,362  
 : 196,363  
 : 196,364  
 : 196,365  
 : 196,582  
 : 196,727  
 : 196,909  
 : 196,970  
 : 196,971  
 : 197,122  
 : 197,123  
 : 197,124  
 : 197,125  
 : 197,126  
 : 197,127  
 : 197,176

## Class D19

1 : 194,676  
 : 196,236  
 : 196,237  
 2 : 194,534  
 : 195,837

## Class D20

2 : 194,353  
 : 194,865  
 : 194,866

2 : 194,867  
 : 194,868  
 : 195,259  
 : 197,128  
 4 : 194,745

## Class D21

1 : 194,869  
 : 195,675  
 : 196,910  
 6 : 194,499  
 : 194,535  
 : 194,536  
 : 194,600  
 : 194,601  
 : 195,402

## Class D22

2 : 195,125  
 : 195,507  
 3 : 195,302  
 : 195,461  
 : 195,462  
 : 195,772  
 : 195,838  
 : 195,951  
 : 195,952  
 : 195,953  
 : 196,110  
 : 196,432  
 : 196,502  
 : 196,503  
 : 196,640  
 : 196,911  
 : 196,972  
 : 197,177  
 : 197,227  
 : 197,228  
 5 : 195,083  
 : 195,954  
 : 196,504  
 : 196,796

## Class D24

1 : 194,500  
 : 195,556  
 : 195,773  
 : 196,433  
 : 196,505  
 : 196,641  
 : 196,642  
 : 196,728  
 : 196,729  
 : 196,973  
 : 197,062

## Class D25

1 : 194,354  
 : 194,537  
 : 194,975  
 : 195,029  
 : 195,676  
 : 196,583  
 : 196,974  
 : 197,008  
 : 197,178

## Class D26

1 : 194,318  
 : 194,355  
 : 194,393  
 : 194,394  
 : 194,501  
 : 194,602  
 : 194,603  
 : 194,746  
 : 194,786  
 : 194,787  
 : 194,843  
 : 194,870  
 : 194,909  
 : 195,030  
 : 195,171  
 : 195,202  
 : 195,336  
 : 195,337  
 : 195,403  
 : 195,463  
 : 195,464  
 : 195,508  
 : 195,557  
 : 195,558  
 : 195,623  
 : 195,722  
 : 195,774

1 : 195,955  
 : 196,047  
 : 196,048  
 : 196,111  
 : 196,112  
 : 196,177  
 : 196,178  
 : 196,238  
 : 196,301  
 : 196,506  
 : 196,507  
 : 196,584  
 : 196,643  
 : 196,838  
 : 196,912  
 : 196,975  
 : 196,976  
 : 197,009  
 : 197,063  
 : 194,319

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194,356  
 : 194,395  
 : 194,423  
 : 194,463  
 : 194,502  
 : 194,503  
 : 194,504  
 : 194,505  
 : 194,604  
 : 194,605  
 : 194,677  
 : 194,788  
 : 194,789  
 : 194,844  
 : 194,845  
 : 194,871  
 : 194,872  
 : 194,910  
 : 194,976  
 : 195,084  
 : 195,085  
 : 195,126  
 : 195,127  
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 : 195,204  
 : 195,260  
 : 195,303  
 : 195,404  
 : 195,405  
 : 195,465  
 : 195,466  
 : 195,509  
 : 195,559  
 : 195,624  
 : 195,839  
 : 195,840  
 : 195,841  
 : 195,842  
 : 195,844  
 : 196,049  
 : 196,113  
 : 196,114  
 : 196,115  
 : 196,302  
 : 196,303  
 : 196,352  
 : 196,366  
 : 196,434  
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 : 196,918  
 : 197,064  
 : 197,229  
 : 196,798  
 : 197,129  
 : 194,357  
 : 195,205  
 : 197,010  
 : 197,065  
 : 194,678  
 : 194,747  
 : 194,977  
 : 195,031  
 : 195,206  
 : 195,338

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13 : 195,339  
 : 195,406  
 : 195,407  
 : 195,467  
 : 195,510  
 : 195,511  
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 : 195,843  
 : 195,844  
 : 196,239  
 : 196,510  
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 : 196,654  
 : 196,839  
 : 196,919  
 : 196,920  
 : 196,921  
 : 195,851  
 : 195,852  
 : 195,853  
 : 196,519  
 : 196,589  
 : 196,590  
 : 196,731

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15 : 194,790  
 : 195,975

## Class D28

1 : 194,396  
 : 195,033  
 : 195,130  
 : 195,515  
 : 195,516  
 : 196,051  
 : 196,367  
 : 196,840  
 : 197,233

## Class D29

1 : 194,359  
 : 195,131  
 : 195,775  
 : 195,847  
 : 195,976  
 : 196,516  
 : 196,922  
 2 : 195,305  
 17 : 194,424  
 20 : 196,368  
 23 : 194,607  
 : 194,608  
 : 195,306  
 : 195,307  
 : 195,468  
 : 195,625  
 : 195,626  
 : 195,723  
 : 195,848  
 : 195,849  
 : 196,369  
 : 196,841  
 : 196,923  
 : 197,131  
 : 195,034  
 : 196,120

## Class D30

1 : 194,609  
 : 194,681  
 : 194,682  
 : 195,211  
 : 195,340  
 : 195,627  
 : 195,850  
 : 196,304  
 : 196,842  
 : 197,068  
 : 197,069  
 : 197,132

## Class D31

2 : 194,610  
 : 194,683  
 : 194,750  
 : 194,846  
 : 195,409  
 : 195,628  
 : 197,234  
 3 : 195,977  
 : 196,438  
 4 : 194,321  
 : 194,542  
 : 194,611  
 : 194,877  
 : 194,978  
 : 194,979  
 : 195,410  
 : 195,411  
 : 195,678  
 : 195,724  
 : 195,776  
 : 195,777  
 : 196,052  
 : 196,179  
 : 196,305  
 : 196,517  
 : 196,518  
 : 197,133  
 : 197,235

## Class D33

1 : 194,543  
 : 195,851  
 : 195,852  
 : 195,853  
 : 196,519  
 : 196,589  
 : 196,590  
 : 196,731

1 : 196,732  
 : 197,070  
 3 : 194,397  
 : 194,425  
 : 194,544  
 : 195,132  
 : 195,262  
 : 195,412  
 : 195,413  
 : 195,414  
 : 196,439  
 : 196,591  
 : 196,843  
 : 197,014  
 6 : 195,562  
 : 196,053  
 : 196,240  
 : 196,241  
 : 196,242  
 7 : 194,612  
 : 194,684  
 : 194,685  
 : 194,847  
 : 194,848  
 : 195,035  
 : 196,733  
 8 : 194,466  
 : 195,212  
 : 195,469  
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 : 195,569  
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 : 195,574  
 : 194,980  
 : 195,725  
 : 197,071  
 13 : 194,467  
 : 194,468  
 : 194,469  
 : 194,686  
 : 194,849  
 : 194,878  
 : 194,981  
 : 194,982  
 : 195,036  
 : 195,037  
 : 195,213  
 : 195,214  
 : 195,573  
 : 195,575  
 : 195,576  
 : 195,854  
 : 195,978  
 : 196,121  
 : 196,370  
 : 196,371  
 : 196,440  
 : 196,592  
 : 196,655  
 : 196,844  
 : 197,072  
 19 : 194,426  
 : 194,470  
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 : 194,850  
 : 195,341  
 : 195,470  
 : 195,517  
 : 195,518  
 : 195,577  
 : 195,726  
 : 195,855  
 : 195,724  
 : 196,656  
 : 196,924  
 : 197,073  
 : 197,236  
 : 197,237

2 : 196,441  
 : 196,442  
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 : 194,614  
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 : 195,087  
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 : 197,015  
 : 197,016  
 : 197,074  
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 : 197,076  
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 11 : 195,858  
 : 196,659  
 : 194,616  
 : 194,791  
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 : 195,520

11 : 194,980  
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 : 197,071  
 14 : 194,467  
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14 : 196,847	1 : 194,430	10 : 196,854	29 : 194,799	16 : 195,273	1 : 196,982	6 : 195,357
15 : 197,017	194,546	197,020	194,883	195,274	197,026	195,358
194,322	194,881	197,021	195,092	195,427	197,085	195,359
194,323	195,043	197,022	195,271	196,252	195,138	195,431
194,324	195,177	197,185	195,272	196,253	196,746	195,432
194,401	195,863	197,244	195,348	196,254		195,480
194,428	196,448	197,245	195,426	196,255	<b>Class D50</b>	195,644
194,472	196,597	194,326	195,527	196,256		195,645
194,617	196,802	194,475	196,257	196,257	3 : 195,530	195,782
194,618	196,851	194,476	195,688	196,258	195,586	195,783
194,694	197,136	194,477	195,689	196,259	195,587	195,884
194,752	197,182	194,695	195,730	196,260	196,195	195,994
194,792	197,242	194,925	195,868	196,382	196,671	196,068
195,040		194,926	195,869	196,403	196,872	196,069
195,041	<b>Class D41</b>	194,927	195,870	194,548	4 : 196,528	196,196
195,176		194,928	195,985	194,549	5 : 195,879	196,383
195,221	1 : 194,753	194,929	195,986	194,550	196,747	196,603
195,343	195,265	194,930	196,060	194,703	6 : 195,351	196,604
195,417	195,266	194,931	196,061	194,800	195,352	196,672
195,418	195,267	194,932	196,062	195,275	195,479	196,748
195,473	196,127	194,933	196,133	195,876	197,247	196,749
195,474	196,128	194,934	196,134	195,877	194,552	196,808
195,521	196,129	194,935	196,249	195,988	195,993	196,875
195,580	196,307	194,936	196,250	196,136	197,139	197,249
195,679	196,373	194,937	196,251	196,137		197,250
195,680	196,852	194,938	196,316	196,261	<b>Class D51</b>	7 : 194,372
195,859		194,986	196,381	196,262		195,143
195,860	<b>Class D42</b>	195,523	196,527	196,600	1 : 195,180	195,695
195,861		195,524	196,867	196,743	195,429	196,673
195,862		195,525	196,980	196,803		194,436
195,863	7 : 194,363	195,636	197,023	196,871	<b>Class D52</b>	10 : 194,801
195,864	195,864	195,637	197,024	197,080		195,099
195,865	195,982	195,684	197,025	197,081	1 : 194,331	195,885
195,866	196,374	195,867	197,138	194,478	194,756	196,070
195,867	196,661	196,059		194,990	195,642	196,320
195,868	196,853	196,185	<b>Class D45</b>	195,529	195,733	196,674
195,869	196,927	196,186	1 : 194,329	195,583	195,880	196,809
195,870	197,078	196,187	195,048	195,878	196,529	196,876
195,871	197,183	196,188	195,871	196,601	197,140	
195,872	197,184	196,308	196,868	197,187	2 : 194,370	<b>Class D54</b>
195,873	195,421	196,309	4 : 194,366	194,404	194,433	1 : 194,373
195,874		196,310	194,367	194,510	194,553	195,886
195,875	<b>Class D44</b>	196,311	194,368	195,052	194,625	196,321
195,876		196,312	194,369	195,053	194,945	196,322
195,877	1 : 194,473	196,313	194,939	195,093	194,946	196,675
195,878	194,620	196,314	194,940	195,179	194,947	196,676
195,879	194,794	196,315	194,941	196,063	194,948	196,677
195,880	194,795	196,379	194,942	196,744	194,949	197,028
195,881	194,984	196,526	194,943	196,804	194,950	197,188
195,882	195,268	196,599	195,049	197,082	195,096	194,482
195,883	195,344	196,855	195,528	194,551	195,097	194,627
195,884	195,422	196,856	195,872	194,704	195,098	194,802
195,885	195,423	196,857	196,191	194,755	195,139	194,952
195,886	195,424	196,858	196,192	194,852	195,140	194,992
195,887	195,425	196,859	196,193	195,731	195,276	194,993
195,888	195,522	196,860	196,317	195,732	195,353	195,055
195,889	195,728	196,861	196,667	196,064	195,430	195,056
195,890	195,983	196,862	196,668	196,934	195,734	195,057
195,891	196,130	196,863	196,741	197,083	195,881	195,058
195,892	196,131	196,864	196,869	197,084	195,882	195,059
195,893	196,132	196,865	196,930	196,138	196,067	195,060
195,894	196,248	196,928	196,931	194,405	196,263	195,144
195,895	197,018	194,327	196,932	194,479	196,602	195,481
195,896	194,506	194,509	194,330	194,480	196,807	195,482
195,897	194,507	194,364	194,431	194,624	197,027	195,483
195,898	194,793	194,365	195,050	194,991	197,248	195,484
195,899	194,880	194,622	195,582	195,094	194,406	195,646
195,900	195,090	194,696	195,690	195,095	194,757	195,995
195,901	195,136	194,697	195,691	195,310	195,141	196,266
195,902	195,581	194,851	195,692	195,428	195,354	196,267
195,903	195,861	194,987	196,135	195,584	195,643	194,437
195,904	196,306	194,988	196,870	195,989	195,693	196,071
195,905	196,445	194,989	194,369	195,990	195,781	196,197
195,906	196,926	195,047	195,873	195,991	195,883	197,029
		195,526	196,933	196,670	196,264	196,139
<b>Class D35</b>		195,685	196,318	196,745	196,265	196,384
1 : 194,619		196,189		196,981	196,319	196,810
2 : 194,923		196,380	<b>Class D46</b>	32 : 194,511	196,873	196,072
195,042		196,866	1 : 195,874	194,705	196,935	196,140
195,727		197,079		194,706	195,277	195,647
196,739		194,698	<b>Class D47</b>	195,223	195,694	194,374
197,077		194,699		195,224	6 : 194,371	194,438
197,240		194,700			194,434	195,061
194,429		194,701		<b>Class D49</b>	194,435	195,360
194,506		194,796		1 : 194,432	194,481	195,361
194,507		194,797		194,512	194,554	195,588
194,793		195,345		195,137	194,626	195,887
194,880		195,346	<b>Class D48</b>	195,478	194,707	195,888
194,881		195,475		195,585	194,758	195,889
194,882		195,476		195,639	194,853	196,141
194,883		195,681		195,640	194,854	196,605
194,884		195,682		195,641	194,951	196,878
194,885		195,683		195,642	195,054	197,086
194,886		195,684		195,643	195,142	194,439
194,887		195,685		195,644	195,225	194,483
194,888		195,686		195,645	195,226	194,555
194,889		195,687		195,646	195,278	194,759
194,890		195,688		195,647	195,355	194,803
194,891		195,689		195,648	195,356	195,362
194,892		195,690		195,649		
194,893		195,691		195,650		
194,894		195,692		195,651		
194,895		195,693		195,652		
194,896		195,694		195,653		
194,897		195,695		195,654		
194,898		195,696		195,655		
194,899		195,697		195,656		
194,900		195,698		195,657		
194,901		195,699		195,658		
194,902		195,700		195,659		
194,903		195,701		195,660		
194,904		195,702		195,661		
194,905		195,703		195,662		
194,906		195,704		195,663		
194,907		195,705		195,664		
194,908		195,706		195,665		
194,909		195,707		195,666		
194,910		195,708		195,667		
194,911		195,709		195,668		
194,912		195,710		195,669		
194,913		195,711		195,670		
194,914		195,712		195,671		
194,915		195,713		195,672		
194,916		195,714		195,673		
194,917		195,715		195,674		
194,918		195,716		195,675		
194,919		195,717		195,676		
194,920		195,718		195,677		
194,921		195,719		195,678		
194,922		195,720		195,679		
194,923		195,721		195,680		
194,924		195,722		195,681		
194,925		195,723		195,682		
194,926		195,724		195,683		
194,927		195,725		195,684		
194,928		195,726		195,685		
194,929		195,727		195,686		
194,930		195,728		195,687		
194,931		195,729		195,688		
194,932		195,730		195,689		
194,933		195,731		195,690		
194,934		195,732		195,691		
194,935		195,733		195,692		
194,936		195,734		195,693		
194,937		195,735		195,694		
194,938		195,736		195,695		
194,939		195,737		195,696		
194,940		195,738		195,697		
194,941		195,739		195,698		
194,942		195,740		195,699		
194,943		195,741		195,700		
194,944		195,742		195,701		
194,945				195,702		
194,946				195,703		
194,947				195,704		
194,948				195,705		
194,949				195,706		
194,950				195,707		
194,951				195,708		
194,952				195,709		
194,953				195,710		
194,954				195,711		
194,955				195,712		
194,956				195,713		
194,957				195,714		
194,958				195,		



Class D54—Con.		1	: 196,610	6	: 196,942	17	: 195,313	Class D61		Class D64	1	: 194,646
			: 196,680		: 197,191		: 195,376					: 194,647
13	: 195,363 : 195,485 : 195,589 : 195,890 : 195,996 : 195,997 : 196,073 : 196,074 : 196,142 : 196,268 : 196,385 : 196,386 : 196,606 : 196,607 : 196,677 : 196,936 : 196,937 : 197,087 : 197,141 : 197,251 : 195,145 : 195,227 : 195,590 : 195,591 : 195,592 : 195,735 : 196,983 : 197,088 : 197,142 : 194,407 : 194,708 : 195,736 : 195,784 : 196,608		: 196,681	7	: 196,943		: 195,434	1	: 194,442	10	: 194,891	: 194,723
			: 196,812	8	: 194,487		: 195,435		: 194,443		: 196,398	: 194,765
			: 196,879		: 194,635		: 195,700		: 194,565		: 196,760	: 194,817
			: 196,880		: 194,811		: 195,701		: 194,566	11	: 194,335	: 194,892
			: 196,881		: 194,886		: 195,740		: 194,640		: 194,568	: 194,893
			: 196,882		: 195,103		: 195,741		: 194,719		: 194,641	: 194,960
			: 197,090		: 195,281		: 195,742		: 194,815		: 194,642	: 194,962
			: 197,189		: 195,370		: 195,743		: 194,957		: 194,721	: 195,014
					: 195,371		: 195,744		: 194,958		: 194,764	: 195,067
					: 195,532		: 195,745		: 195,010		: 194,856	: 195,068
					: 195,652		: 195,904		: 195,011		: 194,959	: 195,109
					: 195,739		: 195,905		: 195,106		: 195,288	: 195,156
					: 195,787		: 195,906		: 195,107		: 195,316	: 195,157
					: 195,899		: 196,004		: 195,286		: 195,441	: 195,183
Class D58					: 195,900		: 196,005		: 195,378		: 195,703	: 195,380
		2	: 194,710		: 195,901		: 196,079		: 195,437		: 195,916	: 195,381
			: 195,737		: 196,148		: 196,080		: 195,533		: 195,917	: 195,382
			: 195,786		: 196,149		: 196,081		: 195,605		: 196,205	: 195,383
			: 195,895		: 196,389		: 196,151		: 195,606		: 196,280	: 195,384
			: 196,143		: 196,390		: 196,199		: 195,607		: 196,281	: 195,490
			: 196,611		: 196,391		: 196,271		: 195,746		: 196,399	: 195,491
			: 196,612		: 196,453		: 196,272		: 195,789		: 196,400	: 195,706
		4	: 194,513		: 196,454		: 196,273		: 195,790		: 196,544	: 195,707
			: 195,279		: 196,455		: 196,329		: 195,791		: 196,687	: 195,794
			: 197,091		: 196,534		: 196,330		: 195,908		: 197,153	: 195,795
		5	: Re25,316		: 196,535		: 196,331		: 195,909	12	: 194,569	: 195,796
			: 194,332		: 196,613		: 196,332		: 195,910		: 195,317	: 195,797
			: 194,409		: 196,814		: 196,333		: 195,911		: 195,704	: 195,798
			: 194,486		: 196,815		: 196,334		: 195,912		: 195,705	: 195,920
			: 194,630		: 197,030		: 196,335		: 195,913			: 195,921
			: 194,631		: 197,192		: 196,393		: 196,009	Class D65		: 195,922
			: 194,632		: 194,714		: 196,394		: 196,010			: 196,013
			: 194,633		: 194,812		: 196,539		: 196,083	1	: 194,379	: 196,014
			: 194,805		: 194,813		: 196,540		: 196,084		: 194,516	: 196,015
			: 194,806		: 195,001		: 196,614		: 196,085		: 194,570	: 196,016
			: 194,807		: 195,312		: 196,754		: 196,153		: 194,643	: 196,087
			: 194,808		: 195,902		: 196,816		: 196,154		: 194,722	: 196,088
			: 194,885		: 196,985		: 196,817		: 196,155		: 194,816	: 196,157
			: 194,956		: 196,986		: 196,944		: 196,156		: 195,154	: 196,209
			: 194,996		: 197,193		: 196,945		: 196,201		: 195,289	: 196,210
			: 194,997		: 194,887		: 197,032		: 196,202		: 195,488	: 196,211
			: 194,998		: 195,372		: 197,094		: 196,203		: 195,534	: 196,212
			: 194,999		: 195,065		: 197,150		: 196,276		: 195,535	: 196,213
			: 195,062		: 195,601		: 197,254		: 196,277		: 195,748	: 196,283
			: 195,063		: 195,602	25	: 194,888		: 196,278		: 195,792	: 196,342
			: 195,064		: 195,699		: 194,889		: 196,338		: 196,011	: 196,343
			: 195,101		: 196,150		: 195,007		: 196,339		: 196,206	: 196,344
			: 195,147		: 196,326		: 195,230		: 196,340		: 196,464	: 196,402
			: 195,181		: 196,536		: 195,907		: 196,395		: 196,620	: 196,403
			: 195,229		: 196,987		: 196,336		: 196,396		: 196,621	: 196,546
			: 195,280		: 194,333		: 196,615		: 196,459		: 196,761	: 196,547
			: 195,366		: 194,377		: 196,818		: 196,460		: 196,762	: 196,688
			: 195,367		: 194,514		: 196,990		: 196,616		: 196,886	: 196,689
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			: 195,597		: 195,373	26	: 194,488		: 196,756		: 196,992	: 196,764
			: 195,598		: 195,788		: 194,515		: 196,757		: 197,097	: 196,765
			: 195,697		: 195,903		: 194,637		: 196,758		: 197,154	: 196,823
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			: 196,001		: 196,456		: 194,639		: 196,885	Class D66		: 196,946
			: 196,002		: 196,683		: 194,716		: 197,095			: 196,947
			: 196,144		: 197,147		: 194,717		: 197,096	1	: 195,155	: 196,948
			: 196,145		: 194,334		: 194,718		: 197,152		: 195,233	: 197,034
			: 196,146		: 194,378		: 194,719		: 197,255		: 196,012	: 197,035
		4	: 194,408		: 194,561		: 194,890		: 197,256		: 196,821	: 197,036
			: 194,484		: 195,374		: 195,008		: 197,257		: 197,033	: 197,037
			: 194,485		: 195,375		: 195,009		: 197,258		: 197,195	: 197,038
			: 194,628		: 196,003		: 195,149			3	: 197,196	: 197,039
			: 194,628		: 196,327		: 195,150	Class D62		Class D67		: 197,098
			: 194,763		: 196,328		: 195,151					: 197,099
			: 194,884		: 196,537		: 195,152	2	: 194,567			: 197,155
			: 194,884		: 196,883		: 195,231		: 194,720			: 197,156
			: 194,955		: 196,941		: 195,284		: 195,153	2	: 195,442	: 197,197
			: 194,955		: 196,984		: 195,285		: 195,438			: 197,259
			: 195,648		: 197,149		: 195,314		: 195,486	3	: 194,380	: 197,260
			: 195,696		: 197,252		: 195,315		: 195,608			: 197,261
			: 196,451		: 194,375		: 195,376		: 195,914			
			: 196,679		: 194,414		: 195,436		: 196,341			
			: 197,089		: 195,002		: 195,603		: 196,461			
			: 197,144		: 194,814		: 195,604		: 196,759			
					: 195,066		: 195,653		: 195,012			
					: 196,078		: 195,702		: 195,108			
					: 196,538		: 195,703		: 195,232			
					: 196,684		: 195,702		: 195,287			
					: 196,884		: 196,006		: 195,379			
					: 196,988		: 196,007		: 195,439			
					: 196,989		: 196,008		: 195,440			
					: 197,031		: 196,082		: 195,487			
					: 197,092		: 196,274		: 195,747			
					: 197,093		: 196,275		: 196,086			
					: 197,253		: 196,337		: 196,204			
					: 197,252		: 196,457		: 196,279			
					: 194,375		: 196,458					
		13	: 194,440		: 194,563		: 196,541					
			: 194,559		: 194,564		: 196,542					
			: 194,634		: 194,636		: 196,685					
			: 194,711		: 194,715		: 196,686					
			: 194,712		: 195,003		: 196,755					
			: 194,713		: 195,004		: 196,819					
			: 194,809		: 195,005	Class D59						
			: 194,810		: 195,006							
			: 195,000		: 195,104							
			: 195,102		: 195,105	2	: 196,543					
			: 195,148		: 195,282	6	: 196,200					
			: 195,368		: 195,283		: 196,152					
			: 195,369									
			: 195,599									
			: 195,600									
			: 195,649									
			: 195,650									
			: 195,651									
			: 195,698									
			: 195,738									
			: 195,897									
			: 195,898									
			: 196,076									
			: 196,077									
			: 196,147									
			: 196,325									
			: 196,452									
			: 196,531									



1 : 194,858 : 194,859 : 194,894 : 195,319 : 195,799 : 195,923 : 196,465 : 196,466 : 196,548 : 196,890 : 197,157 : 195,015 5 : 194,411 : 194,821 : 194,860 : 195,291 9 : 194,572 : 194,895 : 196,159 : 196,467 17 : 194,412 : 195,292 : 195,385 : 195,708 : 195,750 : 195,924 : 196,468 : 196,691 : 196,993 : 197,158 21 : 194,413	8 : 195,445 : 195,751 : 196,214 : 196,345 : 196,346 : 196,347 : 196,404 : 196,469 : 196,623 : 196,767 : 196,994 : 197,198 9 : 194,381 : 194,414 : 194,447 : 194,518 : 194,822 : 195,387 : 195,388 : 195,492 : 195,609 : 195,752 : 196,160 : 196,470 : 196,624 : 196,693 : 196,825 : 197,159 : 197,199 10 : 194,382 : 194,383 : 194,519 : 194,574 : 194,727 : 195,753 : 196,550 10 : 196,694 : 196,995 11 : 194,384 : 194,415 : 194,575 : 195,160 : 195,389 : 195,446 : 195,800 : 195,925 : 196,215 : 196,348 : 196,695 : 197,100 80 : 196,405	10 : 194,768 : 194,823 : 194,824 : 195,111 : 195,321 : 195,447 : 195,493 : 195,657 : 195,710 : 195,754 : 195,801 : 195,926 : 195,927 : 195,928 : 195,929 : 196,018 : 196,019 : 196,161 : 196,218 : 196,284 : 196,285 : 196,286 : 196,406 : 196,407 : 196,408 : 196,552 : 196,553 : 196,625 : 196,696 : 196,826 : 196,827 : 196,951 : 196,996 : 197,101 : 197,160 18 : 194,416 : 195,494 : 196,997 : 197,102 19 : 196,828 : 196,829 20 : 194,650 : 196,697 21 : 196,768 25 : 194,825 : 195,112 : 195,236 : 196,287 : 197,103 : 197,104 : 197,105 : 197,263	1 : 194,965 : 195,070 : 195,185 : 195,186 1 : 195,237 : 195,238 : 195,322 : 195,390 : 195,391 : 195,392 : 195,537 : 195,611 : 195,612 : 195,613 : 195,659 : 195,802 : 195,803 : 195,930 : 196,020 : 196,089 : 196,090 : 196,288 : 196,409 : 196,410 : 196,411 : 196,471 : 196,472 : 196,473 : 196,698 : 196,830 : 196,892 : 197,106 8 : 194,769 : 195,660 12 : 194,419 : 195,931 : 196,021 : 196,091 : 196,162 : 196,412 : 196,699 : 196,893 : 196,998 : 197,041 : 197,161 : 197,162	Class D86 8 : 195,393 10 : 194,337 : 194,493 : 194,494 : 194,522 : 194,578 : 194,731 : 194,732 : 194,826 : 194,827 : 195,072 : 195,159 : 195,448 : 195,614 : 196,022 : 196,092 : 196,413 : 196,414 : 196,475 : 196,770 : 196,771 : 197,043 : 197,044 : 197,107 : 197,201	5 : 196,953 : 196,954 : 196,955 : 196,999 : 197,165	1 : 195,935 : 196,025 : 196,094 : 196,479 : 196,480 : 197,113 : 197,167 : 197,168 : 197,264 : 197,265 : 197,266 : 195,296 : 197,046 3 : 194,341 : 195,073 : 195,074 : 195,242 : 195,243 : 195,324 : 195,540 : 195,807 : 196,095 : 196,417 : 196,774 : 197,000 4 : 196,555 : 197,169	Class D88 3 : 196,024 : 196,416	Class D89 1 : 194,899 : 195,073 : 195,074 : 195,241 : 195,932 : 195,933 : 196,093	Class D90 5 : 194,770 8 : 195,019 : 195,075 : 195,755 17 : 196,772 18 : 196,627 20 : 194,340 : 194,579 : 194,901 : 194,653 : 194,733 : 194,771 : 194,772 : 195,076 : 195,077 : 195,615 : 195,616 : 195,661 : 195,662 : 195,934 : 196,224 : 196,628 : 196,700 : 196,701 : 196,702 : 196,773 : 196,651 : 194,828 : 194,897 : 195,187 : 195,295 : 195,323 : 196,023 : 196,476 : 196,477 : 197,045 5 : 194,338 : 194,339 : 194,525 : 194,652 : 194,898 : 195,240 : 196,163 : 196,164 : 196,415 : 196,478 : 196,894	Class D91 1 : 194,526 : 194,654 : 194,655 : 194,656 : 194,734 : 194,735 : 194,861 : 194,966 : 195,078 : 195,162 : 195,449 : 195,539	Class D92 1 : 194,773 : 194,901 : 194,902 : 194,903 : 195,244 : 196,165 : 196,481 4 : 196,026 21 : 195,245 : 195,325 26 : 194,385 : 194,386 : 195,188 : 195,246 : 195,808 : 195,809 : 196,027 : 196,028 : 196,029 : 196,030 : 196,031 : 196,418 : 196,419 : 196,556 : 197,267 : 197,268	Class D93 3 : 194,387 : 194,736 : 196,420 : 197,170 : 197,171 : 197,172 4 : 194,388 : 195,712 : 196,289 : 197,205
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# CLASSIFICATION OF PLANTS

P.— 2: 2.268 : 2.322 3: 2.284 5: 2.275 : 2.291 6: 2.329 7: 2.287 9: 2.292 11: 2.280 : 2.283 : 2.300 13: 2.278 15: 2.301 : 2.303 18: 2.294 : 2.302 : 2.332 19: 2.281 21: 2.326	P.— 21: 2.333 22: 2.319 : 2.321 : 2.331 23: 2.299 25: 2.293 26: 2.282 27: 2.269 28: 2.304 : 2.327 30: 2.276 : 2.277 : 2.330 34: 2.288 : 2.313 35: 2.285 : 2.334 37: 2.314 38: 2.324	P.— 40: 2.325 41: 2.323 43: 2.295 : 2.336 51: 2.286 54: 2.265 : 2.266 : 2.267 : 2.296 55: 2.306 : 2.309 56: 2.305 : 2.307 : 2.310 : 2.311 57: 2.308 : 2.312 : 2.315	P.— 65: 2.272 : 2.290 71: 2.320 77: 2.297 78: 2.274 81: 2.270 82: 2.273 : 2.279 : 2.298 85: 2.262 : 2.263 : 2.264 : 2.289 : 2.316 : 2.317 : 2.318 86: 2.328 87: 2.271	Class 47 59: P.P. 2.212 : P.P. 2.220 : P.P. 2.228 : P.P. 2.229 : P.P. 2.231 60: P.P. 2.215 : P.P. 2.216 : P.P. 2.218 : P.P. 2.221 : P.P. 2.222 : P.P. 2.224 : P.P. 2.227 : P.P. 2.233 : P.P. 2.234 : P.P. 2.235 : P.P. 2.236 : P.P. 2.243	60: P.P. 2.247 : P.P. 2.248 : P.P. 2.249 : P.P. 2.250 : P.P. 2.251 : P.P. 2.252 : P.P. 2.253 : P.P. 2.257 : P.P. 2.259 : P.P. 2.260 : P.P. 2.261 61: P.P. 2.209 : P.P. 2.210 : P.P. 2.214 : P.P. 2.219 : P.P. 2.223 : P.P. 2.225 : P.P. 2.226 : P.P. 2.232	61: P.P. 2.237 : P.P. 2.238 : P.P. 2.241 : P.P. 2.242 : P.P. 2.244 : P.P. 2.245 : P.P. 2.246 : P.P. 2.258 62: P.P. 2.211 : P.P. 2.208 : P.P. 2.213 : P.P. 2.217 : P.P. 2.230 : P.P. 2.239 : P.P. 2.240 : P.P. 2.254 : P.P. 2.255 : P.P. 2.256
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## CLASS TITLES ARRANGED IN CLASS NUMBER ORDER

Class	Title	Class	Title
	Plants	53	Package Making
1	Nailing, Stapling and Clip Clenching	54	Harness
2	Apparel	55	Gas Separation
3	Artificial Body Members	56	Harvesters
4	Baths, Closets, Sinks and Spittoons	57	Textiles, Spinning, Twisting and Twining
5	Beds	58	Horology
6	Bee Culture	59	Chain, Staple and Horseshoe Making
7	Compound Tools	60	Power Plants
8	Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers	61	Hydraulic and Earth Engineering
9	Boats, Buoys and Aquatic Devices	62	Refrigeration
10	Bolt, Nail, Nut, Rivet and Screw Making	63	Jewelry
11	Books, Making	64	Machine Elements, Shafting and Flexible Shaft Couplings
12	Boot and Shoe Making	65	Glass Manufacturing
13	Electric Furnaces	66	Textiles, Knitting
14	Bridges	67	Illuminating Burners
15	Brushing, Scrubbing and General Cleaning	68	Textiles, Fluid Treating Apparatus
16	Miscellaneous Hardware	69	Leather Manufactures
17	Butchering	70	Locks
18	Plastics	71	Chemistry, Fertilizers
19	Textiles, Fiber Preparation	72	No Class
20	Wooden Buildings	73	Measuring and Testing
21	Preserving, Disinfecting and Sterilizing	74	Machine Elements and Mechanisms
22	Metal Founding	75	Metallurgy
23	Chemistry	76	Metal Tools and Implements, Making
24	Buckles, Buttons, Clasps, Etc.	77	Boring and Drilling
25	Plastic Block and Earthenware Apparatus	78	Metal Forging and Welding
26	Textiles, Cloth Finishing	79	Button Making
27	Undertaking	80	Metal Rolling
28	Textiles, Manufacturing	81	Tools
29	Metal Working	82	Turning
30	Cutlery	83	Cutting
31	Dairy	84	Music
32	Dentistry	85	Driven, Headed and Screw-Threaded Fastenings
33	Geometrical Instruments	86	Ammunition and Explosive-Charge Making
34	Drying and Gas or Vapor Contact With Solids	87	Textiles, Braiding, Netting and Lace Making
35	Education	88	Optics
36	Boots, Shoes and Leggings	89	Ordnance
37	Excavating	90	Gear Cutting, Milling and Planing
38	Textiles, Ironing or Smoothing	91	Motors, Expansible Chamber Type**
39	Gates	92	Expansible Chamber Devices**
40	Card, Picture and Sign Exhibiting	93	Paper Manufactures
41	No Class*	94	Roads and Pavements
42	Firearms	95	Photography
43	Fishing, Trapping and Vermin Destroying	96	Photographic Chemistry, Processes and Materials
44	Fuel and Igniting Devices	97	No Class
45	Furniture	98	Ventilation
46	Amusement Devices, Toys	99	Foods and Beverages
47	Plant Husbandry	100	Presses
48	Gas, Heating and Illuminating	101	Printing
49	No Class	102	Ammunition and Explosive Devices
50	Building Structures	103	Pumps
51	Abrading	104	Railways
52	No Class	105	Railway Rolling Stock

\*Class abolished during 1963

\*\*Class established during 1963



Class	Title	Class	Title
106	Compositions, Coating or Plastic	162	Paper Making and Fiber Liberation
107	Bread, Pastry and Confection Making	163	Needle and Pin Making
108	Horizontally Supported Planar Surfaces**	164	No Class
109	Safes, Bank Protection and Related Devices	165	Heat Exchange
110	Furnaces	166	Wells
111	Planting	167	Medicines, Poisons and Cosmetics
112	Sewing	168	Farriery
113	Sheet-Metal Ware, Making	169	Fire-Extinguishers
114	Ships	170	Motors, Fluid Current
115	Marine Propulsion	171	Unearthing Plants or Buried Objects
116	Signals and Indicators	172	Earth Working
117	Coating: Processes and Miscellaneous Products	173	Tool Driving or Impacting**
118	Coating Apparatus	174	Electricity, Conductors and Insulators
119	Animal Husbandry	175	Boring or Penetrating the Earth
120	Stationery	176	Nuclear Reactions and Systems**
121	No Class*	177	Weighing Scales
122	Liquid Heaters and Vaporizers	178	Telegraphy
123	Internal-Combustion Engines	179	Telephony
124	Mechanical Guns and Projectors	180	Motor Vehicles
125	Stone Working	181	Acoustics
126	Stoves and Furnaces	182	Fire Escapes, Ladders, Scaffolds
127	Sugar, Starch and Carbohydrates	183	No Class
128	Surgery	184	Lubrication
129	Paper Files and Binders	185	Motors, Spring, Weight and Animal Powered
130	Threshing	186	Store Service
131	Tobacco	187	Elevators
132	Toilet	188	Brakes
133	Coin Handling	189	Metallic Building Structures
134	Cleaning and Liquid Contact With Solids	190	Baggage
135	Tents, Canopies, Umbrellas and Canes	191	Electricity, Transmission to Vehicles
136	Batteries	192	Clutches and Power-Stop Control
137	Fluid Handling	193	Conveyers, Chutes, Skids, Guides and Ways
138	Pipes and Tubular Conduits	194	Check-Controlled Apparatus
139	Textiles, Weaving	195	Chemistry, Fermentation
140	Wireworking	196	Mineral Oils: Apparatus
141	Fluent Material Handling, With Receiver or Re- ceiver Coacting Means	197	Typewriting Machines
142	Wood Turning	198	Conveyers, Power-Driven
143	Wood Sawing	199	Type Casting
144	Woodworking	200	Electricity, Circuit Makers and Breakers
145	Woodworking Tools	201	No Class
146	Vegetable and Meat Cutters and Comminutors	202	Distillation
147	Coopering	203	No Class
148	Metal Treatment	204	Chemistry, Electrical and Wave Energy
149	Explosive and Thermic Compositions or Charges	205	Metal Drawing
150	Cloth, Leather and Rubber Receptacles	206	Special Receptacles and Packages
151	Nut and Bolt Locks	207	Plastic Metal Working
152	Resilient Tires and Wheels	208	Mineral Oils: Processes and Products
153	Metal Bending	209	Classifying, Separating and Assorting Solids
154	No Class*	210	Liquid Purification or Separation
155	No Class	211	Supports, Racks
156	Adhesive Bonding and Miscellaneous Chemical Manufacture	212	Traversing Hoists
157	Wheelwright Machines	213	Railway Draft Appliances
158	Liquid and Gaseous Fuel Burners	214	Material or Article Handling
159	Concentrating Evaporators	215	Bottles and Jars
160	Closures, Partitions and Panels, Flexible and Portable	216	No Class
161	Stock Material and Miscellaneous Articles**	217	Wooden Receptacles
		218	Button, Eyelet and Rivet Setting
		219	Electric Heating
		220	Metallic Receptacles

\*Class abolished during 1963

\*\*Class established during 1963



Class	Title	Class	Title
221	Article Dispensing	279	Chucks or Sockets
222	Dispensing	280	Land Vehicles
223	Apparel Apparatus	281	Books, Strips and Leaves
224	Package and Article Carriers	282	Manifolding
225	Severing by Tearing or Breaking	283	Printed Matter
226	Advancing Material of Indeterminate-Length	284	No Class
227	No Class	285	Pipe Joints or Couplings
228	No Class	286	No Class
229	Paper Receptacles	287	Rod Joints or Couplings
230	Gas Pumps and Fans	288	No Class
231	Whips and Whip Apparatus	289	Knots and Knot Tying
232	Deposit and Collection Receptacles	290	Prime-Mover Dynamo Plants
233	Centrifugal-Bowl Separators	291	Track Sanders
234	Selective Cutting (e.g., Punching)	292	Closure Fasteners
235	Registers	293	Vehicle Fenders
236	Automatic Temperature and Humidity Regulation	294	Handling, Hand and Hoist-Line Implements
237	Heating Systems	295	Railway Wheels and Axles
238	Railways, Surface Track	296	Land Vehicles, Bodies and Tops
239	Fluid Sprinkling, Spraying and Diffusing	297	Chairs and Seats
240	Illumination	298	Land Vehicles, Dumping
241	Solid Material Comminution or Disintegration	299	No Class
242	Winding and Reeling	300	Brush, Broom and Mop Making
243	Pneumatic Dispatch	301	Land Vehicles, Wheels and Axles
244	Aeronautics	302	Conveyers, Fluid Current
245	Wire Fabrics and Structure	303	Fluid-Pressure Brake and Analogous Systems
246	Railway Switches and Signals	304	No Class
247	No Class	305	Wheel Substitutes for Land Vehicles
248	Supports	306	Tool-Handle Fastenings
249	No Class	307	Electrical Transmission or Interconnection Systems
250	Radiant Energy	308	Machine Elements, Bearings and Guides
251	Valves and Valve Actuation	309	No Class*
252	Compositions	310	Electrical Generator or Motor Structure
253	Motors, Fluid	311	No Class
254	Pushing and Pulling Implements	312	Supports, Cabinet Structures
255	No Class	313	Electric Lamp and Discharge Devices
256	Fences	314	Electric Lamp and Discharge Devices, Consumable Electrodes
257	No Class	315	Electric Lamp and Discharge Devices, Systems
258	Railway Mail Delivery	316	Electric Lamp and Discharge Devices, Manufacture and Repair
259	Agitating	317	Electricity
260	Chemistry, Carbon Compounds	318	Electricity, Motive Power Systems
261	Gas and Liquid Contact Apparatus	319	No Class
262	Mining, Quarrying and Ice Harvesting	320	Electricity, Battery and Condenser Charging and Discharging
263	Heating	321	Electricity, Conversion Systems
264	Plastic and Non-Metallic Article Shaping or Treating: Processes**	322	Electricity, Single Generator Systems
265	No Class	323	Electricity, Voltage Magnitude and Phase Control Systems
266	Metallurgical Apparatus	324	Electricity, Measuring and Testing
267	Spring Devices	325	Modulated Carrier Wave Communication Systems
268	Closure-Operators	326	No Class
269	Work Holders	327	No Class
270	Sheet-Material Associating or Folding	328	Miscellaneous Electron Space Discharge Device Systems
271	Sheet Feeding or Delivering	329	Demodulators and Detectors
272	Amusement and Exercising Devices	330	Amplifiers
273	Amusement Devices, Games	331	Oscillators
274	Sound Recording and Reproducing		
275	Scattering-Unloaders		
276	Type Setting		
277	Joint Packing		
278	Land Vehicles, Animal Draft Appliances		

\*Class abolished during 1963

\*\*Class established during 1963



Class	Title	Class	Title
332	Modulators	341	No Class
333	Wave Transmission Lines and Networks	342	No Class
334	Tuners	343	Communications, Radio Wave
335	No Class	344	No Class
336	Inductor Devices	345	No Class
337	No Class	346	Recorders
338	Electrical Resistors		Designs
339	Electrical Connectors		Industrial Arts
340	Communications, Electrical		Household, Personal and Fine Arts

## CLASS TITLES ARRANGED IN ALPHABETICAL ORDER

Class	Title	Class	Title
51	Abrading	79	Button Making
181	Acoustics	40	Card, Picture and Sign Exhibiting
156	Adhesive Bonding and Miscellaneous Chemical Manufacture	233	Centrifugal-Bowl Separators
226	Advancing Material of Indeterminate-Length	59	Chain, Staple and Horseshoe Making
244	Aeronautics	297	Chairs and Seats
259	Agitating	194	Check-Controlled Apparatus
86	Ammunition and Explosive-Charge Making	23	Chemistry
102	Ammunition and Explosive Devices	260	Chemistry, Carbon Compounds
330	Amplifiers	204	Chemistry, Electrical and Wave Energy
272	Amusement and Exercising Devices	195	Chemistry, Fermentation
273	Amusement Devices, Games	71	Chemistry, Fertilizers
46	Amusement Devices, Toys	279	Chucks or Sockets
119	Animal Husbandry	209	Classifying, Separating and Assorting Solids
2	Apparel	134	Cleaning and Liquid Contact With Solids
223	Apparel Apparatus	292	Closure Fasteners
221	Article Dispensing	268	Closure-Operators
3	Artificial Body Members	160	Closures, Partitions and Panels, Flexible and Portable
236	Automatic Temperature and Humidity Regulation	150	Cloth, Leather and Rubber Receptacles
190	Baggage	192	Clutches and Power-Stop Control
4	Baths, Closets, Sinks and Spittoons	118	Coating Apparatus
136	Batteries	117	Coating: Processes and Miscellaneous Products
5	Beds	133	Coin Handling
6	Bee Culture	340	Communications, Electrical
8	Bleaching and Dyeing; Fluid Treatment and Chemical Modification of Textiles and Fibers	343	Communications, Radio Wave
9	Boats, Buoys and Aquatic Devices	252	Compositions
10	Bolt, Nail, Nut, Rivet and Screw Making	106	Compositions, Coating or Plastic
11	Books, Making	7	Compound Tools
281	Books, Strips and Leaves	159	Concentrating Evaporators
12	Boot and Shoe Making	193	Conveyers, Chutes, Skids, Guides and Ways
36	Boots, Shoes and Leggings	302	Conveyers, Fluid Current
77	Boring and Drilling	198	Conveyers, Power-Driven
175	Boring or Penetrating the Earth	147	Coopering
215	Bottles and Jars	30	Cutlery
188	Brakes	83	Cutting
107	Bread, Pastry and Confection Making	31	Dairy
14	Bridges	329	Demodulators and Detectors
300	Brush, Broom and Mop Making	32	Dentistry
15	Brushing, Scrubbing and General Cleaning	232	Deposit and Collection Receptacles
24	Buckles, Buttons, Clasps, Etc.	222	Dispensing
50	Building Structures	202	Distillation
17	Butchering	85	Driven, Headed and Screw-Threaded Fastenings
218	Button, Eyelet and Rivet Setting	34	Drying and Gas or Vapor Contact With Solids
		172	Earth Working



Class	Title	Class	Title
35	Education	58	Horology
13	Electric Furnaces	61	Hydraulic and Earth Engineering
219	Electric Heating	67	Illuminating Burners
313	Electric Lamp and Discharge Devices	240	Illumination
314	Electric Lamp and Discharge Devices, Consumable Electrodes	336	Inductor Devices
316	Electric Lamp and Discharge Devices, Manufacture and Repair	123	Internal-Combustion Engines
315	Electric Lamp and Discharge Devices, Systems	63	Jewelry
339	Electrical Connectors	277	Joint Packing
310	Electrical Generator or Motor Structure	289	Knots and Knot Tying
338	Electrical Resistors	280	Land Vehicles
307	Electrical Transmission or Interconnection Systems	278	Land Vehicles, Animal Draft Appliances
317	Electricity	296	Land Vehicles, Bodies and Tops
320	Electricity, Battery and Condenser Charging and Discharging	298	Land Vehicles, Dumping
200	Electricity, Circuit Makers and Breakers	301	Land Vehicles, Wheels and Axles
174	Electricity, Conductors and Insulators	69	Leather Manufactures
321	Electricity, Conversion Systems	158	Liquid and Gaseous Fuel Burners
324	Electricity, Measuring and Testing	122	Liquid Heaters and Vaporizers
318	Electricity, Motive Power Systems	210	Liquid Purification or Separation
322	Electricity, Single Generator Systems	70	Locks
191	Electricity, Transmission to Vehicles	184	Lubrication
323	Electricity, Voltage Magnitude and Phase Control Systems	74	Machine Elements and Mechanisms
187	Elevators	308	Machine Elements, Bearings and Guides
37	Excavating	64	Machine Elements, Shafting and Flexible Shaft Couplings
92	Expansible Chamber Devices	282	Manifolding
149	Explosive and Thermic Compositions or Charges	115	Marine Propulsion
168	Farriery	214	Material or Article Handling
256	Fences	73	Measuring and Testing
182	Fire Escapes, Ladders, Scaffolds	124	Mechanical Guns and Projectors
169	Fire-Extinguishers	167	Medicines, Poisons and Cosmetics
42	Firearms	153	Metal Bending
43	Fishing, Trapping and Vermin Destroying	205	Metal Drawing
141	Fluent Material Handling, With Receiver or Receiver Coacting Means	78	Metal Forging and Welding
137	Fluid Handling	22	Metal Founding
303	Fluid-Pressure Brake and Analogous Systems	80	Metal Rolling
239	Fluid Sprinkling, Spraying and Diffusing	76	Metal Tools and Implements, Making
99	Foods and Beverages	148	Metal Treatment
44	Fuel and Igniting Devices	29	Metal Working
110	Furnaces	189	Metallic Building Structures
45	Furniture	220	Metallic Receptacles
261	Gas and Liquid Contact Apparatus	266	Metallurgical Apparatus
48	Gas, Heating and Illuminating	75	Metallurgy
230	Gas Pumps and Fans	196	Mineral Oils: Apparatus
55	Gas Separation	208	Mineral Oils: Processes and Products
39	Gates	262	Mining, Quarrying and Ice Harvesting
90	Gear Cutting, Milling and Planing	328	Miscellaneous Electron Space Discharge Device Systems
33	Geometrical Instruments	16	Miscellaneous Hardware
65	Glass Manufacturing	325	Modulated Carrier Wave Communication Systems
294	Handling, Hand and Hoist-Line Implements	332	Modulators
54	Harness	180	Motor Vehicles
56	Harvesters	91	Motors, Expansible Chamber Type
165	Heat Exchange	253	Motors, Fluid
263	Heating	170	Motors, Fluid Current
237	Heating Systems	185	Motors, Spring, Weight and Animal Powered
108	Horizontally Supported Planar Surfaces	84	Music
		1	Nailing, Stapling and Clip Clenching
		163	Needle and Pin Making
		176	Nuclear Reactions and Systems
		151	Nut and Bolt Locks







Class	Title
<b>Classes Established During 1963</b>	
92	Expansible Chamber Devices
108	Horizontally Supported Planar Surfaces
91	Motors, Expansible Chamber Type
176	Nuclear Reactions and Systems

Class	Title
264	Plastic and Non-Metallic Article Shaping or Treating: Processes
161	Stock Material and Miscellaneous Articles
173	Tool Driving or Impacting

December 31, 1963







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# SUMMARY OF THE NUMBER OF PATENTS ISSUED ANNUALLY, 1836-1963

Year	The number of the first patent issued in each calendar year <sup>1</sup>				The number of patents issued in each calendar year <sup>2</sup>			
	Invention	Reissue	Design	Plant	Invention	Reissue	Design	Plant
1836.....	1	( <sup>3</sup> )			103	6		
1837.....	110	( <sup>3</sup> )			426	10		
1838.....	546				514	6		
1839.....	1, 106	1			404	13		
		7						
1840.....	1, 465	20			458	10		
1841.....	1, 923	30			490	6		
1842.....	2, 413	36			488	13	1	
1843.....	2, 901	49	1		493	11	14	
1844.....	3, 395	60	15		478	7	12	
1845.....	3, 873	67	27		473	11	17	
1846.....	4, 348	78	44		566	13	59	
1847.....	4, 914	91	103		495	14	60	
1848.....	5, 409	105	163		583	23	46	
1849.....	5, 993	128	209		984	30	49	
1850.....	6, 981	158	258		883	26	83	
1851.....	7, 865	184	341		752	25	90	
1852.....	8, 622	209	431		885	20	109	
1853.....	9, 512	229	540		844	29	86	
1854.....	10, 358	258	626		1, 755	28	57	
1855.....	12, 117	286	683		1, 881	51	70	
1856.....	14, 009	337	753		2, 302	83	107	
1857.....	16, 324	420	860		2, 674	97	113	
1858.....	19, 010	517	973		3, 455	126	102	
1859.....	22, 477	643	1, 075		4, 160	231	107	
1860.....	26, 642	874	1, 183		4, 357	232	183	
1861.....	31, 005	1, 106	1, 366		3, 020	147	142	
1862.....	34, 045	1, 253	1, 508		3, 214	116	195	
1863.....	37, 266	1, 369	1, 703		3, 773	227	176	
1864.....	41, 047	1, 596	1, 879		4, 630	248	139	
1865.....	45, 685	1, 844	2, 018		6, 088	296	221	
1866.....	51, 784	2, 140	2, 239		8, 863	290	294	
1867.....	60, 658	2, 430	2, 533		12, 277	400	325	
1868.....	72, 959	2, 830	2, 858		12, 526	420	445	
1869.....	85, 503	3, 250	3, 304		12, 931	534	506	
1870.....	98, 460	3, 784	3, 810		12, 137	439	737	
1871.....	110, 617	4, 223	4, 547		11, 659	464	903	
1872.....	122, 304	4, 687	5, 452		12, 180	529	884	
1873.....	134, 504	5, 216	6, 336		11, 616	501	747	
1874.....	146, 120	5, 717	7, 083		12, 230	483	886	
1875.....	158, 350	6, 200	7, 969		13, 291	631	915	
1876.....	171, 641	6, 831	8, 884		14, 169	621	802	
1877.....	185, 813	7, 452	9, 686		12, 920	568	699	
1878.....	198, 733	8, 020	10, 385		12, 345	509	590	
1879.....	211, 078	8, 529	10, 975		12, 125	488	591	
1880.....	223, 211	9, 017	11, 567		12, 903	506	514	
1881.....	236, 137	9, 523	12, 082		15, 500	471	565	
1882.....	251, 685	9, 994	12, 647		18, 091	271	858	
1883.....	269, 820	10, 265	13, 508		21, 162	167	1, 017	
1884.....	291, 016	10, 432	14, 528		19, 118	116	1, 150	
1885.....	310, 163	10, 548	15, 678		23, 285	129	769	
1886.....	333, 494	10, 677	16, 451		21, 767	116	594	
1887.....	355, 291	10, 793	17, 046		20, 403	99	948	
1888.....	375, 720	10, 892	17, 995		19, 551	86	832	
1889.....	395, 305	10, 978	18, 830		23, 324	75	723	

See footnotes at end of table.



# SUMMARY OF THE NUMBER OF PATENTS ISSUED ANNUALLY, 1836-1963—Continued

Year	The number of the first patent issued in each calendar year <sup>1</sup>				The number of patents issued in each calendar year <sup>2</sup>			
	Invention	Reissue	Design	Plant	Invention	Reissue	Design	Plant
1890.....	418, 665	11, 053	19, 553	-----	25, 313	84	886	-----
1891.....	443, 987	11, 137	20, 439	-----	22, 312	80	835	-----
1892.....	466, 315	11, 217	21, 275	-----	22, 647	81	816	-----
1893.....	488, 976	11, 298	22, 092	-----	22, 750	99	899	-----
1894.....	511, 744	11, 397	22, 994	-----	19, 855	64	927	-----
1895.....	531, 619	11, 461	23, 922	-----	20, 856	59	1, 108	-----
1896.....	552, 502	11, 520	25, 037	-----	21, 822	61	1, 441	-----
1897.....	574, 369	11, 581	26, 482	-----	22, 067	65	1, 620	-----
1898.....	596, 467	11, 646	28, 113	-----	20, 377	60	1, 799	-----
1899.....	616, 871	11, 706	29, 916	-----	23, 278	92	2, 137	-----
1900.....	640, 167	11, 798	32, 055	-----	24, 644	81	1, 754	-----
1901.....	664, 827	11, 879	33, 813	-----	25, 546	81	1, 729	-----
1902.....	690, 385	11, 960	35, 547	-----	27, 119	110	639	-----
1903.....	717, 521	12, 070	36, 187	-----	31, 029	117	536	-----
1904.....	748, 567	12, 189	36, 723	-----	30, 258	110	553	-----
1905.....	778, 834	12, 299	37, 280	-----	29, 775	129	486	-----
1906.....	808, 618	12, 428	37, 766	-----	31, 170	159	620	-----
1907.....	839, 799	12, 587	38, 391	-----	35, 859	151	589	-----
1908.....	875, 679	12, 738	38, 980	-----	32, 735	168	755	-----
1909.....	908, 436	12, 906	39, 737	-----	36, 561	160	679	-----
1910.....	945, 010	13, 066	40, 424	-----	35, 141	123	636	-----
1911.....	980, 178	13, 189	41, 063	-----	32, 856	157	1, 004	-----
1912.....	1, 013, 095	13, 346	42, 073	-----	36, 198	158	1, 341	-----
1913.....	1, 049, 326	13, 504	43, 415	-----	33, 917	164	1, 677	-----
1914.....	1, 083, 267	13, 668	45, 098	-----	39, 892	190	1, 711	-----
1915.....	1, 123, 212	13, 858	46, 813	-----	43, 118	182	1, 538	-----
1916.....	1, 166, 419	14, 040	48, 358	-----	43, 892	198	1, 745	-----
1917.....	1, 210, 389	14, 238	50, 117	-----	40, 935	179	1, 505	-----
1918.....	1, 251, 458	14, 417	51, 629	-----	38, 452	165	1, 206	-----
1919.....	1, 290, 027	14, 582	52, 836	-----	36, 797	203	1, 521	-----
1920.....	1, 326, 899	14, 785	54, 359	-----	37, 060	233	2, 481	-----
1921.....	1, 364, 063	15, 018	56, 844	-----	37, 798	239	3, 265	-----
1922.....	1, 401, 948	15, 257	60, 121	-----	38, 369	256	1, 609	-----
1923.....	1, 440, 362	15, 513	61, 748	-----	38, 616	226	1, 927	-----
1924.....	1, 478, 996	15, 739	63, 675	-----	42, 574	235	2, 670	-----
1925.....	1, 521, 590	15, 974	66, 346	-----	46, 432	266	2, 819	-----
1926.....	1, 568, 040	16, 240	69, 170	-----	44, 733	275	2, 597	-----
1927.....	1, 612, 700	16, 515	71, 772	-----	41, 717	326	2, 387	-----
1928.....	1, 654, 521	16, 841	74, 159	-----	42, 357	335	3, 182	-----
1929.....	1, 696, 897	17, 176	77, 347	-----	45, 267	374	2, 905	-----
1930.....	1, 742, 181	17, 550	80, 254	-----	45, 226	367	2, 710	-----
1931.....	1, 787, 424	17, 917	82, 966	1	51, 756	395	2, 935	5
1932.....	1, 839, 190	18, 312	85, 903	6	53, 458	393	2, 942	46
1933.....	1, 892, 663	18, 705	88, 847	52	48, 774	333	2, 411	33
1934.....	1, 941, 449	19, 038	91, 258	85	44, 420	371	2, 919	32
1935.....	1, 985, 878	19, 409	94, 179	117	40, 618	395	3, 864	45
1936.....	2, 026, 516	19, 804	98, 045	162	39, 782	422	4, 556	49
1937.....	2, 066, 309	20, 226	102, 601	211	37, 683	384	5, 136	55
1938.....	2, 104, 004	20, 610	107, 738	266	38, 061	349	5, 026	41
1939.....	2, 142, 080	20, 959	112, 765	307	43, 073	352	5, 592	45
1940.....	2, 185, 170	21, 311	118, 358	352	42, 238	372	6, 145	85
1941.....	2, 227, 418	21, 683	124, 503	437	41, 109	309	6, 486	62
1942.....	2, 268, 540	21, 992	130, 989	499	38, 449	250	3, 728	65
1943.....	2, 307, 007	22, 242	134, 717	564	31, 054	173	2, 228	47
1944.....	2, 338, 081	22, 415	136, 946	611	28, 053	170	2, 914	38
1945.....	2, 366, 154	22, 585	139, 862	649	25, 695	121	3, 524	17
1946.....	2, 391, 856	22, 706	143, 386	666	21, 803	121	2, 778	56
1947.....	2, 413, 675	22, 827	146, 165	722	20, 139	130	2, 102	52
1948.....	2, 433, 824	22, 957	148, 267	774	23, 963	111	3, 968	44
1949.....	2, 457, 797	23, 068	152, 235	818	35, 131	118	4, 450	93

See footnotes at end of table.



# SUMMARY OF THE NUMBER OF PATENTS ISSUED ANNUALLY, 1836-1963—Continued

Year	The number of the first patent issued in each calendar year <sup>1</sup>				The number of patents issued in each calendar year <sup>2</sup>			
	Invention	Reissue	Design	Plant	Invention	Reissue	Design	Plant
1950-----	2, 492, 944	23, 186	156, 686	911	43, 040	129	4, 718	89
1951-----	2, 536, 016	23, 315	161, 404	1, 001	44, 326	134	4, 163	58
1952-----	2, 580, 379	23, 449	165, 568	1, 059	43, 616	163	2, 959	101
1953-----	2, 624, 046	23, 612	168, 527	1, 160	40, 468	151	2, 713	78
1954-----	2, 664, 562	23, 763	171, 241	1, 238	33, 809	155	2, 536	101
1955-----	2, 698, 434	23, 918	173, 777	1, 339	30, 432	187	2, 713	103
1956-----	2, 728, 913	24, 105	176, 490	1, 442	46, 817	158	2, 977	101
1957-----	2, 775, 762	24, 263	179, 467	1, 543	42, 744	150	2, 362	129
1958-----	2, 818, 567	24, 413	181, 829	1, 672	48, 330	170	2, 374	120
1959-----	2, 866, 973	24, 584	184, 204	1, 792	52, 408	177	2, 768	101
1960-----	2, 919, 443	24, 761	186, 973	1, 893	47, 170	157	2, 543	116
1961-----	2, 966, 681	24, 918	189, 516	2, 009	48, 368	189	2, 487	108
1962-----	3, 015, 103	25, 107	192, 004	2, 117	55, 691	202	2, 300	91
1963-----	3, 070, 801	25, 309	194, 304	2, 208	45, 686	198	2, 695	129
1964-----	3, 116, 487	25, 507	197, 269	2, 337				

<sup>1</sup> The patent numbering system began with a patent issued on July 13, 1836 under the Patent Act adopted July 4, 1836. Up to this time, a total of 9,957 patents had been issued.

<sup>2</sup> The number of patents issued during a year may be fewer than the number derived by subtracting the number of the first patent issued in one year from the number of the first patent issued in the next year. Some numbers in the series may not be used. This results when an application scheduled to be patented and to which a patent number is assigned is withdrawn for some reason at a time when it is too late to reassign that number.

<sup>3</sup> Not separately numbered until 1838.







# LIST OF PATENT, DESIGN, PLANT PATENT, AND REISSUE NUMBERS APPEARING IN THE INDIVIDUAL ISSUES OF THE OFFICIAL GAZETTE FOR 1963

Issue of	Vol.	No.	First Number in Issue			
			Patents	Designs	Plant Patents	Reissues
Jan. 1	786	1	3, 070, 801	194, 304	None	25, 309
Jan. 8		2	3, 071, 775	194, 342	2, 208	25, 317
Jan. 15		3	3, 072, 911	194, 389	2, 217	25, 321
Jan. 22		4	3, 074, 069	194, 420	None	None
Jan. 29		5	3, 075, 195	194, 449	2, 221	25, 324
Feb. 5	787	1	3, 076, 195	194, 495	None	25, 326
Feb. 12		2	3, 076, 970	194, 527	2, 224	None
Feb. 19		3	3, 077, 602	194, 580	2, 227	25, 329
Feb. 26		4	3, 078, 465	194, 657	2, 230	25, 337
Mar. 5	788	1	3, 079, 606	194, 737	2, 232	25, 341
Mar. 12		2	3, 080, 563	194, 774	2, 233	25, 344
Mar. 19		3	3, 081, 459	194, 829	None	25, 351
Mar. 26		4	3, 082, 425	194, 862	2, 243	25, 358
Apr. 2	789	1	3, 083, 367	194, 904	2, 244	25, 363
Apr. 9		2	3, 084, 344	194, 967	2, 247	25, 368
Apr. 16		3	3, 085, 247	195, 020	2, 251	25, 369
Apr. 23		4	3, 086, 207	195, 079	None	25, 372
Apr. 30		5	3, 087, 160	195, 113	2, 254	25, 375
May 7	790	1	3, 088, 114	195, 163	2, 258	25, 378
May 14		2	3, 089, 143	195, 189	None	25, 383
May 21		3	3, 090, 045	195, 247	2, 259	None
May 28		4	3, 090, 961	195, 297	None	25, 389
June 4	791	1	3, 091, 768	195, 326	None	None
June 11		2	3, 092, 837	195, 394	2, 262	25, 393
June 18		3	3, 093, 829	195, 450	None	25, 395
June 25		4	3, 094, 701	195, 495	2, 265	25, 405
July 2	792	1	3, 095, 572	195, 541	None	25, 408
July 9		2	3, 096, 522	195, 617	None	25, 411
July 16		3	3, 097, 360	195, 663	2, 269	25, 415
July 23		4	3, 098, 232	195, 713	None	25, 419
July 30		5	3, 099, 011	195, 756	2, 270	25, 427
Aug. 6	793	1	3, 099, 837	195, 810	2, 271	25, 431
Aug. 13		2	3, 100, 301	195, 936	2, 274	25, 432
Aug. 20		3	3, 100, 896	196, 032	None	None
Aug. 27		4	3, 101, 476	196, 096	2, 275	25, 436
Sept. 3	794	1	3, 102, 270	196, 166	2, 277	25, 439
Sept. 10		2	3, 103, 012	196, 225	2, 280	25, 440
Sept. 17		3	3, 103, 666	196, 290	None	25, 444
Sept. 24		4	3, 104, 395	196, 353	2, 285	25, 449
Oct. 1	795	1	3, 105, 237	196, 421	None	25, 451
Oct. 8		2	3, 105, 970	196, 482	2, 287	25, 455
Oct. 15		3	3, 106, 715	196, 557	2, 289	25, 461
Oct. 22		4	3, 107, 355	196, 629	2, 290	25, 465
Oct. 29		5	3, 108, 282	196, 703	2, 292	25, 467
Nov. 5	796	1	3, 109, 176	196, 775	None	25, 470
Nov. 12		2	3, 110, 032	196, 831	2, 295	25, 476
Nov. 19		3	3, 110, 898	196, 899	2, 305	None
Nov. 26		4	3, 111, 673	196, 957	2, 314	25, 482
Dec. 3	797	1	3, 112, 487	197, 001	2, 324	25, 491
Dec. 10		2	3, 113, 317	197, 047	None	25, 493
Dec. 17		3	3, 114, 151	197, 114	2, 326	25, 494
Dec. 24		4	3, 114, 914	197, 173	2, 330	25, 499
Dec. 31		5	3, 115, 636	197, 206	2, 336	25, 504
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